

# COMMONWEALTH

---

## A JOURNAL OF POLITICAL SCIENCE

SPECIAL POLICY ISSUE:  
PUBLIC HEALTH  
IN PENNSYLVANIA



PUBLISHED  
JOINTLY BY  
THE PENNSYLVANIA  
POLITICAL SCIENCE  
ASSOCIATION  
AND  
THE LEGISLATIVE OFFICE  
FOR RESEARCH LIAISON  
PENNSYLVANIA HOUSE OF  
REPRESENTATIVES

DECEMBER 2008 • VOLUME 14





# COMMONWEALTH: A Journal of Political Science

**EDITOR IN CHIEF:** Gerard J. Fitzpatrick, Ursinus College

**ASSOCIATE EDITORS:** Thomas J. Baldino, Wilkes University  
Donald G. Tannenbaum, Gettysburg College  
Michael R. King, Legislative Office for Research  
Liaison, Pennsylvania House of Representatives

**BOOK REVIEW EDITOR:** Thomas J. Baldino, Wilkes University

**MANAGING EDITOR:** Michael E. Cassidy, Office of the Democratic Caucus  
Chairman, Pennsylvania House of Representatives

## EDITORIAL REVIEW BOARD

Aryeh Botwinick Temple University	Michael J. Malbin State University of NY, Albany
M. Margaret Conway University of Florida	Harvey C. Mansfield, Jr. Harvard University
Roger H. Davidson University of Maryland	Kenneth F. Mott Gettysburg College
Jean B. Elshtain University of Chicago	Craig N. Murphy Wellesley College
Richard F. Fenno University of Rochester	Steven A. Peterson The Pennsylvania State University
Marianne Githens Goucher College	Mark P. Petracca University of California, Irvine
Susan W. Hammond American University	H. Mark Roelofs New York University
Samuel Krislov University of Minnesota	Bruce M. Russett Yale University
G. Calvin Mackenzie Colby College	J. David Singer University of Michigan

# Contents

Volume 14.....	December 2008	
<b>About the Authors</b> .....	iv	
<b>Preface by <i>Michael R. King</i></b> .....	vii	
<b>Introduction</b>		
<i>The Public Health System of the Pennsylvania Commonwealth: Where Do We Go from Here?</i> .....		1
Margaret A. Potter, JD, MS, University of Pittsburgh Graduate School of Public Health		
<b>Part I. Critical Issues in Pennsylvania’s Public Health System</b>		
<i>Public Health Shortage Areas in Pennsylvania: A Barrier to Health Information</i> .....		7
Alberto J.F. Cardelle, PhD, MPH, East Stroudsburg University Deidre Holland, MPH, University of Medicine and Dentistry of New Jersey School of Public Health		
<i>Crisis in the Making: What’s Wrong with Pennsylvania Public Health Law</i> .....		23
John A. Bozza, JD, MA, Judge of the Court of Common Pleas, Sixth Judicial District, Commonwealth of Pennsylvania		
<i>Evidence That Young Children Are Falling Through the Safety Net: Policy Implications of Hunger and Poor Health in Pennsylvania</i> .....		55
Mariana Chilton, PhD, MPH, Drexel University School of Public Health Michelle Renee Chyatte, MPH, Drexel University School of Public Health Edward Gracely, PhD, Drexel University College of Medicine		
<b>Part II. Barriers to Building Local Public Health Capacity in Pennsylvania Counties</b>		
<i>Objecting to Public Health – Stories from Four Pennsylvania Counties</i> .....		83
Dennis Gallagher, MA, MPA, Drexel University School of Public Health Jennifer Kolker, MPH, Drexel University School of Public Health		
<i>Financial Analysis and Structural Considerations to the Problem of Rural Public Health in Pennsylvania</i> .....		99
Alberto J.F. Cardelle, PhD, MPH, East Stroudsburg University		

**Part III. Innovations for Health Protection**

*A Health Promoting Hospital: A Strategy in the Re-Design of the U.S. Health Care System* ..... 125  
**Matthew G. Masiello, MD, MPH, FAAP**, Windber Medical Center and Windber Research Institute, and Health Promoting Hospital Consultants, LLC

*Credentialing of the Public Health Work Force* ..... 137  
**Bernard D. Goldstein, MD**, University of Pittsburgh Graduate School of Public Health and National Board of Public Health Examiners

*Pennsylvania Medical Assistance: Connections within the Commonwealth's Public Health System* ..... 163  
**Judith R. Lave, PhD**, University of Pittsburgh Graduate School of Public Health  
**Margaret A. Potter, JD, MS**, University of Pittsburgh Graduate School of Public Health

## About the Authors

**John A. Bozza, JD, MA**, is Judge of the Court of Common Pleas, Sixth Judicial District, Commonwealth of Pennsylvania, and formerly President Judge. He is also a faculty member at the National Judicial College, University of Nevada at Reno and the New Judges School of the Pennsylvania Supreme Court. Recently he was a member of the editorial board of the Pennsylvania Public Health Law Bench Book. Prior to taking the bench Judge Bozza served as an Associate Professor of Criminal Justice at Gannon University.

**Alberto J.F. Cardelle, PhD, MPH**, is an Associate Professor of Health and currently serves as chair of the Health Studies Department and faculty assistant to the Provost and President of East Stroudsburg University. He has served as interim Vice-Provost and Dean of the Graduate School. Dr. Cardelle earned his Bachelor of Science degree in Biology and Latin American Studies at Tulane University, his master degree in Public Health from Boston University, and his Doctorate in International Studies with a concentration in comparative health policy from the University of Miami.

**Mariana Chilton, PhD, MPH**, is an Assistant Professor at the Drexel University School of Public Health and the Principal Investigator for The Philadelphia GROW Project – a nutrition and growth initiative for children and their families ([www.growproject.org](http://www.growproject.org)). She is Co-Principal Investigator of the Children’s Sentinel Nutrition Assessment Program ([www.C-SNAP.org](http://www.C-SNAP.org)). Dr. Chilton investigates the health impacts of hunger and food insecurity among young children aged zero to three.

**Michelle Renee Chyatte, MPH**, is a doctoral candidate at the Drexel University School of Public Health. She has her BS in journalism from Kent State University and MPH from the Consortium of Eastern Ohio Master of Public Health. Prior to entering public health, she worked as a reporter for NPR focusing on health policy and politics.

**Dennis Gallagher, MA, MPA**, is an Associate Professor of Health Management and Policy at the Drexel University School of Public Health. Prior to coming to Drexel, Mr. Gallagher had a 27-year career with the U.S. Department of Health and Human Services in management and policy positions. Mr. Gallagher was the principal investigator on Drexel’s studies to assess the feasibility of creating departments of public health in York and Dauphin Counties, Pennsylvania.

**Bernard D. Goldstein, MD**, is Professor of Environmental and Occupational Health and the former Dean of the University of Pittsburgh's Graduate School of Public Health. He is a physician, board certified in Internal Medicine, Hematology and Toxicology and a member of the Institute of Medicine (IOM), the American Society for Clinical Investigation, and the Collegium Ramazzini. He is Executive Director and former chair of the National Board of Public Health Examiners.

**Edward Gracely, PhD**, received his doctorate in Quantitative Psychology from Temple University in 1986 and has been a faculty member at MCP, now Drexel University, in the College of Medicine, since then. His research expertise includes the logic of multiple comparisons, statistics education, and ethical philosophy. He serves on the editorial boards of both *Pain* and *Pain Medicine*.

**Deidre J. Holland, MPH**, is an Instructor and Fieldwork Coordinator for the Graduate School of Public Health at the University of Medicine and Dentistry of New Jersey. She earned her Bachelor of Science in Health Education and her Master of Public Health from East Stroudsburg University. Previously, Ms. Holland was at the Sussex County Department of Health and Human Services as the Practice Standards Partnership Coordinator under the Local Core Capacity Infrastructure for Public Health Emergency Preparedness grant and served as Chairperson of the County's Community Health Partnership.

**Jennifer Kolker, MPH**, is an Assistant Professor of Health Management and Policy at the Drexel University School of Public Health. Formerly, Ms. Kolker was the Assistant Director of Policy and Planning for the Philadelphia Department of Public Health and a Senior Policy Consultant for Public Works, LLC, a public policy consulting firm. Ms. Kolker was the principal investigator on Drexel's studies to assess the feasibility of creating departments of public health in Lancaster and Berks Counties, Pennsylvania.

**Judith R. Lave, PhD**, is Professor of Health Economics, Department Chair of Health Policy and Management, Director of the Health Administration Program, Director of the Pennsylvania Medicaid Policy Center at the University of Pittsburgh, and co-director of the Center for Research on Health Care at the University of Pittsburgh. She received her PhD in economics from Harvard University. She was elected to the Institute of Medicine of the National Academy of Science and the National Academy for Social Insurance and is a distinguished fellow of AcademyHealth. She is

on the Technical Advisory Group for the Pennsylvania Health Care Cost Containment Council. She is the author of more than 140 scientific publications.

**Matthew G. Masiello, MD, MPH**, is Director, Center for Health Promotion and Disease Prevention, Windber Research Institute and Windber Medical Center. He also serves as Project Coordinator (U.S.) International Health Promoting Hospital Network, World Health Organization Collaborative Center (WHO-CC) Copenhagen, Denmark.

**Margaret A. Potter, JD, MS**, is at the University of Pittsburgh holding positions in the Graduate School of Public Health as Associate Dean for Public Health Practice, Director of the Center for Public Health Practice, and Associate Professor of Health Policy and Management. Her professional interests include capacity building for public health at the state and local levels, training for the public health workforce, and enhancing public and private systems for emergency preparedness and disaster response.

## PREFACE

“A Symposium on Public Health in Pennsylvania” is the first policy issue of *Commonwealth*. It is the fruit of a strong and productive partnership between the Pennsylvania Political Science Association and the Legislative Office for Research Liaison of the Pennsylvania House of Representatives (LORL). In this partnership, LORL has been given responsibility for developing policy issues of *Commonwealth* using the expertise of faculty members at the more than 100 colleges and universities affiliated with LORL and experts from government and private industry.

We are deeply indebted to Margaret A. Potter, JD, MS, Associate Dean and Director, Center for Public Health Practice, University of Pittsburgh Graduate School of Public Health, who served as the editor of this Symposium. Her previous service to the state executive and legislature includes a year-long stint as a LORL Visiting Scholar and many joint policy projects between LORL and the School of Public Health at Pitt. Ms. Potter presently is a University of Pittsburgh Faculty Associate in LORL.

The authors of the articles in this Symposium were drawn from the academic, practitioner and consultive communities in public health and from the judiciary. Although the contributors were diverse, they were subjected to the same substantive and methodological standards.

Because this is a policy issue, the authors were asked to go beyond their basic findings and to offer policy recommendations derived from their research. These conclusions and recommendations belong to the authors alone and do not necessarily reflect the position, if any, of the Pennsylvania Political Science Association, LORL or the Pennsylvania House of Representatives.

Special thanks are due to Barbara Stone, LORL Research Analyst, who did the proofreading and layout work for this volume, and to the House Republican Print Shop, especially Bill Lang and Bill Laughlin, for production and printing.

**Michael R. King, PhD**

Associate Editor for Policy Issues

and

Executive Director, LORL

## ACKNOWLEDGMENTS

### COMMONWEALTH: A Journal of Political Science Policy Issue “A Symposium on Public Health in Pennsylvania”

Associate Editor for Policy Issues: Michael R. King, LORL

Special Issue Editor: Margaret A. Potter  
University of Pittsburgh  
School of Public Health

Editorial Assistant: Barbara Stone, LORL

### PEER REVIEWERS

Michael P. Allswede, Conemaugh Memorial Medical Center

Lisa Bowleg, Drexel University

Gail S. Cairns, University of Pittsburgh

Virginia M. Dato, University of Pittsburgh

Rosemarie O'Malley Halt, Working Group for a Delaware County Health  
Department

Christopher Keane, University of Pittsburgh

Michael King, Legislative Office for Research Liaison

Chyongchiou J. Lin, University of Pittsburgh

Beaufort B. Longest, Jr., University of Pittsburgh

Gene W. Matthews, University of North Carolina/Chapel Hill

Prahlad Murthy, Wilkes University

Craig Newschaffer, Drexel University

Wade Seibert, Pennsylvania State System of Higher Education

Steven E. Shive, East Stroudsburg University

Samuel Stebbins, University of Pittsburgh

Marleen A. Troy, Wilkes University

C. Reynold Verret, Wilkes University

# PENNSYLVANIA POLITICAL SCIENCE ASSOCIATION

## Officers and Executive Council

2008-09

PRESIDENT

**Paula Holoviak**  
Kutztown University

FIRST VICE PRESIDENT

**Stanley Berard**  
Lock Haven University

SECOND VICE PRESIDENT

**Brooke Harlowe**  
Lock Haven University

TREASURER

**Thomas Brogan**  
Albright College

SECRETARY & WEBMASTER

**Fran Moran**  
New Jersey City University

### EXECUTIVE COUNCIL

2006-2009 Term

**Michael R. King**  
Legislative Office for Research Liaison (LORL)  
PA House of Representatives

**Steven Peterson**  
Penn State - Harrisburg

2007-2010 Term

**Joseph Rish**  
King's College

**Michael Dillon**  
LaSalle University

2008-2011 Term

**Kyle Kreider**  
Wilkes University

**Joseph Melusky**  
St. Francis University

### EX OFFICIO MEMBERS

PAST PRESIDENT

**Thomas J. Baldino**  
Wilkes University

PAST PRESIDENT

**Joseph Melusky**  
St. Francis University

### EDITORIAL STAFF OF

*COMMONWEALTH: A JOURNAL OF POLITICAL SCIENCE*

EDITOR-IN-CHIEF

**Gerard J. Fitzpatrick**  
Ursinus College

ASSOCIATE EDITOR &

BOOK REVIEW EDITOR

**Thomas J. Baldino**  
Wilkes University

ASSOCIATE EDITOR &

SPECIAL ISSUE EDITOR

**Michael R. King**  
LORL, PA House of Representatives

ASSOCIATE EDITOR

FOR POLITICAL THEORY

**Donald G. Tannenbaum**  
Gettysburg College

MANAGING EDITOR

**Michael Cassidy**  
Office of the Democratic Caucus  
Chairman, PA House of Representatives

# LEGISLATIVE OFFICE FOR RESEARCH LIAISON (LORL)

Pennsylvania House of Representatives, Harrisburg, PA 17120-2218

## Hon. Dennis M.O'Brien

The Speaker of the House of Representatives

**Hon. H. William DeWeese**  
The Majority Leader

**Hon. Samuel H. Smith**  
The Minority Leader

**Hon. Keith R. McCall**  
The Majority Whip

**Hon. David G. Argall**  
The Minority Whip

## 2007 - 2008 LEGISLATIVE COMMITTEE FOR RESEARCH LIAISON (LCRL)

**Hon. James R. Roebuck, Jr.**  
LORL Committee Chair

**Hon. Samuel H. Smith**  
Republican Leader

**Hon. David G. Argall**  
LORL Committee Secretary

**Hon. Marc J. Gergely**

**Hon. Stephen P. Samuelson**

**Hon. Kate Harper**

**Dr. Richard L. Rosen**  
Associate Professor  
History & Politics Department  
Drexel University

**Paul S. Cribbens, Esq.**  
Assistant V.P. of Government & Community  
Affairs and the Director of the Office of  
Commonwealth Relations  
University of Pennsylvania

**Dr. Michael R. King**  
LORL Executive Director

## 2007 - 2008 UNIVERSITY COMMITTEE FOR RESEARCH LIAISON (UCRL)

**Dr. Richard L. Rosen**  
Associate Professor of History and Politics  
Drexel University

**Dr. George E. Klinzing**  
Vice Provost for Research  
University of Pittsburgh

**Dr. Grant D. Venerable, II**  
Vice President for Academic Affairs  
Lincoln University

**Dr. James Moran**  
Associate Vice Chancellor for  
Academic and Student Affairs  
PA State System of Higher Education

**Dr. Richard DiEugenio**  
Special Assistant to the President  
for Governmental Affairs  
The Pennsylvania State University

**Mr. Ronald Uroda**  
Vice President for Research  
AICUP

**Dr. Michael G. Hagan**  
Director, Institute for Public Affairs  
Temple University

**Dr. Andrew Ruczynski**  
Associate Vice President of Finance and  
Executive Director of Research Services  
University of Pennsylvania

## Public Health in Pennsylvania: Where Do We Go From Here?

Margaret A. Potter, JD, MS

University of Pittsburgh Graduate School of Public Health

### What is Public Health and Why Does It Matter?

“Health care” and “public health” are different kinds of activities. Health care is about the relief and cure of illnesses and support for disabilities. Public health is about health protection: preventing illnesses and promoting vigor and longevity. Health care involves diagnosis and treatment services for individual patients. Public health involves assessment of population-wide health trends (including screenings and preventive care for individuals), development of policies and programs to optimize healthy conditions, and assurance of access to basic services (Institute of Medicine 1988 and 2003). Health care is largely a private-sector enterprise, with its organization and financing carried out by non-profits and businesses through physicians’ offices and clinics, hospitals, pharmacies, rehabilitation centers, and nursing facilities. Public health, though sharing some part with the private sector, depends primarily on public oversight and accountability – roles that must be grounded in the police powers of sovereign states (Institute of Medicine 1988; Gostin 2000).

Pennsylvania is health-care rich and public-health poor. Pennsylvania has 3.23 hospital beds for every 1,000 residents, well above the national average of 2.75 beds per 1,000, and well above the number in other populous states such as California (2.00 per 1,000), Texas (2.58 per 1,000), and Florida (2.87 per 1,000) (Federal Reserve Bank of Minneapolis 2004). Pennsylvania also ranks high in the number of physicians per capita with 0.332 per 100 residents, and ranking in the top 10 states along with Washington, DC, Massachusetts, New York, and Maryland (Statemaster.com 2008). Pennsylvania spends annually more per capita on health care than all but six other U.S. states (Statemaster.com 2008). But this Commonwealth ranks *last* among states

in the number of public health workers per capita: 37 per 100,000 compared to a national average of 158 per 100,000 (Gebbie et al. 2000). Only six of Pennsylvania's 67 counties (Allegheny, Bucks, Chester, Erie, Montgomery, and Philadelphia) and an additional four cities (Allentown, Bethlehem, Wilkes-Barre, and York) have full-service local health departments. That leaves about half of the state's population dependent upon the state's Department of Health, which employs fewer than one-third of the state's public health workforce.

These statistics lead to some difficult questions. Does the Commonwealth's de-emphasis on health protection depress the real quality of life for citizens? If so, how much would greater health protection cost, and who would pay for it? If health protection depends on vigorous oversight and accountability, how should government and the private-sector share those duties?

### **What Defines a Well-Functioning Public Health System?**

A public health system is "the organizations and individuals who collectively share the benefits, burdens, and responsibilities for the health of a defined population or community" (Halverson 2002). It includes many entities besides state and local public health agencies, such as health care providers, community-based organizations, emergency management, and schools – to name just a few. Health protection depends on the strengths of these entities acting in coordination.

The quality and effectiveness of a public health system depend on its laws (Gostin 2000) as well as its financing and organizational structures (Mays et al. 2006). If the laws are unclear, the financing inadequate, and the organizations fragmented, then threats to health are likely to be unchecked.

Local-level agencies are the public health system's hub because they can plan for the characteristic needs of local populations, prioritize resource allocation, and maintain accountability to local authorities (National Association of County and City Health Officials 2007). Effective planning among human service and public safety organizations depends upon local specificity. Private rights and interests, which may be affected by population-level interventions, are best protected by local controls. For example, when quarantines are needed to quench an

influenza pandemic, locally knowledgeable officials determine the most effective and least intrusive methods. Without governance and cohesion at the county and municipal levels, public health activities may be uninformed and resources may be misdirected. Local financing is also critical: a recent national study revealed that a relatively high proportion of local financing in a local health agency's budget correlated with high performance in rendering essential public health services (Mays et al. 2006).

Nevertheless, local governments cannot alone sustain the legal, economic, and organizational burden of public health systems. State laws delegate the necessary legal authority, even if local codes and official discretion determine how the laws are implemented. Except for the largest metropolitan areas nationally, local tax bases and local health and human service organizations cannot alone sustain the high levels of professional expertise and technical facilities that determine effectiveness in health protection services. Thus, intergovernmental cooperation, as well as partnerships with private-sector organizations, is critical to well-functioning public health systems.

### **How Well Does the Commonwealth's Public Health System Perform?**

Based on this Public Health Symposium issue of *Commonwealth*, it is fair to say that Pennsylvania's current public health system performs inadequately. The system itself is legally ambiguous, comparatively under funded, and organizationally fragmented. County governments resist making long-term financial and organizational commitments to public health activities, despite the availability of state per-capita matching grants intended to incentivize such local investment. Public health agencies in Pennsylvania exist at multiple levels of government (state, county, and municipal); and their respective sources of authority are distributed without coordinated oversight and accountability among numerous agencies (Health, Welfare, Agriculture, Insurance, Environmental Protection, and Labor and Industry).

In Part I of this Symposium, three papers address some of the critical issues in the Pennsylvania public health system. In a paper titled "Public Health Shortage Areas in Pennsylvania: A Barrier to Health Information," Dr. Alberto Cardelle and Ms. Deidre Holland compare the

ease and accuracy of accessing basic public health information in counties and municipalities without local health departments with that in counties and municipalities served by a local health department. Their results show that in locales without local health departments, callers found it more difficult to access health information, were transferred to non-public health entities, and did not speak to a health professional early in the inquiry.

Common Pleas Judge John A. Bozza writes in “Crisis in the Making: What’s Wrong with Pennsylvania Public Health Law?” that the system is not only straining to meet everyday health-protection needs but is particularly vulnerable to failure during emergencies and disasters. He warns that “unless key aspects of Pennsylvania law are clarified and/or modified, we risk far from adequate performance from public officials responsible for the public’s health.”

Dr. Mariana Chilton and co-authors Chyatte and Gracely describe an evident failure of coordination among human services within the overall public health system in their article, “Evidence that Young Children Are Falling through the Safety Net: Policy Implications of Hunger and Poor Health in Pennsylvania.” This manuscript highlights the disproportionate impact of food insecurity on the health and well-being of children of color in Philadelphia. It offers policy recommendations to decrease the racial-ethnic divide that exists among Philadelphia’s children and protect the right to healthy development for all.

Part II of the Symposium includes two papers describing barriers to building health protection capacity in Pennsylvania’s 61 counties that lack a comprehensive public health agency. In “Objecting to Public Health – Stories from Four Pennsylvania Counties,” Professors Dennis Gallagher and Jennifer Kolker report on their recent feasibility studies for establishing countywide health departments in Lancaster, York, Dauphin, and Berks counties. This article presents findings about how local conditions affect the perceptions of both public health needs and the opportunities for enhancing county-based and countywide programs. Their stories help make the case for why public health is best understood within a very local context.

In the second of his Symposium articles, “Financial Analysis and Structural Considerations to the Problem of Rural Public Health in Pennsylvania,” Dr. Cardelle describes his study of 10 rural counties and

the potential cost of establishing countywide local health departments. This analysis shows that population, geographic area, and the availability of primary care services all drive expenses. He also describes the specific challenges of establishing and maintaining health departments in rural areas and offers policy recommendations to help overcome these barriers.

In the Symposium Part III, authors describe several innovations to consider for public health in Pennsylvania. In “A Health Promoting Hospital: A Strategy in the Re-Design of the U.S. Health Care System,” Dr. Matthew Masiello describes a unique Pennsylvania hospital system that took on certain public health responsibilities as a Health Promoting Hospital within the World Health Organization’s international network. He explains the potential benefits of a Health Promoting Hospital initiative within the United States and the use of the World Health Organization’s model program.

Dr. Bernard Goldstein writes, in “Credentialing of the Public Health Work Force,” about a new approach to ensuring a highly competent public health work force capable of responding to the public health challenges facing our state and our nation. This article discusses the rationales behind the newly developed proficiency examination leading to a professional credential for public health workers.

Dr. Judith Lave and I advance an idea for strengthening the public health system by building upon an existing health care resource. Our article, “Pennsylvania Medical Assistance: Connections Within the Commonwealth’s Public Health System,” describes how that program contributes to the public health system by assuring access to personal health care services, evaluating the accessibility and quality of personal health services, monitoring health status, and developing policies that support individual health efforts. The article suggests some ways that Medical Assistance could be better connected to the overall public health system.

### **Where Do We Go from Here?**

These Symposium articles present neither a comprehensive assessment of public health system issues nor a complete set of viable recommendations for confronting those issues. Rather, the Symposium offers insights and ideas for the future of public health in Pennsylvania.

This publication in *Commonwealth* coincides with a time of forward-thinking for public health in Pennsylvania. As mandated by Senate Resolution 194 (Pennsylvania Senate 2007), the Joint State Government Commission is undertaking a review of the state's public health laws. The Commission's work will be guided by an Advisory Committee, several of whose members contributed or reviewed the articles appearing in this issue. The review and its recommendations can address longstanding problems with the legal, financial, and organizational aspects of the Pennsylvania public health system.

## References

- Federal Reserve Bank of Minneapolis. 2004. "Hospital Beds Per 1,000 Persons, 2004." *Fedgazette*. <http://www.minneapolisfed.org/Research/data/specmap/us07-01.cfm> (Accessed November 30, 2008).
- Gebbie, K. (principal investigator). 2000. "Public Health Workforce Enumeration 2000." U.S. Health Resources and Services Administration, Bureau of Health Professions, National Center for Health Workforce Information and Analysis.
- Gostin, L.O. 2000. *Public Health Law. Power, Duty, Restraint*. University of California Press and Milbank Memorial Fund: Berkeley, CA.
- Halverson, P.K. "Embracing the Strength of the Public Health System: Why Strong Government Public Health Agencies Are Vitally Necessary but Insufficient." *Journal of Public Health Management and Practice* 2002, 8(1): 98-100, at p. 98.
- Institute of Medicine. 1988. *The Future of Public Health*. National Academies Press: Washington, DC.
- Institute of Medicine. 2003. *The Future of the Public's Health in the 21st Century*. National Academies Press: Washington, DC.
- Mays G.P., M.C. McHugh, K. Shjim, N. Perry, D. Lenaway, P.K. Halverson, and R. Moonesinghe. 2006. "Institutional and Economic Determinants of Public Health System Performance." *American Journal of Public Health*, 96 (3):523-531.
- National Association of County and City Health Officials. November 2005. *Operational Definition of a Functional Local Health Department*. NACCHO: Washington, DC.
- Pennsylvania Senate Resolution 194, 2007, "Directing the Joint State Government Commission to Establish a Legislative Task Force with an Advisory Committee of Experts to Review, Update and Codify Pennsylvania's Public Health Law." <http://www.legis.state.pa.us/CFDOCS/Legis/PN/Public/btCheck.cfm?txtType=HTM&ndsessYr=2007&ndsessInd=0&ndbillBody=SandbillTyp=R&ndbillNbr=0194&ndpn=1463>.
- Statemaster.com. 2008. Health Statistics. Total Nonfederal Physicians (Per Capita) (Most Recent) by State. [http://www.statemaster.com/graph/hea\\_tot\\_non\\_phy\\_percap-total-nonfederal-physicians-per-capita](http://www.statemaster.com/graph/hea_tot_non_phy_percap-total-nonfederal-physicians-per-capita) (Accessed November 30, 2008).

## **Public Health Shortage Areas in Pennsylvania: A Barrier to Health Information**

**Alberto J.F. Cardelle, PhD, MPH**, East Stroudsburg University  
**Deidre Holland, MPH**, School of Public Health,  
University of Medicine and Dentistry of New Jersey

### **Abstract**

One of the essential functions of public health services is to “inform, educate, and empower people about health issues” (CDC 1994). Throughout the United States, the tendency is to have decentralized public health systems that leave the decision-making and a significant part of the financing to local county and municipal governments. This strong reliance on local government financing and control translates into extreme variations in per capita expenditures and access. This paper examines whether or not individuals residing in areas without a centralized public health infrastructure have more difficulty accessing health information to help them make informed decisions about healthy living and lifestyle choices. The paper compares the ease and accuracy of accessing basic public health information in counties and municipalities without a Local Health Department<sup>1</sup> (LHD) as compared to counties and municipalities served by a LHD. The study examines the case of Pennsylvania, because the state has the lowest ratio of public health workers per person in the country (Gebbie 2000), and it has only 10 LHDs covering six counties and four municipalities.

The study found that in areas without a LHD, residents had to make 20% more calls and received useful information in only 64% of the inquiries. This is compared with locales served by LHDs which required

---

<sup>1</sup>An agency of local government, a local health department (LHD) develops and administers programs and services that are aimed at maintaining a healthy community. To ensure that these efforts address a community's most important health problems and concerns, the LHD encourages residents to participate in assessing public health needs and in formulating a community health plan. It also works with other community organizations to assure that needed services and programs are available.

fewer calls in order to receive useful information, and in which useful information was attained 100% of the time. This assessment shows that the potential for callers to receive useful public health information in areas without a LHD was impacted by both the higher number of calls that were required and in the diversity of places to which callers were referred. In locales without LHDs, the caller was much more likely to be referred to a non-public health entity, and was statistically less likely to get to speak to a public health professional early on in their inquiry.

### **Introduction**

Today most states in the United States organize their public health systems around county health departments (Mays et al. 2004). Of the currently identified 2,865 local public health agencies in the United States, 73% cover a county, or a county and city, and 18% cover smaller geographic areas such as towns and townships (NACCHO 2005) (Beitsch et al. 2006). Sixty-two percent of LHDs in the United States serve populations of less than 50,000 persons while 40% of LHDs serve even less populated rural areas (NACCHO 2005). On the average, the majority of the funding, 65%, for these LHDs, comes from local government sources, the state, or are pass-through funds from the federal government.

This decentralized approach to funding and control has meant that no one entity has comprehensive authority and responsibility for creation, maintenance, and oversight of the nation's public health infrastructure which in turn has allowed the distribution of services in public health to be "fragmented and uneven" (Baker et al. 2005).

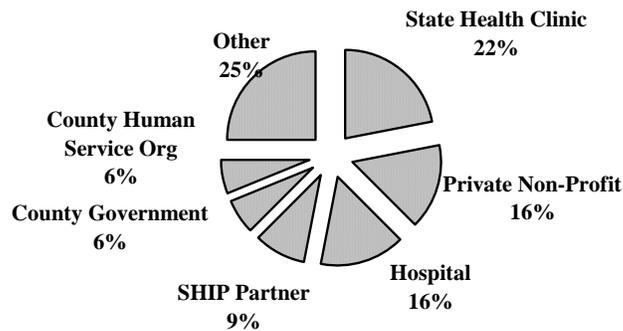
Of the 67 counties in the Commonwealth of Pennsylvania, only six have a county health department and an additional four municipalities have local health bureaus.<sup>2</sup> None of the 42 rural counties in Pennsylvania has a LHD. Counties without LHDs have services provided by various different governmental agencies and non-governmental organizations. The state Department of Environmental Protection provides environmental services (water supply testing), the Department of

---

<sup>2</sup>Counties with health departments are Montgomery, Bucks, Chester, Erie, Philadelphia and Allegheny; municipal bureaus include York, Allentown, Bethlehem and Wilkes-Barre.

Agriculture provides restaurant inspections, and the state Department of Health provides the remaining public health services. The counties, which lack LHDs, have a state health center with a staff of one to four nurses that provide communicable disease clinical services including sexually transmitted disease and tuberculosis diagnosis and treatment, immunization, and HIV testing, counseling and education (PADOH 2007). The health centers operate under the direction of district offices, whose staff provide coordination, consultative and administrative support to the health centers in communicable disease reporting and investigation, epidemiology, informational and referral, chronic disease prevention and intervention programs, and environmental health services (PADOH 2007). In addition, the state Department of Health contracts with local non-profit agencies for the provision of other public health services throughout counties without LHDs.

**Figure 1: Organizations Providing Public Health Services in Areas without LHDs**

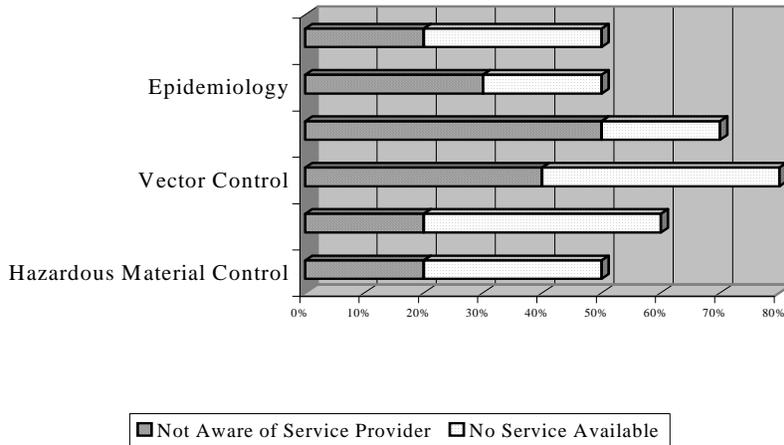


In 2004, an assessment of the existing public health infrastructure in areas of Pennsylvania without a LHD was completed using a survey of agencies and organizations (identified through reputational sampling) carrying out public health functions in 10 Pennsylvania counties without a LHD (Cardelle 2004).

The data shows that in counties without a LHD, public health services are offered by a varied set of institutions (Cardelle 2004) (Figure 1, above). In counties without LHDs, state health centers report offering less than a quarter of the public health services in the area. Private sector

entities such as nonprofits and hospitals offer more public health services than the state health centers. As Figure 2 (below) shows, when asked to identify what other institutions in the county offered public health services, the majority of the organizations delivering public health services were either not aware of who delivered essential public health services or indicated that the services were not offered in their area (Cardelle 2004). Fifty percent of the respondents could not identify who inspected recreational facilities and an additional 20% reported that those services were not offered in their area. Close to 80% of the respondents were not aware of a provider who provided vector control and 50% could not identify providers in their area that offered HIV testing, hazardous material control or carried out epidemiologic surveillance (Figure 2). These are all services that existing LHDs deliver or coordinate in areas with LHDs.

Figure 2



The data from this previous assessment (Cardelle 2004) shows evidence that even though essential public health services may be being offered in the areas of Pennsylvania not covered by a LHD, they are being offered through a decentralized structure that is influencing their visibility. Without a LHD to serve a coordinating role, the residents of the locale have greater obstacles to knowing what services are offered

and where they are being offered. Therefore, since one of the essential public health functions is to “inform, educate, and empower people about health issues” (Public Health Functions Steering Committee 1994), this paper postulates that the decentralized structure present in locales without a LHD would be a barrier to individuals gaining health information that help them make informed decisions about healthy living and lifestyle choices.

### **Methodology**

This assessment compared the ease of accessing basic public health information, and the accuracy of that information in counties and municipalities without LHDs<sup>3</sup> as compared to counties and municipalities served by a LHD. A sample of 10 counties and 18 municipalities that were similar in population and income to the counties and municipalities with LHD were selected. The non-LHD locales falling within a two standard deviation range of the mean population size and per capita income of the nine LHD locales (Philadelphia was not included) were sampled.

Trained college students (health education majors) adhering to the following protocol collected the data:

1. The beginning of an inquiry was a call to the main municipality or county telephone number.<sup>4</sup>
2. The students introduced themselves as a college student and asked if there was someone or some office in the municipality or county that could answer one of the following six questions (there was only one question asked per phone call):
  - a. Does this municipality/county have high incidence levels of Lyme disease? If I found a tick on me, what should I do?

---

<sup>3</sup>For the purpose of this study, LHDs are defined as health departments established and managed by local governments (county or municipal).

<sup>4</sup>There are many examples in the literature of using mystery patients or clients to measure performance of health care institutions (Van den Borne 2006; Borfritz 2001). More recently, a similar methodology was used to measure performance of disease reporting systems (Dausey et al. 2008).

12 PUBLIC HEALTH SHORTAGE AREAS IN PENNSYLVANIA: A BARRIER TO HEALTH INFORMATION

- b. Do I need to get a meningitis vaccine at my age?
  - c. Where can someone get checked for Chlamydia?
  - d. Who is at risk for West Nile Virus?
  - e. Why should I get my house tested for radon? How do I get my house tested for radon?
  - f. Who is at risk for lead poisoning? What are the signs of lead poisoning?
3. The response from this initial call was intended to result in a referral; however, if the response was a negative (no, do not know, I am not sure, etc.) the student then asked if there was a local health department or a public health director. If the answer was no, then they asked if the person could suggest somewhere else that the caller could call to get the information.
  4. If referred to call somewhere else, the student collected information and called the next destination, then repeated the process.
  5. The student kept calling referrals until receiving useful information (defined as information that they as health educators would determine allow a prudent layperson to make an informed decision),<sup>5</sup> no longer referred, or referred five times.
  6. All questions were kept consistent and calls were made within approximately the same time of the day (afternoon).

For each locale, written records of the dates, times, responses, and referrals for each call were maintained.

---

<sup>5</sup>The responses to what the callers indicated was useful were compared when the protocol and the methodology was tested on three counties (not part of the study) using Cohen's Kapa measure, which measures the degree of agreement between raters on categorical assessments (Is this information useful?). The Kappa score for inter-rater reliability on whether an answer was useful was 0.69, which the literature defines as signifying substantial agreement (Landis and Kich 1977).

## Results

A total of 181 calls were made to 15 counties and 22 municipalities. There were 43 calls made to the counties and 138 to municipalities. Of 181 calls, 142 were made to locales without LHDs and 39 were made to locales with LHDs. An average of 30 calls were made per question.

In order to receive useful information, an average of 2.43 calls were required. Eighty percent of the inquiries required three or fewer telephone calls. Sixty-four percent of the inquiries resulted in the caller receiving useful information.

**Table 1**

	Mean number of calls <sup>1</sup>	Percent of the inquiries receiving useful information <sup>2</sup>	Percent of inquiries that required two or fewer calls <sup>2</sup>
Locale with LHD	2.15	100%	84%
Locale without LHD	2.71	55%	46%

<sup>1</sup>Difference in means sig <.05.

<sup>2</sup>Difference is sig <.05. The percentage of calls not receiving useful information means that the either the caller was referred five times without getting useful information or they failed to get the last caller to refer them to another number.

Inquiries made to locales served by LHDs required fewer calls in order to receive useful information, and useful information was attained 100% of the time (Table 1, above). The difference between the numbers of calls between the two groups is statistically significant at the .05 level (sig < .05)<sup>6</sup>. Locales with LHDs were significantly more likely to provide useful information in fewer calls across all themes (Table 2, following page). Locales without LHDs required almost three calls for the questions on Lyme disease and STD testing and over 2.5 calls on the question about immunizations, radon and lead poisoning. In addition, non-LHDs had a lower percentage of inquiries resulting in useful information. While 80% of the inquiries made about STDs resulted in

---

<sup>6</sup>Statistically significant at .05 (p < .05) means that the probability of that relationship occurring by chance is less than 5%.

useful information, only 26% of the inquiries on radon resulted in useful information and only 32% of the inquiries on West Nile Virus resulted in useful information.

**Table 2**

	Mean number of calls		Percent of the inquiries receiving useful information	
	LHD	Non-LHD	LHD	Non-LHD
Lyme Disease	2.14	2.96	100%	60%
Immunization	2.14	2.57	100%	50%
STD Testing	2.14	2.96	100%	80%
West Nile Virus	2.17	2.38	100%	32%
Radon	2.17	2.71	100%	26.3%
Lead Poisoning	2.17	2.64	100%	75%

The locales with no LHD required more phone calls to complete the inquiry. One hundred percent of the inquiries made to locales with a LHD were completed with three phone calls. Only 85% of the inquiries made to locales without a LHD were completed with three or fewer calls (Figure 3, page 15) (sig < .05).

Analysis of the relationship between the number of calls and receipt of useful information showed a statistically significant relationship between the two variables. Inquiries that resulted in useful information had a mean number of calls of 2.45, while inquiries not resulting in useful information had a mean number of calls of 2.87. Figure 4 (next page) demonstrates that 92% of the inquiries which resulted in useful information were responded with fewer than three calls, while the inquiries not resulting in useful information required more calls.

Figure 3

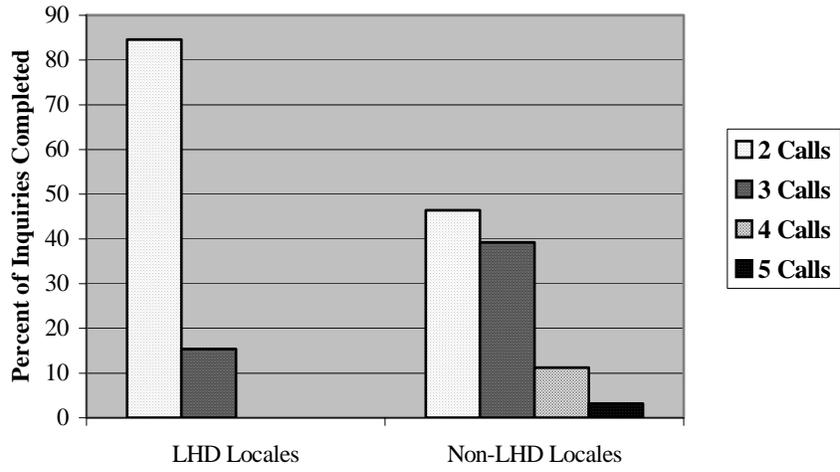
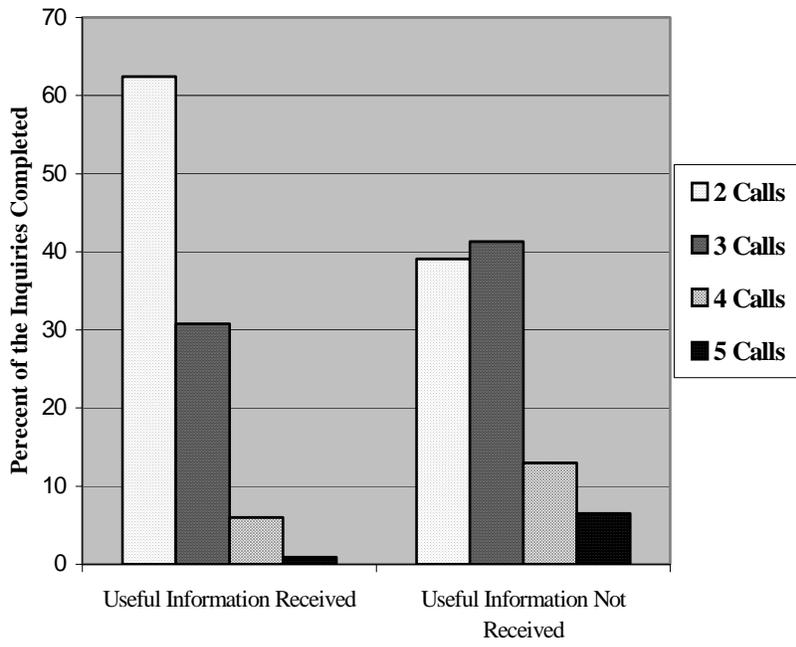


Figure 4



A third major issue identified in the difference between locales is the dispersed types of referrals made during the inquiry. While locales with LHDs referred the caller to the LHD sometime during the first three calls 100% of the time, inquiries made to locales without LHDs were referred to other government agencies 55% of the time, after the initial call. In these locales, other government agencies were the most common referral after the first and second referrals; only during the third referral are non-LHD locales likely to refer the inquiries to the Pennsylvania Department of Health (either state level or county level). These delayed referrals could exhaust callers and keep them from continuing their inquiries. The callers in this study had a protocol that required them to continue to call, but members of the public requesting information would likely not be so persistent (see Table 3, below).

**Table 3**

	Referral 1		Referral 2		Referral 3	
	LHD	Non-LHD	LHD	Non-LHD	LHD	Non-LHD
PA DOH (state or county)	0%	9.9%	0%	24.8%	0%	40%
Private Provider <sup>1</sup>	0%	11.3%	0%	15.8%	0%	14.5%
State Health Center	0%	8.5%	0%	22.8%	0%	18.5%
Other Government Health Agency <sup>2</sup>	0%	2.1%	0%	2%	0%	1.8%
Other Government Office <sup>3</sup>	11%	55.6%	0%	28.7%	0%	18.2%
Penn State Extension Office	0%	2.8%	0%	1%	0%	3.6%
LHD	89%	0%	100%	0%	0%	0%
Other <sup>4</sup>		9.8%		4.9%		3.4%

<sup>1</sup>Includes hospitals, private physicians, non-profit agencies

<sup>2</sup>Local Health Board, Department of Environmental Protection, Department of Agriculture, Vector Control

<sup>3</sup>Housing Authority, Assistance Office, hotline, commissioner's office

<sup>4</sup>Library, courthouse, college professor

Overall, as compared to callers in locales with LHDs, callers within locales without LHDs tend to run a 93% greater risk of being referred to non-public health entity during the first referral and 60% greater risk during the second referral. In addition, callers in locales without a LHD have a 50% greater risk of not receiving useful information (Table 4). As Table 5 demonstrates, the individuals responding to the calls are trying to provide some type of useful information, but lack the adequate information. The callers did not report an unwillingness to provide service, but instead a genuine unawareness of the information. The referrals are also problematic because some, such as having the caller search the web or go to the library, may result in erroneous information.

**Table 4**

	Relative Risk	Confidence Intervals	
Inquiries to non-LHD locales not resulting in useful information	1.51	1.32	1.70
Referrals made to non-public health entities in non-LHD locales after first call.	1.93	1.56	2.37
Referrals made to non-public health entities in non-LHD locales after second call.	1.60	1.37	1.85

**Table 5**

Sample Responses		
Q	LHD Locale	Non-LHD Locale
1	“Try the Health Department, hold and I will transfer you.”	“There is no one in the city that can help you with that. ... Go into a search engine like Yahoo and type in the words Lyme disease...”
2	“I’ll transfer you to the Health Bureau.”	“I have no idea; maybe you could try your personal physician.”
3	“We have a walk-in clinic.”	“Since there is not a LHD, we (the city) have contracted with Family Health Counseling.”

4	“I will transfer you to a nurse at the Health Department.”	“I would try the library for that information. I do not know if we have a local health department - that is a good question. Sorry I can’t help you.”
5	“You need to do what everybody else does and go to Home Depot and buy a test kit.”	“I will transfer you to our building inspector.”
6	“Call our Lead Program.”	“We don’t have a local health department but we have a board of health.” Transferred to a physician’s office ... The receptionist told me to “call the state Health Department.”

### Discussion

This assessment shows that the potential for callers to receive useful public health information in LHDs and non-LHDs was impacted by both the higher number of calls that were required and in the diversity of places to which callers were referred.

In locales without LHDs, the caller was much more likely to be referred to a non-public health entity, and was statistically less likely to get to speak to a public health professional early on in their inquiry. This delay or diversion increases the chance of getting information that is not useful. It is important to highlight that over 85% of the calls that are eventually referred to public health entities such as state department of health centers, county vector control programs, and county West Nile control programs resulted in useful information. Therefore, it was not that the personnel in the network of organizations that provide public health services to non-LHD locales could not provide useful and timely information, it was that it took the caller a longer time to get to that organization. In both types of locales, once the caller was forwarded to a public health entity, the chances of receiving useful information improved dramatically. The difference is that in locales without LHDs, the caller had to demonstrate a greater determination in following-up on the referrals.

In general, there is an overall uncoordinated response in locales without a LHD. In locales with LHDs, over 90% of the initial calls were sent to the LHD by government personnel with the job of answering phone calls (administrative assistant or receptionist). This shows that in

LHD locales, frontline government workers were aware of the portal of entry into the public health infrastructure. In non-LHD locales, there was not a common entity that government employees could consistently identify as being in charge of public health. There was no pattern in non-LHD locales as to where the call was referred; it was sometimes a hospital, sometimes another government agency, and sometimes the Department of Health. Even in situations in which the caller was told there was a local public health entity in non-LHD locales, the caller had a greater likelihood of getting messages such as:

*“There is a Health Officer but she is part time, you would have more luck calling the state Health Department.”*

*“...the health officer is working part time now, but leave a message and I will get back to you as soon as possible.”*

*“The city health line was closed about two years ago, so you need to call the state Health Department or go on the web to [www.state.pa.us](http://www.state.pa.us).”*

The danger in these situations, as well as in situations in which it took callers four to five calls to get an answer, is that callers would give up. It is fair to ask how many calls a college student, who is mildly concerned about being tested for an STD, would make before giving up.

This study did have inherent limitations. The sample of the counties and municipalities called are not representative of the rural counties in Pennsylvania. The sampled counties have higher per capita incomes and are more densely populated. In addition, the determination of what constitutes “useful” information is a subjective assessment.

In addition, since the study was not blind, unconscious subjective bias may have been introduced. Although the calls were made at different times of the day, there is a possibility that the study did not capture a representative sample of persons who answer the calls in county offices.

## **Conclusion**

The results of these different studies indicate that areas without LHDs are lacking the infrastructure with which to provide all the

essential public health functions. In areas across the country that lack a LHD, a proposed solution to this problem has been the creation of a network of coordinated entities that could provide the 10 essential functions of public health. However, a lesson of this assessment is that these networks are not recognized as being an entity that is perceived as having the charge of providing public health services. This study highlights that while private-public partnership may adequately serve the public health needs of a population, there is a clear need for public sector stewardship of the partnership. Without at least one central entity that has the established reputation of being the steward of the public's health, residents in need of information and services will have difficulty in solving their public health related problems. The disjointed services offered or the paucity of useful information provided may not be a reflection of the competence of the personnel in these network-based infrastructures, but rather a reflection of the lack of a centralized portal of entry into the infrastructure. While it may be possible to provide public health services through a decentralized network, it is difficult for this network's structure to establish a clear portal of entry for residents. Unlike a fire, a traffic accident, or even a water-main break where what is required of local services is clearly evident; responses to a strange rash, the identification of a vector, or environmental hazards are less clear and linear. As a result, residents of locales without LHDs are more likely to be without the essential service of public health needed to make informed decisions regarding their health. These differences create a public health disparity, a disparity that given the increasing threats to the public's health, SARS, West Nile Virus and bioterrorism, stands to negatively affect the long-term health status of the population. Since the public entrusts the public sector with its protection, it follows that the portal of entry into a public health infrastructure be the responsibility of the public sector.

## References

- Allukian, M. Jr. 1993. "Forging the Future: The Public Health Imperative." *American Journal of Public Health* 83: 655-60.
- American Public Health Association. August 2004. "Shift in Preparedness Funds Undermines Readiness Efforts." *The Nation's Health*.

- Baker, E.L., and J.P. Koplan. 2002. "Strengthening the Nation's Public Health Infrastructure: Historic Challenge, Unprecedented Opportunity." *Health Affairs* (Millwood) 6:15-27.
- Baxter, R.J., C.R. Steinberg, and J.R. Shapiro. 2001. "Is the U.S. Public Health System Ready For Bioterrorism? An Assessment of the U.S. Public Health Infrastructure and Its Capacity for Infectious Disease Surveillance." *Yale Journal of Health Policy Law Ethics* 1: 1-21.
- Beitsch, Leslie, Robert G. Brooks, Nir Menachemi, and Patrick M. Libbey. 2006. Public Health at Center Stage: New Roles, Old Props. *Health Affairs* 25: 911-922.
- Borfitz, Deborah. "Is a Mystery Shopper Lurking In Your Waiting Room?" *Medical Economics*. May 1, 2001.
- Cardelle, Alberto. 2004. "Assessment of Rural Public Health Infrastructure." unpublished manuscript.
- Center for Disease Control and Prevention. 1994. Public Health Performance Measure (Accessed March 1, 2008).
- Center for Rural Pennsylvania. 2004. Profile of Pennsylvania's Rural and Urban Counties. [http://www.ruralpa.org/county\\_profiles.html](http://www.ruralpa.org/county_profiles.html) (Accessed March 10, 2007).
- Dausey, David J., Anita Chandra, Agnes G. Schaefer, Ben Bahney, Amelia Haviland, Sarah Zakowski, and Nicole Lurie. 2008. "Measuring the Performance of Telephone-Based Disease Surveillance Systems in Local Health Departments." *Am J Public Health* 9:1-6.
- Dreicker, M. 2004. Plans for a Northampton County Health Department. Testimony presented to Northampton County Council, April 12, 2004.
- Frist, William. 2002. Public Health And National Security: The Critical Role of Increased Federal Support. *Health Affairs* (Millwood) 6:117-30.
- Gebbie, Kristine. 2000. The Public Health Workforce; Enumeration 2000. Washington DC.: Health Research and Services Administration.
- Gebbie, Kristine. 1993. Rebuilding A Public Health Infrastructure. *Journal of Law and Medical Ethics* 3-4:368-71.
- Gebbie, Kristine. 1999. The Public Health Workforce: Key to Public Health Infrastructure. *American Journal of Public Health* 5:660-1.
- Landis Eric, and Mariane Koch. 1977. Measurement of Measurer Agreement for Categorical Data. *Biometrics* 33:159-174.
- Van Den Borne, Francine. 2007. Using Mystery Clients to Assess Condom Negotiation in Malawi: Some Ethical Concerns. *Studies in Family Planning* 4:322-330.



## **Crisis in the Making: What's Wrong with Pennsylvania Public Health Law**

**John A. Bozza**, Judge of the Court of Common Pleas,  
Sixth Judicial District, Commonwealth of Pennsylvania

### **Acknowledgement**

*The author would like to extend his gratitude to the Hon. John M. Cleland, President Judge of McKean County and a national advocate for a broader understanding of the role of the judiciary in matters of public health, for his critical and most insightful review of this manuscript.*

There are few areas of government enterprise where the need to “get it right” is so critical as formulating and executing laws affecting the public health. When the government sets out to exercise its police power<sup>1</sup> to control the spread of disease, its goal is to accomplish an immensely important practical task and its success is to a great degree objectively determinable; the spread of disease is either curtailed or not. However, the manner in which the government’s goal is reached reflects not only its pragmatic concerns but also a society’s political, social and legal values.

Recent attention to matters of public health in the area of infectious disease has brought to the fore both the nature and effectiveness of the federal government’s response to incidents of contagious disease both actual and anticipated. In 2003, Severe Acute Respiratory Syndrome (SARS), a contagious viral disease, seemed to rapidly spread throughout a number of countries, including Canada and to a lesser degree the United States (Centers for Disease Control 2003; Mason 2003; Reich 2003). Beginning in 2003 with reports of outbreaks in various parts of the world, much attention has been focused on what is generally referred to as “bird flu” and commonly identified as avian influenza. There are a number of variants of avian flu virus but the H5N1 virus has caused the most concern among public health officials with regard to transmission

to humans (Centers for Disease Control and Prevention 2008; O'Leary 2006; Pennsylvania Department of Health 2008).<sup>2</sup> It was widely suggested that should an outbreak of the bird flu materialize, it could lead to a worldwide epidemic or as it was described, a "pandemic," and result in a great loss of human life (MSNBC 2005; Centers for Disease Control and Prevention May 28, 2008). This concern led to considerable activity among public health officials throughout the world and was the subject of intense attention in the federal government's public health community largely centered at the Centers for Disease Control. Gratefully, no worldwide outbreak, or for that matter, even a significant local outbreak, of bird flu in humans in the United States seems to have developed and anecdotally, there seems to have been a noticeable diminution of public attention to the pandemic issue (Centers for Disease Control and Prevention 2008).

Most recently the public's attention has been brought to bear on the activity of an American whose wedding celebration was interrupted by an international incident precipitated by his contraction of tuberculosis. Andrew Speaker's reported failure to adhere to a United States government request to refrain from international airline travel resulted in a great deal of attention to the potential risks associated with an individual's reluctance to refrain from public interaction in circumstances where he or she has a serious, perhaps life-threatening communicable disease (Schwartz 2007). While Mr. Speaker eventually complied with a federal government request for isolation and treatment, and it was ultimately determined that the government's belief that he had the most drug resistant form of tuberculosis was wrong, the episode brought to the public light the difficulties that the government may encounter when trying to curb a perceived public health threat.

While the public's attention to both episodes has diminished and government's concern for an imminent outbreak of a human bird flu pandemic has moved off the front page, each has served as a much-needed impetus for the examination of the sufficiency of public health law and policy. From both a practical and legal perspective, public health is one of those areas of human endeavor that tends to receive attention only when things are going badly. Indeed it is the absence of experience, and in particular recent experience, that makes preparation for a public health crisis so challenging and what, quite understandably, results in a largely untested legal framework replete with unanswered

questions and therefore the potential for considerable confusion (Batlan 2007).<sup>3</sup>

This article is intended to highlight significant legal issues associated with the current state of public health law in Pennsylvania that may have adverse practical consequences on the government's ability to effectively respond to a public health crisis. While the need to update state public health laws has long been recognized (see generally, Gostin, Burris and Lazzarini 1999), there has been almost no movement in that direction in Pennsylvania. Revisions to Pennsylvania law are necessary to assure that the response to a perceived public health emergency is not impaired by legal uncertainty and that citizens are protected from arbitrary government action. Perhaps it will be accomplished before the crisis begins.

Although Pennsylvania's public health law framework is the focus of discussion, it is likely that the issues that are addressed have some applicability in other state jurisdictions and the federal government. Indeed there is an ongoing concern about the interrelationship between federal and state authority in the public health law arena, especially as it applies to the spread of communicable disease. Although recent public health events have served as a reminder of the potential need for a coordinated national and ideally an international effort, to curb threats to the public health, the vital role of state and local governments in this area of the law and public policy has long been recognized (Gostin, Burris and Lazzarini 1999; Weeks 2007).<sup>4</sup> And given the overlapping jurisdiction of state and federal governments in such important matters as ordering quarantines, the need for well-conceived state statutes will remain a compelling consideration for state legislatures (Batlan 2007, 59; Chen 2005).<sup>5</sup> It must also be recognized that although there have been efforts to formulate model acts (Gostin et al. 2002; Turning Point Model State Public Health Act 2003), these initiatives have not been without significant criticism and may well have some of the same limitations as are addressed below (Chen 2005, 168-173).<sup>6</sup>

With that backdrop, it is this author's objective to critically review Pennsylvania's public health law using a conceptual methodology that focuses on the practical consequences of flaws in legislative enactments and administrative regulations that may limit the effectiveness of the government's response to a public health crisis or unduly complicate it.

In that regard it is suggested that any review of public health law requires, at a minimum, consideration of three key questions: 1) Which agencies or officials, collectively referred to as a Public Health Authority (PHA), are authorized or required to take action to prevent or control disease? 2) Under what circumstances can a PHA take action? 3) What steps may a PHA take to respond to such a public health concern? While these inquiries serve as the framework for this analysis, they by no means constitute a comprehensive scrutiny of public health law. In particular, the issue of how a PHA enforces its directives through the judicial process is not addressed and this is ultimately a matter of critical importance left for another day (Daubert 2007; Chen 2005, 165, 186-190).<sup>7</sup>

### **The Current State of Pennsylvania Public Health Law**

There are three primary sources of public health law in Pennsylvania that deal with the control of communicable disease: 1) The Disease Prevention and Control Law of 1955 (DPCL; 35 P.S. §511 et seq.); 2) The Counterterrorism, Planning, Preparedness and Response Act ("Counterterrorism Act;" 35 P.S. §2140 et seq.); and 3) Pennsylvania Health Department regulations set forth in 28 Pa. Code §27.1 et seq. The DPCL includes a broad authorization for the State Advisory Health Board (Board) to issue rules and regulations concerning the prevention and control of both communicable and non-communicable diseases [35 Pa. Stat. Ann. §521.16(a) 1-12]. Very few have been promulgated and so there is much about the application of the DPCL that remains uncertain. And those rules that have been formulated are more on the order of broad mandates rather than narrow prescriptions for government action. Moreover, the DPCL also allows certain municipalities to enact ordinances and regulations concerning the control and prevention of disease so long as they are not "less strict" than the provisions of the DPCL or rules and regulations [35 Pa. Stat. Ann. 521.16(c)].<sup>8</sup> This exercise in limited state preemption sets the stage for considerable conflict and disparity. Finally, case law interpreting or applying the key provisions of both the statutes and health department regulations is entirely absent.

Generally in Pennsylvania, local and state governments have been delegated the responsibility of controlling the spread of disease and have

been given broad discretionary authority to carry out their mandate. Specifically, the DPCL provides as follows:

Responsibility for disease prevention and control. --

(a) Local boards and departments of health shall be primarily responsible for the prevention and control of communicable and non-communicable disease, including disease control in public and private schools, in accordance with the regulations of the board and subject to the supervision and guidance of the department.

(b) The department shall be responsible for the prevention and control of communicable and non-communicable disease in any municipality which is not served by a local board or department of health, including disease control in public and private schools (35 Pa. Stat. Ann. §521.3).<sup>9</sup>

The Counterterrorism Act takes a markedly different approach from the DPCL. While its public health provisions are also intended to limit the transmission of a contagious or potentially contagious disease, it largely relies on the authority of the governor rather than local officials to take action (35 Pa. Stat. Ann. §2140.301). In addition, it is based on the Model State Emergency Health Powers Act (MSEHPA) and its focus is multifaceted with limited attention devoted to contagious disease or epidemic. Furthermore, because government action is limited to circumstances involving a bioterrorist or biohazardous event, and neither term is defined, there is considerably less certainty in the 35 Pa. Stat. Ann. as to both the conditions that may give rise to government action and the character of the government's response.

The health department regulations add little to the clarification of the issues noted above with regard to the locus of responsibility for the public health decisions required by either the DPCL or the Counterterrorism Act.

### **Who Can Take Action?**

Government attempts to prevent the spread of communicable disease may very well necessitate action that significantly interferes with individual liberty and must always be based on sound judgment predicated on a high degree of scientific acumen. In turn, the

government's action has to be sufficiently accepted by the public to assure meaningful compliance and thus limit the scope of a public health threat. In such circumstances, clearly identifying the agencies or officials that are empowered to act to protect the public health is of critical importance. At a time of heightened public concern, not knowing who precisely is authorized to make potentially life-altering decisions, such as directing isolation or quarantine, or mandating diagnosis and treatment, could result in delayed or faulty action, potentially contradictory positions on the nature of the danger posed, or what must be done to respond to it, and a reluctance on the part of the community to follow directives or to accept the government's position. In this regard, Pennsylvania law presents significant issues.

### **The DPCL**

In general, the DPCL specifies that certain local governmental entities have the responsibility to act "for the prevention and control of communicable and non-communicable disease" (35 Pa. Stat. Ann. §521.3). These PHA's are identified as "local boards and the departments of health" (35 Pa. Stat. Ann. §521.3). They are in turn defined as "(t)he board of health or the department of health of a city, borough, incorporated town or township of the first class, or a county department of health, or joint county department of health" (35 Pa. Stat. Ann. §521.2). In circumstances where a municipality is not served by one of these entities, the state Department of Health (the "department") is responsible for this mission (35 Pa. Stat. Ann. §521.3b).

There is, however, an important caveat to the exercise of public health responsibilities by a local PHA. The DPCL requires that a local PHA is "subject to the supervision and guidance" of the state Department of Health suggesting that it is the state Department of Health that is the true decision-maker [35 Pa. Stat. Ann. §521.3(b)]. This begs the question as to whether the Department can either compel a local authority to act or forbid it from doing so or alternately simply shape the character of a local PHA's response to a public health issue. This role ambiguity has the potential for leading to divergent positions or strategies and diminishing the public's confidence in decision-makers.

In addition, the DPCL provides that in certain instances, designated individuals are authorized to take action. Specifically the DPCL refers to "local health officer," "a local qualified medical health officer," "the

local medical health officer,” and the Secretary of Health as persons who can carry out activities set forth in the act. For example, §521.7 directs that “a local qualified medical health officer” require an infected person “to undergo a medical examination and any other approved diagnostic procedure” (35 Pa. Stat. Ann. §521.7). This person also has the authority to cause an individual who refuses examination or diagnosis to be quarantined (35 Pa. Stat. Ann. §521.7). However, it is left entirely to speculation as to who qualifies as “a local qualified medical health officer.” There is similar uncertainty regarding the identity of “the local medical health officer” who is authorized to isolate an infected person who refuses treatment (35 Pa. Stat. Ann. §521.11).<sup>10</sup> A “local health officer” is defined as the head of a local department of health (35 Pa. Stat. Ann. §521.2). No definition of the other designations is provided (35 Pa. Stat. Ann. §521.2). Although not defined, the reference to the Secretary of Health is apparent.

### **The Counterterrorism Act**

Under the Counterterrorism Act this issue is far less complicated. In circumstances involving a public health emergency, the governor is designated as the primary decision-maker and is authorized to temporarily isolate or quarantine an individual or group under specified circumstances [35 Pa. Stat. Ann. §2140.301(a)]. Moreover, the “department or local health department” is authorized to petition the court for continuing isolation or quarantine [35 Pa. Stat. Ann. §2140.301(b)]. Both terms are defined. The “department” is defined as the Commonwealth Department of Health, and “local health department” as a county department of health under the Local Health Administration Act or certain municipal health departments (35 Pa. Stat. Ann. §2140.102).

### **Health Department Regulations**

Under the regulations promulgated pursuant to the DPCL, action to protect the public health may be taken by either the Department of Health or by a “local health authority” which in turn is defined as “a county or municipal department of health, or board of health of a municipality that does not have a department of health. The term includes a “sanitary board” (28 Admin. Code, §27.1). In that respect the regulations are similar to the provisions of the DPCL. It is noteworthy, however, that the regulations require that if a local health authority

(LHA) is not a local morbidity reporting office (LMRO), the LHA must consult with the department before acting in certain instances.<sup>11</sup> This provides some clarification about the circumstances when the Department must become directly involved in decision-making under the DPCL although there is no indication as to whether the duty to consult also requires a LHA to follow the Department's advice.

### **Under What Circumstances May a PHA Act?**

The government's ability to take steps to protect the public health must be triggered by an event or circumstance implicating the prospect of a health risk. Both the DPCL and the Counterterrorism Act set forth criteria by which a public health authority (PHA) or the governor must determine the need for action. Unfortunately, both statutes suffer from a lack of precision in this area and a tendency, particularly with the DPCL, to afford a PHA broad discretion in defining the circumstances under which action must be taken.

#### **The DPCL**

Under the DPCL, a PHA may be required to take action when it receives "a report of a disease which is subject to isolation, quarantine, or any other control measure" (35 Pa. Stat. Ann. §521.5). Although the Act does not specify which diseases are subject to "control measures" a fair reading of the statute leads to the conclusion it must be a "... a venereal disease, tuberculosis or any other communicable disease" (35 Pa. Stat. Ann. §521.2).<sup>12</sup> Communicable disease is broadly defined as:

An illness due to an infectious agent or its toxic products which is transmitted, directly or indirectly, to a well person from an infected person, animal or arthropod, or through the agency of an intermediate host, vector of the inanimate environment [35 Pa. Stat. Ann. §521.2(c)].

Venereal disease is not defined.<sup>13</sup> There is no further delineation of the characteristics of an "illness" that allow or require action. Specifically there is no requirement that the illness be serious or life threatening or rise to some level of contagion except that with regard to the isolation of an "infected" person, the disease must be in a "communicable stage" [35 Pa. Stat. Ann. §521.11(a)].<sup>14</sup> (For the

purposes of this discussion, communicable disease includes tuberculosis but not venereal diseases. Both the DPCL and the regulations have a number of separate provisions applicable only to sexually transmitted diseases.)

The threshold issue is whether a PHA is compelled to act in a particular manner or whether its actions are discretionary and therefore more subject to disparity and perhaps, arbitrariness. In this regard, the DPCL has divergent and perhaps conflicting provisions. Directive language is utilized with regard to a PHA's general responsibility under the Act. Section 521.5 provides:

Upon the receipt by a local board or department of health or by the department ... a report of a disease which is subject to isolation, quarantine, or any other control measure, the local board, department of health or the department shall carry out the appropriate control measures in such a manner and in such a place as is provided by rule or regulation.

While the need to act as prescribed by rule is unequivocal, there is obviously room for the exercise of discretion in selecting a control measure.<sup>15</sup> This flexibility may be intended to accommodate the demographic and resource diversity of counties and municipalities.

Further indication of the directive orientation of the DPCL is found in §521.7, relating to examination and diagnosis, which provides that whenever a PHA has "reasonable grounds to suspect any person being infected ... or being a carrier..." the PHA shall require the person "to undergo a medical examination or other approved diagnostic procedure." In this circumstance it is apparent that a PHA has no choice but to test persons it reasonably suspects as having a communicable disease.

The discretionary nature of a PHA's responsibility is exemplified by §521.11(a.1), which provides that a PHA "may cause" a person who is infected with a communicable disease including a venereal disease to be isolated in an appropriate institution. While directed to take "control measures" under §521.5, the applicable PHA is not obligated to select any one in particular and is not required to either isolate or quarantine a person infected with a disease in a communicable stage. Moreover, if it chooses to isolate an individual, the PHA has the discretion to select an "appropriate institution" [35 Pa. Stat. Ann. §521.11(a.1)].

Finally, it is not clear under the DPCL whether a PHA is required to compel treatment for one diagnosed with a communicable disease. There is no provision in the Act that specifically sets forth such a requirement. However, if it does require treatment, the character of the treatment is within its discretion as the Act only refers to “treatment approved by the department or by a local board or department of health” (35 Pa. Stat. Ann. §521.2). Additionally, as will be discussed below and as would be expected, there is no discrete time limitation on how long a person may be subject to isolation by a PHA as the DPCL provides that isolation may last until a disease is rendered non-communicable (35 Pa. Stat. Ann. §521.2).

### **The Counterterrorism Act**

As noted above, it is the governor who is the prime actor under the 35 Pa. Stat. Ann. and who is authorized to act only in a case of “an actual or suspected outbreak of a contagious disease or epidemic due to an actual or suspected bioterrorist or biohazardous event” [35 Pa. Stat. Ann. §2140.301(a)]. The governor’s actions are broadly discretionary, as the Act does not define any of these terms while providing that he or she “may” isolate or quarantine an individual or group [35 Pa. Stat. Ann. §2140.301(a)]. The failure to define the terms “biohazardous” and “bioterrorist” opens the door to a considerable range of scenarios that could give rise to action by the governor. On the other hand, the statute limits the governor’s ability to act to circumstances where waiting for a PHA to pursue authorization for quarantine or isolation through judicial proceedings currently available, would jeopardize the Department’s ability to prevent or limit the transmission of a contagious or potentially contagious disease [35 Pa. Stat. Ann. §2140.301(a)].

Perhaps most notable, the governor’s written order for isolation or quarantine can only last until a court reviews the matter and determines whether such an order shall continue. The government must file a petition for court review within 24 hours or the next business day following the governor’s order and a hearing must be conducted within 72 hours of the filing of the petition. The court is authorized to extend the governor’s order up to 30 days.

## Health Department Regulations

Under the regulations, a PHA is authorized to engage in control measures when a person has a communicable disease or infection and it is "... necessary to protect the public from the spread of infectious agents" [28 Pa. Admin. Code §27.60(a)]. The definition of communicable disease is different from that provided in the DPCL:

An illness which is capable of being spread to a susceptible host through the direct or indirect transmission of an infectious agent or its toxic product by an infected person, animal or arthropod, or through the inanimate environment (28 Pa. Admin. Code §27.1).

Here the illness has to be one that "is capable of being spread to a susceptible host" while under the DPCL the language is arguably more limiting, requiring that the illness from an infectious agent be "transmitted, directly or indirectly, to a well person from an infected person..." [35 Pa. Stat. Ann. §521.2(c)]. While it is not clear what the term "susceptible host" encompasses, ostensibly it would include more than humans and thus the range of diseases subject to control measures under the regulations would likely extend to illnesses that are either confined to animals or transmitted from humans to animals. This interpretation is reinforced by §27.60 that provides that a PHA shall direct the isolation of "a person or *an animal*" with a communicable disease or infection (28 Pa. Admin. Code, §27.60(a); emphasis added).

The rules also potentially broaden a PHA's authority to act by requiring the government to take control measures when a person or animal has a communicable "infection," as opposed to a communicable disease. The legal distinction between disease and infection is not evident and needs to be clarified. While it is possible to speculate that "infection" relates to a situation where one is carrying an "infectious agent" without overt symptomology, it is by no means apparent that this is the distinction intended by the Board. It is important to recognize that under the rules, a PHA is required to take specified actions when necessary to protect the public from the spread of both communicable diseases or infections. The discretionary nature of a PHA's authority under the regulations focuses on a determination of what is needed to protect the public and then directing isolation, surveillance, segregation, quarantine or modified quarantine or any other control measure it deems appropriate [28 Pa. Admin. Code §27.60(a)].

### **What May a PHA Do to Respond to a Public Health Concern?**

Ultimately what really matters in a public health crisis or potential crisis is the government's ability to require individuals or entities to do things that reduce the likelihood of the spread of disease. When a potential public health problem emerges, the government's response is obviously intended to have a practical benefit. Therefore the measure of effectiveness of a public health statute resides in its ability to provide a PHA with the tools necessary to respond to an outbreak of a communicable disease while at the same time limiting the likelihood of arbitrary actions. In that regard, Pennsylvania public health statutes have significant limitations. In general there is broad authority vested in public health officials, particularly with regard to isolation and quarantine directives. There is no requirement in either the DPCL or the Counterterrorism Law that the government adopts the control measure least restrictive of individual liberty, to effectuate public health objectives.

#### **The DPCL**

In general the DPCL provides that a PHA may use "appropriate control measures in such a manner and in such a place as provided by rule or regulation" (35 Pa. Stat. Ann. §521.5). Although the term "control measures" is not defined, §521.5 makes reference to taking steps to respond to "a disease which is subject to isolation, quarantine, or any other control measure" (35 Pa. Stat. Ann. §521.5). Implicitly, isolation and quarantine are authorized control measures. Moreover, a subsequent section of the DPCL provides that a PHA must require a person to submit to a medical examination (35 Pa. Stat. Ann. §521.7). It is also apparent that a PHA has the authority to at least request an infected person undergo treatment (35 Pa. Stat. Ann. §521.11).<sup>16</sup> No other control strategies are described or even referred to in the Act.

While the DPCL does provide some limited guidance, the manner in which and place where control measures may be carried out are issues explicitly left to rule making (35 Pa. Stat. Ann. §521.5). Unfortunately, the regulations promulgated by the State Advisory Health Board do not materially clarify either of these questions and, with the exception of authorizing "placarding," do not expand the list of acceptable control measures.

1. Isolation. Under the DPCL, isolation is defined as:

The separation for the period of communicability of infected persons or animals from other persons or animals in such places and under such conditions as will prevent the direct or indirect transmission of the infectious agent from infected persons or animals to other persons or animals who are susceptible or who may spread the disease to others. [35 Pa. Stat. Ann. §521.2(e)]

It is directly authorized in only one instance where a person is infected with a communicable disease in a communicable state and refuses to submit to treatment. In that circumstance, either the secretary of the department or the local health officer “may cause the person to be isolated in an appropriate institution” (35 Pa. Stat. Ann. §521.11). In no other instance is isolation, as defined in the DPCL, explicitly authorized.

It is apparent the PHA has broad discretion with regard to isolation in two respects. First, it is entirely up the PHA to determine what is an appropriate institution and second, the PHA must determine when the infected person has been rendered non-communicable. In circumstances where the disease in question is a venereal disease, the DPCL specifically provides that the person may be “received” by a county jail [35 Pa. Stat. Ann. §521.11(b)]. Otherwise there is no designation as to an appropriate place, nor are there criteria for determining what may be an appropriate location. Further, there is no time limitation.

There is also no provision for the isolation of someone who is infected but who has agreed to treatment. In this circumstance, a PHA may be able to proceed under the quarantine provision as described below or under the “any other control measure” provision of §521.5.

2. Quarantine. The DPCL provides that the Secretary of the Department of Health or the local “qualified medical health officer” may require that a person who refuses to be examined be placed in quarantine. Quarantine is defined under the Act as:

The limitation of freedom of movement of persons or animals who have been exposed to a communicable disease for a period of time equal to the longest usual incubation period of the disease in such manner as to prevent effective contact with those not so exposed. Quarantine may be complete, or, as defined below, it may

be modified, or it may consist merely of surveillance or segregation.<sup>17</sup> [35 Pa. Stat. Ann. §521.2(i)]

The period of the quarantine may last until it is determined that the person is not infected or a carrier of the disease. There is no other time limitation. A person who refuses to be examined may be “committed by the court to an institution determined by the Secretary of Health to be suitable for the care of such cases” (35 Pa. Stat. Ann. §521.7). This suggests that a PHA is without authority to require institutional commitment on its own.

There are no specific guidelines for the use of quarantine, nor does the DPCL list the type of quarantine measures that may be taken. However, given the very broad definition of the term in the Act, it is apparent that the range of possibilities is considerable. The notion that a quarantine may be carried out “in such a manner as to prevent effective contact with those not so exposed” [35 Pa. Stat. Ann. §521.2(i)] suggests that the only criteria for selecting the form of the measure is its effectiveness in preventing contact. Contrary to the implication of the right of the PHA to seek a court ordered commitment discussed above, this would seem to connote isolation as an option. Importantly, the DPCL does not require that a PHA or the court limit its selection to the alternative that is the least restrictive of the individual’s liberty.

3. Involuntary examination. The DPCL provides that a PHA may require a person who it reasonably suspects is infected or a carrier of a communicable disease “to undergo a medical examination and any other approved diagnostic procedure” (35 Pa. Stat. Ann. §521.7). If the person refuses, then a PHA, limited to either the secretary of the department or the “local qualified medical officer,” may cause the person to be quarantined (35 Pa. Stat. Ann. §521.7). The quarantine may last until it is determined that the person is not infected or a carrier. Alternatively, either person may petition the Court of Common Pleas seeking an order to compel the examination. Unlike the PHA who compels quarantine, the Court must find that the person refused to be examined for no valid reason before ordering an examination or subsequently committing the person to an institution “determined by the Secretary of Health to be suitable for the care of such cases.”<sup>18</sup>

4. Involuntary treatment. There is no provision of the DPCL that authorizes a PHA to require treatment. However, there is certainly an

implication in §521.11 that a PHA may request it. It is not clear just how far it may go in ultimately coercing it. The stated remedy provided in §521.11 for refusing treatment is isolation “in an appropriate institution ... until the disease has been rendered non-communicable.” This may be accomplished through court action. If a person refuses treatment, a PHA is authorized to petition the Court of Common Pleas and the Court, after a hearing, may commit the person to an appropriate institution (35 Pa. Stat. Ann. §511(a.2)).

Of potential practical significance is the Act’s provision that certain forms of spiritual healing constitute acceptable treatment. Section 521.11(a.3) expressly approves of such treatment:

...it is understood that treatment approved by the department or by the local board or department of health shall include treatment by a duly authorized practitioner of any well recognized church or religious denomination which relies on prayer or spiritual means alone for healing: Provided, however, that all requirements relating to sanitation, isolation or quarantine are complied with. [3 Pa. Stat. Ann. §521.11(a.3)]

This section seems to suggest that where spiritual treatment has been chosen by an infected person, a PHA is authorized to use other control measures including isolation. This appears to be contrary to the language set forth in §521.11(a) that the PHA may cause a person to be isolated when treatment is refused.

### **The Counterterrorism Act**

1. Isolation. The term is not defined in the Act but the governor is authorized to temporarily isolate a group or individual suspected of having or actually having a contagious disease due to an actual or suspected bioterrorist or biohazardous event. The governor may only order isolation if going through judicial proceedings “currently available” would cause a delay that would prevent or limit the PHA’s ability to prevent or limit transmission of a contagious or potentially contagious disease to others [35 Pa. Stat. Ann. §2140.301(a)]. If the governor proceeds without judicial authorization, he or she must petition the court within 24 hours and after a hearing, the court may order continued isolation for 30 days with additional isolation authorized, if warranted, upon further review.

2. Quarantine. The term is not defined in the Act. The Act makes no distinction between isolation and quarantine and it would appear that the government's authority with regard to quarantine is the same as isolation. As with isolation, a governor's order is subject to judicial review [35 Pa. Stat. Ann. §2140.301(a)].
3. Involuntary examination. There are no provisions related to this issue in the Act.
4. Involuntary treatment. There are no provisions related to this issue in the Act.

### **Health Department Regulations**

The DPCL's "control measure" approach to the spread of communicable disease is further developed in the regulations. Section 27.60(a) provides that a PHA:

... shall direct ... any other control measure the Department or the local health authority considers to be appropriate for the surveillance of the disease, when the disease control measure is necessary to protect the public from the spread of infectious agents.

Section 27.60(b) further provides:

The Department and local health authority will determine the appropriate disease control measure based upon the disease or infection, the patient's circumstances, the type of facility available and any other available information relating to the patient and the disease or infection.

1. Isolation. The definition is, in all material respects, identical to that set forth in the DPCL. Contrary to the DPCL, the regulations seem to require that a PHA isolate a person who has a communicable disease. Section 27.60 provides that the PHA "shall direct the isolation of a person or an animal with a communicable disease or infection" (27 Pa. Admin. Code §27.60). The regulations provide little guidance as to the proper place for isolation but §27.61 suggests that forms of isolation other than institutionalization may be appropriate by requiring that instructions be given to specified persons "defining the area within which the case is to be isolated and identifying the measures to be taken to prevent the spread of the disease" [35 Pa. Stat. Ann. §27.61(3)].<sup>19</sup>

Section 27.87 provides that a PHA shall isolate a person infected with a communicable disease who refuses treatment in an appropriate institution, “if it determines the action advances public health interests” [35 Pa. Stat. Ann. §27.87(a)]. Although the character of the institution is not precisely defined, it must be an institution designated by the PHA and the isolation is to continue until the person is rendered non-communicable. The rules also provide that the PHA may release an individual from isolation when it determines the person no longer presents a threat to the public health (35 Pa. Stat. Ann. §27.68).

There are special isolation rules for persons infected with tuberculosis. A person who is suspected of having tuberculosis is to be kept in his or her residence if facilities for isolation are available there and the person accepts the isolation (35 Pa. Stat. Ann. §27.161).<sup>20</sup> If isolation in the person’s residence cannot be accomplished, then isolation is to occur in a manner as contemplated for other communicable diseases [35 Pa. Stat. Ann. §27.161(2)].

2. Quarantine. Under the rules, the definition of quarantine is similar but not identical to that found in the DPCL. As with isolation, the regulations require that a PHA shall direct the “... surveillance, segregation, quarantine or modified quarantine of contacts of a person or an animal with a communicable disease or infection” [35 Pa. Stat. Ann. §27.60(a)]. However, the rules also ascribe to a PHA broad discretionary authority by providing that a PHA “shall determine which contacts shall be quarantined, specify the place to which they shall be quarantined, and issue appropriate instructions” (35 Pa. Stat. Ann. §27.65). The regulations also provide that a person under quarantine may be moved from one place to another as otherwise provided under §27.67, ostensibly to avoid contacts with others (35 Pa. Stat. Ann. §27.1ii).<sup>21</sup>

There is one material difference in the definition that could significantly affect the duration of quarantine. The definition in the regulations states that a quarantine may last for “a period of time equal to the longest usual incubation period of the disease, or *until judged non-infectious by a physician*” (35 Pa. Stat. Ann. §27.1ii; emphasis added). The highlighted language does not appear in the DPCL and is not further explained in the regulations. By simply referring to “a physician” it raises the prospect that the opinion of any physician, not withstanding the expression of a contrary view or for that matter an incorrect conclusion,

may control the decision of the PHA. Moreover, the failure to adopt a more exacting standard sets the stage for potential conflict between a patient's physician and the government's physician. It also denotes that moving beyond the incubation period and being "non-infectious" are not necessarily synonymous. Apparently the regulations contemplate that one can be non-infectious prior to the conclusion of the period or perhaps continue to be infectious following the incubation period. This is obviously a matter of scientific determination and thus the opinion of an appropriate expert regarding this matter would to be essential.

3. Involuntary examination. The authority of a PHA to require testing under the regulations is similar to the DPCL. Whenever a PHA has reasonable grounds to suspect that a person has been infected with an organism causing a communicable disease, it may require the individual to submit to a medical examination and "any other approved diagnostic procedure" (35 Pa. Stat. Ann. §27.81). If the person refuses, the PHA may cause the person to be quarantined until "it is determined that the person does not pose a threat to the public health ..." [35 Pa. Stat. Ann. §27.82(a)]. As with the DPCL, the rules authorize a PHA to petition the court in circumstances where the person refuses a quarantine directive, and the court, following a hearing, may commit an individual who continues to refuse, to an institution determined by the state Department of Health to be suitable to care for such individuals [35 Pa. Stat. Ann. §27.82(b)(2)(c)]. Also consistent with the DPCL, a person ordered by the court to be examined may be examined by a physician of his or her own choosing (35 Pa. Stat. Ann. §27.83).

4. Involuntary treatment. Section 27.88 allows the PHA to order certain individuals to undergo preventative therapy, that is, therapy designed to prevent a disease from reverting to a communicable stage:

If the disease is one which may be significantly reduced in its communicability following short-term therapy, but is likely to significantly increase in its communicability if that therapy is not continued, such as tuberculosis, the Department or local health authority may order the person to complete therapy which is designed to prevent the disease from reverting to a communicable stage, including completion of an inpatient treatment regimen [35 Pa. Stat. Ann. §27.87(a)(1)].

The form of treatment for a communicable disease is not otherwise specified. Like the DPCL, the regulations allow the PHA to petition the court in the event that an individual refuses treatment and, although the court after a hearing shall upon finding that the person has refused treatment “issue an appropriate order,” nothing in the regulations state that the court can compel treatment.

## **Issues of Compelling Concern: A Summary**

### **Delineating Clear Lines of Authority and Responsibility**

In a time of a real or potential crisis, knowing which governmental authority or individual is authorized to act and, perhaps more significantly, who has the responsibility to act, is of paramount importance. The DPCL and related regulations need to be clarified to assure that decision-making will not be stymied by uncertainty about who has the authority to do what. The DPCL does not sufficiently differentiate the authority of local public health authorities from that of the Department. As noted above, the Act does not indicate whether the Department has veto power over decisions of local public health authorities. Although the Department is designated as a supervisor who provides guidance to a local PHA, neither the DPCL nor the regulations give precise parameters to that role. Consider that the DPCL unequivocally states that primary responsibility for prevention and control of communicable disease resides with “(l)ocal boards and departments of health.” This ambiguity gives rise to the prospect of perhaps contradictory decisions with potentially disastrous results. There is some safeguard provided by the DPCL’s provision that if the secretary of the state Department of Health determines that the local PHA’s “disease control program” is so inadequate that it constitutes a “menace to the health of the people,” he or she may appoint agents to carry out a disease control program [35 Pa. Stat. Ann. §521.3(c)]. Unfortunately, “disease control program” is not defined and it is not clear that this authority applies to a local decision in an individual case or circumstance.

While it is conceivable that this situation could be clarified by administrative rulemaking, to date, it has not been. With regard to issues involving examination, treatment, quarantine and isolation of persons

who have or are suspected of having a communicable disease, the regulations simply state that either the Department or local health authority is authorized to take the appropriate action (see 27 Pa. Admin. Code §§27.60, 27.82, 27.87, 27.88). The regulations do not address the relationship between state and local public health officials in any manner that clarifies the lines of authority or responsibility in this area of vital public concern.

Moreover, the terms “local qualified medical health officer” and “local medical health officers” are not defined in the statute and, although the regulations do not use these designations, they do not alter the authority of such individuals to take certain actions specified in the DPCL.<sup>22</sup> In each instance, the terms connote a plethora of possible actors including virtually any physician and perhaps a variety of other health care workers who may be authorized to take action. Neither term explicitly incorporates the designation of “local health officer,” a term that is defined in the DPCL as the head of the local department of health [35 Pa. Stat. Ann. §521.2(g)].<sup>23</sup> The use of these terms does seem to connote someone who has some form of medical training.

Even if it were to be assumed that the legislature intended some relationship among these designations or for that matter that they all referred to the same individual, the question remains as to what separates a “qualified” medical health officer from one who is not, or a “medical health officer” from one who is simply a health officer? The DPCL says that a “qualified” one may order a person suspected of being infected to undergo an examination and diagnostic testing and to quarantine the person for refusing to go along with it. If the court is ultimately requested to enforce an order from such an individual, it may well be necessary to first determine what it means to be “qualified.” Given that one who is a “local qualified medical health officer” has designated public health responsibilities and the authority, under certain circumstances, to quarantine someone, this is not simply a matter of semantic nitpicking. It would seem reasonable to know if this includes the family doctor, a podiatrist, a dermatologist, a nurse or any other health care provider. While the rules provide for a position designated “health officer” in certain municipalities, *only in certain counties does the person have to have to be a physician* (28 Pa. Admin. Code §§11.1, 13.11).

The Turning Point Model State Public Health Act (“Model Act”), the product of a collaborative initiative involving five states and a number of national organizations and experts in the in field of public health, provides no guidance with regard to the relationship between state and local PHA’s (Turning Point Model State Public Health Act 2003). Indeed it seems to leave this issue to the drafters of state statutes by referring to either a “state or local public health agency” as the actor responsible for undertakings such as mandatory treatment [Turning Point Model State Public Health Act 2003, §5-107(b)] or quarantine and isolation [Turning Point Model State Public Health Act 2003, §5-108(a)], without delineating particular lines of authority. It does, however, distinguish between those who are authorized to carry out the provisions of the Act, ostensibly anyone so designated in a statute or regulatory scheme, from those who have the authority to “manage and supervise” an agency’s activities [Turning Point Model State Public Health Act 2003, §1-102 (44, 47)].<sup>24</sup> The Model Act avoids the problem of designating a public health role for individuals whose titles are left undefined.

While under the 35 Pa. Stat. Ann., it is specifically provided that the governor is authorized to act, the question remains as to who actually determines that there is a cognizable threat in the first place. While the governor is empowered to act, upon whom he or she must depend for a determination of what are likely to be largely scientific questions is not addressed in the statute. This is particularly significant because, as noted above, the governor can only act in limited circumstances where *inter alia* there is an outbreak, actual or suspected, of a contagious disease due to a bioterrorist or biohazardous event and where the failure to do so will jeopardize the Department’s ability to curtail the transmission of a contagious disease [35 Pa. Stat. Ann. §2140.301(a)]. None of the critical terms are defined in the Act and there is no framework, other than consultation with the “Secretary of Health,” for interpreting whether the conditions precedent to the exercise of the governor’s authority have been met [35 Pa. Stat. Ann. §2140.301(a)].<sup>25</sup>

So if it were reported to the police in Scranton, or Kane, or Harrisburg that there was what appeared to be an outbreak of an unknown disease of uncertain origin in the area of a waste-water treatment plant or perhaps another “white powder” incident at a courthouse, who within the Commonwealth would be enlisted to determine whether it was a contagious disease resulting from a

biohazardous event that required immediate action and advise the governor or a PHA accordingly? Moreover, who will be responsible for coordinating the overall government response and in particular assuring that the perhaps divergent priorities of criminal justice and public health authorities are properly accommodated? Assuming that these issues would eventually get sorted out, any initial delay caused by either role ambiguity or a failure of necessary expertise could be very costly. In a similar vein, the consequences of precipitous action predicated on bad information or poor advice could be far reaching for individuals unnecessarily subjected to quarantine or isolation orders. And while these issues could well be addressed through administrative rulemaking, the Board has adopted none.

The provisions of the Model State Emergency Health Powers Act (MSEHPA) are applicable to circumstances where a governor of a state declares a “public health emergency” (Model State Emergency Health Powers Act 2001, Article IV). Such an emergency arises only when there is a high probability of a large number of deaths, serious or long-term disabilities, or widespread exposure to agents that pose a significant risk of substantial future harm [Model State Emergency Health Powers Act 2001, §104(m)]. In such a circumstance the governor is authorized to take certain steps to respond to the threat of a public health crisis while the coordination of matters pertaining to a public health response is left to the PHA. Unfortunately, MSEHPA defines PHA in such a way as to include both state and local officials without delineating their respective scope of authority [Model State Emergency Health Powers Act 2001, §403(b)]. It therefore offers little guidance in formulating a practical approach to adjusting Pennsylvania’s public health law in a way that avoids confusion in the face of a public health event.

### **Controlling the Government’s Discretion**

While there can be no doubt that the government’s mission of responding to a public health concern is an essential component of a state’s police power, determining when and how that power should be exercised is the *sine qua non* of public health policy. In part this is because the state of science and more specifically, medicine, is inherently dynamic and as such, both the way we view the severity and significance of a health condition may very well change over time. Yesterday’s epidemic may be rendered nothing more than an interesting

historical event by the development of an effective vaccine or treatment or improvement in environmental conditions or simply because of a change in the way in which a culture views it. The DPCL, for example, singles out both tuberculosis and venereal diseases for particular attention.<sup>26</sup> While there are very important reasons to be concerned about both of these disease classifications, with the development of modern antibiotics, there is nowhere near the level of concern that existed when the DPCL was originally adopted. And yet even that has changed recently because the bacterium that causes tuberculosis has developed a strain that is resistant – sometimes very much so – to current modes of otherwise effective treatment (Lewis 1995; see Centers for Disease Control and Prevention January 2008).

When, then, is the threat to the public's health sufficient to justify the government's intervention? The law must serve as a vehicle for answering this question and provide a protocol for governmental decision-making. The challenge is do this in a way that accommodates the compelling need to take effective action while minimizing the risk of unnecessary restrictions on individual liberty. While the conditions that give rise to government action need to be delineated with a degree of precision, this must be accomplished without being so restrictive that the government's ability to respond to serious threats to the public's health is impaired. And while discretionary authority to act in such matters is essential, the need for competent scientific and medical expertise in support of decision-makers is of critical importance. Protecting the public's health demands science-driven decision-making.<sup>27</sup> The definitions of both the DPCL and the Counterterrorism Act need to be revisited to provide for more precise standards related to a PHA's decision to act in the face of a public health concern. In its present form, the definition of "communicable disease" is so broad as to be unworkable. The Board through its rule-making power has not provided any guidance. As a consequence, a PHA has almost unlimited discretion in selecting control measures necessary to respond to a public health event involving communicable disease whether it be an outbreak of bird flu or the common cold.

This issue is addressed in the Model Act in more than one way. For example, with regard to mandatory treatment, the Act provides that a state may require a person to undergo medication therapy only when infected with "... a contagious disease that poses a significant risk to

others or the public's health" (Turning Point Model State Public Health Act 2003). By imposing a "significant risk" condition, the Model Act specifically limits the circumstances under which the government may act to require treatment for an infectious disease.

Perhaps most significantly however, the Model Act requires that when a public health agency acts "to accomplish essential public health services and functions, it shall, to the extent possible, employ the policy or practice that least infringes on the rights or interests of individuals" [Turning Point Model State Public Health Act 2003, §5-101(b)(4)]. The drafters of the Model Act reinforced the importance of this conceptual scheme by specifically requiring that the use of isolation and quarantine must be effectuated by the "least restrictive means" required to prevent the spread of a contagious disease [Turning Point Model State Public Health Act 2003, §5-108(a)(b)(1)]. By adopting a least restrictive alternative approach to the overall application of the Act, it reduces the prospect that the government's response to a public health concern will be disproportionate to the actual threat posed to the public. This concept is not included in either the DPCL or the Counterterrorism Act, nor is it a part of the Board's regulations.<sup>28</sup> However, it is a concept that is firmly imbedded in Pennsylvania jurisprudence. The Mental Health Procedures Act has embraced the notion that the government's response to persons suffering from a serious mental illness and who require involuntary treatment must be measured and proportionate such that it "... shall impose the least restrictive alternative consistent with affording the person adequate treatment for his condition" (50 Pa. Stat. Ann. §7107).

Moreover, the Pennsylvania Supreme Court has long recognized the constitutional mandate to limit the exercise of government power in restricting personal liberty to means that are narrowly rather than broadly tailored to achieve the government's legitimate purposes (*Appeal of Albert L. Niccoli* 1977). In large part this orientation towards a minimalist approach to public health policy results from a belief that many, if not most, people afflicted with a communicable disease will voluntarily seek treatment or comply with the government's request to obtain it or embrace other restrictions and that for those who do not, it is likely the result of some psychological condition that interferes with their rational decision-making ability. For this group, lesser rather than greater efforts on the part of the government may well be adequate to meet the government's concern (Gostin, Burris and Lazzarini 1999, 123-124). On

the other hand this assumption may be entirely too optimistic. In the face of what is portrayed or perceived as an imminent health threat, compliance with even relatively innocuous preventive measures may be seriously problematic because of distrust of government or the medical community or because of the inherently uncertain nature of a public health threat presented. Therefore any least restrictive alternative requirement must be adopted in a context that explicitly contemplates its practical limitations and provides accordingly.

MSEHPA by definition limits action to circumstances that meet a certain threshold of seriousness. This is encompassed in the definition of public health emergency. Most notably, however, the MSEHPA also embraces the least restrictive alternative approach to isolation and quarantine that is so critical to the conceptual scheme of the Model Act:

Isolation and quarantine must be by the least restrictive means necessary to prevent the spread of a contagious disease or possibly contagious disease to others and may include, but are not limited to, confinement to private homes or other private or public premises [Model State Emergency Health Powers Act 2001, §604(b)(1)].

### **Harmonizing Statutory and Regulatory Provisions**

At a time of crisis the law should be a source for direction that points the way for government action in a clear and concise manner. The existence of separate statutes dealing with what are essentially identical public health concerns poses a barrier to effective and proper governmental action. Whether a contagious disease is the result of a bioterrorist or biohazardous event, however defined, or of some natural phenomenon, may be of immense practical consequence in terms of the steps needed to ultimately stop its spread. However, from the perspective of the kind of legislative guidance needed to deal with a public health crisis, divergent statutes that incorporate contradictory or differing terminology and differing mechanisms for decision-making only serve to obfuscate the matter and serve as a barrier to sound and expedient decision-making. There is no public policy or other reason that Pennsylvania could not adopt a single statutory scheme that incorporates the provisions of both the DPCL and the public health sections of the Counterterrorism Act. This would allow for conceptual clarity, common terminology, uniform procedures, and a single source for administrative

rule making, while at the same time assuring the flexibility critical for an effective localized response.

### **Conclusion**

We learned from the disaster that followed hurricane Katrina that preparedness is much more than a state of mind and that there can be little comfort in the mere existence of laws or the development of plans. In the final analysis, in times of crisis, it is performance that counts. Pennsylvania has a body of public health law that provides for the implementation of various measures to control the spread of contagious diseases in varying circumstances. It has provided for the development of plans to respond to health and other emergencies (35 Pa. Stat. Ann. §2140.201). But the cornerstone of Pennsylvania public health law, the Disease Control and Prevention Act, has not been comprehensively overhauled since its adoption in 1955. More importantly, its efficacy has never been seriously tested in the context of a significant public health crisis and as a consequence it has received almost no judicial attention. A similar situation exists with the Counterterrorism Planning, Preparedness and Response Act although it is of far more recent vintage. And although the Board is authorized to formulate rules to facilitate the implementation of the DPCL, it has not done so in any kind of comprehensive manner.

How, then, will Pennsylvania perform in the face of a threatened public health crisis, including the outbreak of deadly flu epidemic or antibiotic-resistant tuberculosis or some other ominous but yet to be identified infectious agent? It is suggested that unless key aspects of Pennsylvania law are clarified and/or modified, we risk far from adequate performance from public officials responsible for the public's health. Responding to a public health crisis should not be an experiment. That we will surely learn from our ultimate mistakes and the shortcomings of our laws should give us no comfort. Now is the time to act to address the limitations of our statutory and regulatory scheme.

## Notes

1. The government's authority to require people to act in a certain manner to further the public's health has long been recognized as emanating from its "police power" (see *Nat'l Wood Preservers v. Commonwealth Dep't of Envtl. Res.* 1980; *O'Connor v. Donaldson* 1975).
2. Influenza A (H5N1) virus is one subtype that is highly contagious in birds and has been transmitted to humans in a limited number of cases. The Centers for Disease Control provides a more complete description of the history and current status of avian influenza (Centers for Disease Control and Prevention 7 May 2007). The Pennsylvania Department of Health has an excellent explanation of avian flu on its website (2005).
3. In discussing the nature and history of quarantines, Batlan notes that, "... (T)here has not been a widespread medical quarantine in the United States for at least eighty years" (Batlan, 2007, 59).
4. The authors describe the significance of jurisdiction in the public health law arena and note the need to articulate clearly the scope of authority and responsibility of public health departments (Gostin, Burris and Lazzarini, 1999). Weeks generally discusses the need for a coordinated response between federal and state authorities when faced with a public health crisis and points out the interplay of state and federal authority (Weeks, 2007).
5. Batlan notes the potential for confusion resulting from divergent responses to public health events from government bureaucracies (Batlan, 2007, 59). Chen comments on the important role of state governments while recognizing the necessity of federal action in certain circumstances (Chen, 2005, 175-176).
6. Chen observed that the Model State Emergency Health Powers Act (MSEHPA), which was formulated at the request of the Center for Disease Control and that has been the used as basis for Pennsylvania's Counterterrorism Act, has "engendered a storm of controversy" (Chen, 2005, 168-173).
7. Similarly, the significant due process issues that often arise any time the government seeks to invade liberty interests are not addressed but are of nonetheless compelling concern (Daubert, 2007). Chen describes the due process issues associated with the provisions of Pennsylvania's Counterterrorism Act (Chen, 2005).
8. This section [35 Pa. Stat. Ann. §521.16(c)] provides that, "Municipalities which have boards or departments of health or county departments of health may enact ordinances or issue rules and regulations relating to disease control, which are not less strict than the provisions of this act or the rules and regulations issued there under by the board." By adoption of the Local Health Administration law, Pennsylvania provides for the creation of county departments of health authorized to act in particular circumstances (16 Pa. Stat. Ann. §12005). It has been observed that there are 237 local boards or departments of health that operate outside the Local Health Administration law (Pennsylvania Public Health Law Bench Book 2006, note 2).
9. "Department" is defined in the DPCL as the State Department of Health [35 Pa. Stat. Ann. §521.2(d)].

10. Moreover, some municipalities and counties with health departments may adopt rules that authorize other individuals or entities to act [see, DPCL 1955, §521.16(c)]. Under such arrangements there is a way to anticipate the role that may be played by the State Department of Health or any local public health authority.

11. See 28 Pa. Admin. Code, §27.65, requiring an LHA not a LMRO to consult with the state Department before requiring isolation of a person harboring an infectious agent.

12. See 35 Pa. Stat. Ann. §521.7, relating to examination and diagnosis; and 35 Pa. Stat. Ann. §521.11, relating to treatment. However, it must be noted that the DPCL does specify that certain PHA's are "responsible for the prevention and control of communicable and non-communicable disease," so it is apparent that a PHA may act to prevent non-communicable disease as well. For purposes of this analysis non-communicable diseases are not addressed.

13. However, the DPCL was amended in 1994 to deal separately with mandatory testing for Human Immunodeficiency Virus (HIV) [35 Pa. Stat. Ann. §521.11(a)]. The amendments were ostensibly necessitated by requirements of the federal Omnibus Crime Control and Safe Streets Act.

14. There is no similar requirement for isolating persons who are suspected of being infected but who have refused testing (35 Pa. Stat. Ann. §521.7).

15. However, a more realistic view of the scope of a PHA's authority comes into focus when the practical impact of the Pennsylvania Department of Health's sparse regulations is considered.

16. The DPCL only explicitly addresses treatment for venereal disease and then only by providing for "free treatment" when necessary for preservation of the public health.

17. The terms modified quarantine, surveillance and segregation are also defined in §521.2(i)(1,2,3).

18. This section of the DPCL also sets forth certain procedures to follow in court cases and more fully describes the parameters of the examination.

19. There is, however, specific authorization to isolate or quarantine a person suspected of having a sexually transmitted disease in an institution where the person's movement is physically restricted [35 Pa. Stat. Ann. §27.88(a)].

20. This procedure is akin to the least restricted alternative approach discussed hereafter as it requires the government to first try to accomplish its objective by having the person confined to her home with instructions on how to prevent the spread of the disease. If that doesn't work, then other less favorable means may be invoked.

21. The term does not exclude the movement of a person "... from one location to another when approved by the Department or local health authority..."

22. It is entirely possible that municipal codes have the same, different or additional designations for individuals authorized to act.

23. However, the rules identify the "health director" as the administrator of the county health department (16 Pa. Stat. Ann. §12012). Although the health director is not required to be a physician, a local health department must employ one (28 Pa. Admin. Code §§15.22, 15.25).

24. Public health agents would include a broad class of individuals who are designated to carry out the specific public health functions, while public health officials are those more narrowly concerned with the day-to-day operation of a public health agency. Nonetheless, the Model Act leaves it to individual states to more precisely define who is to be included in each category as well as their scope of authority. There is an exception to this approach with regard to reporting requirements where the Model Act imposes a duty on a “health care provider,” broadly defined to report a condition of public health importance [see §5-103f(1)].
25. Similarly, when the PHA proceeds to petition the court to authorize isolation or quarantine, the Act is silent as to how a decision is to be made with regard to the nature of a biohazardous event, its potential public health consequences and the appropriate response.
26. HIV is not included in the venereal disease category and is treated separately in the DPCL. This focus on specific diseases in state codes is not uncommon and over time this focus has shifted to different disease processes and other health concerns (Gostin, et al. 1999).
27. HIV is not included in the venereal disease category and is treated separately in the DPCL. This focus on specific diseases in state codes is not uncommon and over time this focus has shifted to different disease processes and other health concerns (Gostin, et al. 1999).
28. But, see 28 Pa. Admin. Code §27.161(1), requiring that if adequate facilities are available, a person infected with tuberculosis must be isolated in his or her own residence.

## References

- Appeal of Albert L. Niccoli*. 1977. 472 Pa. 389; 372 A.2d 749; 1977 Pa. LEXIS 643.
- Batlan, Felice. 2007. “Law in the Time of Cholera: Disease, State Power, and Quarantines Past and Future.” *Temple Law Review* 80: 53.
- Centers for Disease Control and Prevention. May 7, 2007. “Key Facts About Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus.” <http://www.cdc.gov/flu/avian/gen-info/facts.htm> (Accessed July 29, 2008).
- Centers for Disease Control and Prevention. December 12, 2003. “Revised U.S. Surveillance Case Definition for Severe Acute Respiratory Syndrome (SARS) and Update on SARS Cases -- United States and Worldwide.” *Morbidity and Mortality Weekly Report* 52 (49): 1202-1206. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5249a2.htm> (Accessed July 29, 2008).
- Centers for Disease Control and Prevention. February 17, 2006. *Past Avian Influenza Outbreaks*. <http://www.cdc.gov/flu/avian/outbreaks/past.htm> (Accessed July 29, 2008).
- Centers for Disease Control and Prevention. January 2008. “Multi-Drug Resistant Tuberculosis (MDR-TB).” *Fact Sheet*. <http://www.cdc.gov/tb/pubs/tbfactsheets/mdrtb.htm> (Accessed July 30, 2008).

- Centers for Disease Control and Prevention. May 28, 2008. "Influenza Pandemic Preparedness." *Questions and Answers About Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus*. <http://www.cdc.gov/flu/avian/gen-info/qa.htm#3> (Accessed July 29, 2008).
- Chen, Kathleen C. 2005. "Pennsylvania's Bioterrorism Act: Better Prevention from Better Preparation." *Tem. Pol. and Civ. Rts. Law Review* 15: 165,175-176.
- Daubert, Michelle A. 2007. "Comment: Pandemic Fears and Contemporary Quarantine: Protecting Liberty Through a Continuum of Due Process Rights." *Buffalo Law Review* 54: 1299.
- Gostin, Lawrence O., et al. 2002. "Model State Emergency Health Powers Act: Planning For and Response to Bioterrorism and Naturally Occurring Infectious Diseases." *JAMA* 288: 622-628.
- Gostin, Lawrence, Scott Burris, and Zita Lazzarini. 1999. "The Law and the Public's Health: A Study of Infectious Disease Law in the United States." *Columbia Law Review* 99: 59.
- Lewis, Ricki. 1995. "The Rise of Antibiotic-Resistant Infections." *FDA Consumer Magazine* (September). [http://www.fda.gov/Fdac/features/795\\_antibio.html](http://www.fda.gov/Fdac/features/795_antibio.html) (Accessed July 29, 2008).
- Mason, Christopher. 2007. "Poor Hospital Practices Blamed for 2003 SARS Epidemic in Toronto." *The New York Times*. [http://www.nytimes.com/2007/01/10/world/americas/10canada.html?\\_r=1&dn=Top%2fNews%2fHealth%2fDiseases%2c%20Conditions%2c%20and%20Health%20Topics%2fSARS%20%28Severe%20Acute%20Respiratory%20Syndrome%29&oref=slogin](http://www.nytimes.com/2007/01/10/world/americas/10canada.html?_r=1&dn=Top%2fNews%2fHealth%2fDiseases%2c%20Conditions%2c%20and%20Health%20Topics%2fSARS%20%28Severe%20Acute%20Respiratory%20Syndrome%29&oref=slogin).
- Model State Emergency Health Powers Act. 2001. The Center for Law and the Public's Health at Georgetown and Johns Hopkins Universities. <http://www.publichealthlaw.net/MSEHPA/MSEHPA2.pdf> (Accessed July 29, 2008).
- MSNBC. February 23, 2005. "WHO: Bird Flu Pandemic is Imminent." <http://www.msnbc.msn.com/id/6861065/> (Accessed July 29, 2008).
- Nat'l Wood Preservers v. Commonwealth Dep't of Env'tl. Res.* 1980. 489 Pa. 221, 414 A.2d 37.
- O' Leary, N. Pieter M. 2006. "Cock-A-Doodle-Do: Pandemic Avian Influenza and the Legal Preparation and Consequences of H5N1 Influenza Outbreak." *Health Matrix* 16: 511, 514-518.
- O'Connor v. Donaldson*. 1975. 422 U.S. 582, 95 S. Ct. 2486,45 L. Ed. 2d 396.
- Pennsylvania Department of Health. 2005. *Avian Flu*. <http://www.dsf.health.state.pa.us/health/cwp/view.asp?A=178&Q=243043> (Accessed July 29, 2008).
- Pennsylvania Public Health Law Bench Book*. 2006. Administrative Office of the Pennsylvania Courts.

- Reich, Daniel S. 2003. "Modernizing Local Responses to Public Health Emergencies: Bioterrorism, Epidemics, and the Model State Emergency Health Powers Act." *J. Contemp. Health Law and Policy* 19: 379, 380.
- Schwartz, John. June 2, 2007. "Tangle of Conflicting Accounts in the TB Patient's Odyssey." *The New York Times*. <http://travel.nytimes.com/2007/06/02/health/02tick.html> (Accessed July 29, 2008).
- Turning Point Model State Public Health Act. 2003. The Robert Wood Johnson Foundation, Turning Point Initiative. <http://www.publichealthlaw.net/Resources/Modellaws.htm#TP> (Accessed February 5, 2008).
- Weeks, Elizabeth. 2007. "Lessons from Katrina: Response, Recovery and the Public Health Infrastructure." *DePaul J. Health Care* 10: 251.



# **Evidence That Young Children Are Falling Through the Safety Net: Policy Implications of Hunger and Poor Health in Pennsylvania**

**Mariana Chilton, PhD, MPH**, Drexel University  
School of Public Health

**Michelle Chyatte, MPH**, Drexel University School of Public Health

**Edward Gracely, PhD**, Drexel University College of Medicine

## **Abstract**

Hunger is still lurking in Pennsylvania. But it can be addressed and treated by policymakers and legislators. This paper gives an overview of the empirical evidence that federal and state policymakers have a direct impact on the health and wellbeing of young children through the statewide implementation of safety net programs such as the Food Stamp Program, Women, Infants and Children Supplemental Nutrition Program, and Low Income Heat and Energy Assistance. Food insecurity, known as the lack of access to enough food for an active and healthy life, is strongly associated with increased hospitalizations, poor child health, developmental risk and maternal depression. The Philadelphia GROW Project research in Philadelphia demonstrates that food insecurity and its negative health consequences are prevalent and damaging to the lives of children and their parents in the Commonwealth. The continuing food insecurity in Philadelphia and Pennsylvania is having a damaging affect not only on the wellbeing of young children, but also on the purse strings of Pennsylvania. Policymakers and legislators have the opportunity to turn this trend around with sound, evidence-based decision making as they carry out their legislative agendas. We end this paper with recommendations for how key decision-makers can have an immediate and lasting impact on improving the lives of low-income families with young children.

## Introduction

Despite the existence of federal and state nutrition programs, hunger is still lurking in Pennsylvania. But it can be addressed and treated. One cannot see hunger with the naked eye, and it may not even manifest as underweight or overweight, but it does have very tangible effects on the body, the psyche, emotional wellbeing, and developmental potential of children and adults. The U.S. Department of Agriculture (USDA) developed a term more than a decade ago to capture this non-visible but harmful form of food deprivation. This term is “food insecurity.” Food insecurity is the lack of access to enough nutritious food for an active and healthy life due to economic constraints (Nord et al. 2007). Food insecurity is particularly dangerous for infants and toddlers because children are in the critical stage of neurological, social, and physical development during their first three years (Shonkoff 2003). Even the slightest interruption in nutritional intake can derail short and long-term development (Chilton et al. 2007; Cook and Frank 2008; Rose-Jacobs et al. 2008; Walker et al. 2007). In turn, this can cost the United States’ health and education system billions of dollars (Brown et al. 2007). The human suffering and the economic burden of food insecurity deserve greater attention from policymakers and legislators. There is now up-to-date research that can be utilized for evidence-based decision-making to prevent food insecurity and poor health in the years to come.

Legislators and policymakers can intervene to address household food insecurity through sound legislation and administrative actions that support low-income families in multiple ways that go well beyond food assistance programs and food program set asides. This paper describes how household food insecurity is associated with increased rates of reported fair and poor health, with higher rates of developmental risk among Pennsylvania infants and toddlers, and with greatly increased risk of maternal depressive symptoms. Maternal depressive symptoms are important to consider as they have powerful effects on the health and development of the child, as well as the earning potential of mothers. We review the research on these issues, explain the ongoing research from the Philadelphia GROW Project, and we describe policy recommendations that call for increased attention to income support programs such as Food Stamps, Temporary Assistance to Needy Families, and Medicaid, as well as deliberate and sustained action to

continue to recognize and treat families with young children at risk for food insecurity.

The most up-to-date work on household food insecurity research in Pennsylvania, and the basis of these results and policy recommendations, comes from the Philadelphia GROW Project ([www.growproject.org](http://www.growproject.org)) which works with parents, scientists, and policymakers to improve early childhood nutrition and to prevent food insecurity among very young children and their families. Our work is coordinated among three endeavors: 1) The GROW Clinic, a multidisciplinary clinic for children with failure to thrive, or undernourished children; 2) The Children's Sentinel Nutrition Assessment Program ([www.c-snap.org](http://www.c-snap.org)), a national multi-site research study that investigates the impact of public policies on the health and wellbeing of young children; and 3) Advocacy related to both research and clinical service.

We suggest that each major city in the Commonwealth develop their own project similar to the GROW Project so that: 1) All children with a diagnosis of clinical undernutrition are provided with best practice, fully reimbursed multidisciplinary treatment; so that 2) Each city tracks, responds and seeks to prevent household food insecurity for households with young children; and so that 3) both of these areas of activity are readily available to translate to policymakers who rely on evidence to make decisions.

Addressing and preventing household food insecurity makes economic sense. Household food insecurity has been estimated to cost the nation \$90 billion a year for increased health-care costs, reduced worker productivity, lost educational attainment, and the cost of maintaining emergency feeding programs. The State of Pennsylvania ranks in the top five states as having the highest expenditures associated with food insecurity (Brown et al. 2007). Using legislation and policymaking decisions to intervene on household food insecurity will not only help to improve the health of children in low-income families, but it will also save the Commonwealth significant economic costs.

### **The Definition and Prevalence of Household Food Insecurity**

Food insecurity, as the lack of access to nutritious food for an active and healthy life, contains at least two dimensions of food deprivation.

The first dimension relates to the quantity of food (is there enough?); and the second dimension includes the concept of adequate food for an active and healthy life (is the food of sufficient quality?). The dimensions are captured in an 18-point scale, which asks questions about access, quantity, and quality of food, and the experience of hunger. Examples of the USDA questions are included below in Table 1.

**Table 1: Examples of Food Insecurity Questions Relating to Children**

<p><i>“Which of the following statements was true for you in the last 12 months?”</i></p> <ol style="list-style-type: none"><li>1) “We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food.”</li><li>2) “We couldn’t feed our children a balanced meal, because we just couldn’t afford that.”</li><li>3) “The children were not eating enough because we just couldn’t afford enough food.”</li></ol> <p style="text-align: center;"><i>Previous three items include: “Was that often, sometimes, or never true for you in the last 12 months?”</i></p> <ol style="list-style-type: none"><li>4) “In the last 12 months, did you ever cut the size of any of the children’s meals because there wasn’t enough money for food?”</li><li>5) “In the last 12 months, were the children ever hungry but you just couldn’t afford more food?”</li><li>6) “In the last 12 months, did any of the children ever skip a meal because there wasn’t enough money for food?”</li><li>7) <i>(If “yes” to previous question)</i> “How often did this happen - almost every month, some months but not every month, or in only 1 or 2 months?”</li></ol>
---

According to the responses in the 18-item interview, households are categorized within a specific food security status suggesting varying levels of nutritional deprivation. The levels of food insecurity addressed in this paper are “Household Food Insecurity” and “Child Food Insecurity.” Household food insecurity includes attention to anyone in the household, but does not address a particular individual within the

household. It is therefore a composite measure that captures the minimal level of risk for nutritional deprivation.

Child food insecurity is measured at the individual level, and is often considered to be the most severe form of food insecurity. Research has shown that parents generally protect their own children from experiencing food insecurity or hunger (Nord and Hopwood 2007; Hamelin et al. 1999). When the parents can no longer shield their children from hunger, the deprivation can have serious consequences as it penetrates the protective abilities of the adults in the household.

The United States government research on food insecurity research focuses on food expenditures and “diversion of financial resources” (Rose 1999) that go towards such expenses as housing, utilities, and car payments (Rose 1999). Thus, food insecurity is strongly correlated with income. Food insecurity is also associated with poor nutritional intake (Rose and Oliveira 1997).

Nationally, the most updated research carried out by the USDA Economic Research Service reported that in 2006, 11.9% of the United States population, or 35.5 million people, had experienced food insecurity at some point during the year, and that 17.2%, or 12.6 million children lived in households that had reported food insecurity. Racial, ethnic and gender disparities in the prevalence rates of household food insecurity are a critical concern. Female-headed households have a prevalence rate that is three times that of the national average (30.4% vs. 10.9%) (Nord et al. 2007). Nationally, effects of food insecurity among households with children is even more pronounced when race/ethnicity are considered. According to the USDA, the prevalence of food insecurity in households with children in 2006 was highest among Black families with 26.4% of families experiencing food insecurity at some point during the year. In the same year, Hispanic families experienced a food insecurity rate of 23.8%. These rates are twice the rate of food insecurity among white households with children (11.3%) (Nord et al. 2007). As shown above, households with children are at greater risk for experiencing household food insecurity, as the prevalence rates for households with children are at least 6% above the national average. These prevalence rates and the disparities among these rates of food insecurity have not changed since the year 2000.

### **Making the Case for Pennsylvania: Relationships Between Food Insecurity and Wellbeing**

The overall prevalence rate of household food insecurity in Pennsylvania is 13.3% (Nord et al. 2007). This is close to the national average. A recent report published by Feeding America shows that in Pennsylvania 16.8% of children under the age of 18 lived in food insecure households in 2006 (Cook 2007). Stated differently, one in six children in Pennsylvania exhibits an increased risk of poor health, poor physical development, and limited school readiness because of a lack of adequate food.

The problem of food insecurity is even more pronounced in Philadelphia, the state's largest urban city. It is difficult to get local rates of household food insecurity without concerted effort and substantial funding to glean a representative sample. The survey instrument that measures food deprivation with a very limited measure is the Community Health Data Base (CHDB) of the Philadelphia Health Management Corporation. The CHDB is a community household phone survey of residents in Southeastern Pennsylvania that is carried out every two years. It "oversamples" low income and elderly households in order to gauge *true population* levels of health-related information. The survey includes only one question taken from the USDA Household Food Insecurity Short Form (consisting of six questions) (Blumberg et al. 1999). The question asked is: "Did you ever have to cut the size of your meals because you did not have enough money to buy food?" Responses to this question have been used by advocates in the Philadelphia area as an indicator for "risk" of food insecurity. For Philadelphia, the population-based prevalence rate of food insecurity among all households is 13.6%, or 151,200 individuals. For females, it is slightly higher, and for households with children, the prevalence rate for 2006 was 16.5% (Community Health Database 2006).

Among households with children, the racial and ethnic disparities in food insecurity seen at the national level also exist in the Philadelphia area, with 22.3% of Latino households with children reporting having cut a meal versus 16.5% of black and 10.4% of white households (see Table 2, following page).

**Table 2. Example Health Characteristics of Philadelphia Households with Children**

**By 200% of Federal Poverty Line and by Status of “Cutting a Meal”  
(Indicator of Risk for Food Insecurity)  
Representative of All Philadelphia Residents**

*Source: GROW Project Analysis of Community Health Data Base, PHMC, June 2006*

	<b>All Philadelphians Regardless of Income*</b>			<b>Below 200% Poverty*</b>		
<b>Variable</b>	<b>Did Not Cut Meal N=1100 84.4%</b>	<b>Cut Meal due to lack of Money N=203 15.6%</b>	<b>P Value</b>	<b>Did Not Cut Meal N=514 75.3%</b>	<b>Cut Meal due to lack of Money N=168 24.7%</b>	<b>P Value</b>
<b>Race/ethnicity</b>						
Black	47.9%	51.2%		55.3%	53.8%	
Latino	17.5%	27.1%	<.0001^	25.9%	30.2%	.4710
White	34.6%	21.7%		18.9%	16.0%	
<b>Adult Diagnosed with a Mental Health Condition</b>	12.6%	21.3%	.0010^	15.6%	22.6%	.0360^
<b>Adult was Sick but Did Not Seek Care Due to Cost</b>	8.1% <sup>5</sup>	37.2%	<.0001^	9.9%	35.1%	<.0001^
<b>Adult Self-Rated Health Fair/Poor</b>	18.6%	46.4%	<.0001^	26.1%	48.2%	<.0001^

\* Balancing weights used to determine appropriate population-based percentages  
^ P value indicates that the differences rates are statistically significant at the alpha < .05

Latino and black households are disproportionately burdened by food insecurity. This is likely due the disproportionate burden of the experience of poverty. When the all-Philadelphia population-based sample is restricted only to those living at 200% of the federal poverty line and below, the racial and ethnic disparities in risk for food insecurity almost disappear; the differences become statistically insignificant. Among low-income families, the rates for whites, Latinos and blacks hover in a common zone between 21% and 27%. In summary, there are disparities by race and ethnicity among all of the households with

children at risk for food insecurity in Philadelphia and nationally due to the higher overall prevalence poverty among African American and Latino households. Overall, however, these racial and ethnic disparities of differences within these populations become statistically insignificant in this Philadelphia dataset. It is likely, then, that the poor (not a particular racial/ethnic group) are disproportionately burdened by food insecurity.

On the other hand, between those who were at risk for food insecurity and those who were not at risk, the differences in health conditions did *not* disappear when restricted to the low-income population. In Table 2 (previous page), we show that among those who had cut a meal due to lack of money were almost two times more likely to report their health as fair/poor than households who had not cut a meal (48.2% vs. 26.1%). Adults from households with children that had cut a meal reported significantly higher rates of having a diagnosis of a mental health condition compared to those who had no reported food problems (22.6% vs. 15.6%). Finally, among those that had cut a meal, the rate of reporting on having been sick, but not seeking medical care due to cost, was three times higher than those households that did not cut a meal (35.1% vs. 9.9%). Each of these differences in health conditions was statistically significant. As this population-based Philadelphia data show, risk of food deprivation is an important risk factor to consider when measuring lack of access to care and poor health outcomes.

### **Making the Case for Children: Food Insecurity, Child Health and Development**

Everything from cognitive development, fine and gross motor skill development, to educational attainment and psychosocial disorders are linked to a child's nutritional status. Overall, scientific research demonstrates that the lack of an adequate, nutritious diet can have long lasting effects upon a child's developing mind and body (Rose-Jacobs et al. 2008; Cook and Frank 2008; Walker et al. 2007).

The Philadelphia GROW Project participates in the national multi-site study entitled the Children's Sentinel Nutrition Assessment Program (C-SNAP). As a multi-site study of families who have children under the age of three, the C-SNAP study demonstrates that children who lived in

households that are identified as food insecure were two times more likely to have reported fair/poor health, and were 30% more likely to be hospitalized than children who were in food secure households (Cook et al. 2004). Children who are food insecure are more likely to have delayed cognitive abilities, behavioral issues, psychosocial dysfunction, and continuing poor health as they mature into adulthood (Cook et al. 2006).

Compared to children in food secure homes, school-age children in food insecure homes were more likely to have seen a psychologist, have lower grades, and were reported to have greater difficulty interacting with their peers (Alaimo et al. 2001). A more recent study has shown that even the mildest forms of food insecurity are associated with poor performance on standardized tests in reading and mathematics (Jyoti et al. 2005).

Food insecurity is thus an important factor in a child's performance in school, and later, a significant factor in their earning potential. For this reason, it is important to intervene in a child's life early on, before they reach school age. The national C-SNAP study has found that infants and toddlers who lived in households that reported food insecurity had a 1.73 times greater odds of developmental risk than infants and toddlers in households that were food secure. These findings remain consistent even after controlling for other factors such as mother's educational attainment, child's medical history, and child's birth weight. Developmental risk is an indicator of delayed emotional cognitive, physical, and social abilities necessary for a child's full developmental potential (Rose-Jacobs et al. 2008).

Researchers in education and economics have demonstrated that by the time a child reaches kindergarten, if they are behind in reading readiness, it is already almost too late for the child to catch up with their peers (Heckman 2007, 2004). In Philadelphia the educational attainment of the children should be of serious concern, as one in three children is already behind in reading preparedness by the time they reach kindergarten (Blue Ribbon Commission 2007). While there are many social and emotional factors associated with readiness for school, one particular factor – household food insecurity – is preventable.

Research on the welfare support systems demonstrates that the Food Stamp Program, the Women, Infants, and Children's Supplemental

Nutrition Program (WIC), housing subsidies, and heating assistance can have a positive impact on protecting children from nutritional deprivation and from poor health.

The C-SNAP study has also shown that children who were in families that received WIC benefits compared to eligible families who did not receive WIC had better reported health, and were also less likely to be underweight (Black et al. 2004). When a child is underweight compared to other children their age, the risk for poor health and development are far greater (Walker et al. 2007; Chilton et al. 2007). Similar results are found for food stamp receipt. The C-SNAP study found that families who were cut off (sanctioned) from food stamp benefits in the previous year of being interviewed were more likely to be food insecure and to experience higher rates of fair/poor health compared to families whose food stamp receipt was stable [Neault et al. 2004; Frank and C-SNAP Study Group 2006; Children's Sentinel Nutrition Assessment Program (C-SNAP) 2007].

Other income support programs, over and above the food assistance programs, can also assist in protecting a child's health and food insecurity status. Families that received housing subsidies, compared to children in households that were on a waiting list or had not received subsidies but were eligible, showed overall healthier weights for age (Meyers et al. 2005). Such research shows that food insecurity is intricately related to housing stability and child wellbeing (Kushel et al. 2006). Similarly, families that received energy assistance in the form of the Low Income Heat and Energy Assistance Program (LIHEAP) demonstrated better nutritional wellbeing than children in eligible households that did not receive LIHEAP assistance. Those that did not receive LIHEAP but were eligible had higher odds of being hospitalized compared to children whose households received LIHEAP assistance. This interplay between LIHEAP and child health as it relates to food insecurity demonstrates that families often must trade off paying for food or paying for heat, and that intermittent exposure to unheated or half-heated homes can be associated with illness to the point of hospitalization (Frank et al. 1996; Frank et al. 2006). In addition, if a child does not have proper nutritional intake, their bodies are less capable of fighting off infection (Bhaskaram 2002).

Overall, this research provides compelling evidence that federal, state, and city programs and policies can have a strong impact on the health and wellbeing of young children.

### **Making the Case for Mothers: Food Insecurity and Maternal Depression**

The relationship between food insecurity and mental health has also received a great deal of attention in the past decade. A groundbreaking study by Alaimo demonstrated that, after controlling for income, education, and health status, household food insecurity was related to increased risk for dysthemia and suicidal ideation among adolescents (Alaimo et al. 2002). The relationship is similar among mothers of young children.

Food insecure women have described experiences of alienation and anxiety, coupled with worries about losing their children and family strife (Hamelin et al. 2002; Hamelin et al. 1999). In a nationally representative sample in Canada, individuals from food insecure households reported higher odds of depression and stress (Vozoris and Tarasuk 2003). Among homeless or poorly-housed women in Massachusetts, food insecurity was associated with higher rates of post-traumatic stress disorder due to adverse childhood experiences (Weinreb et al. 2002). Among African-American women who chronically utilize food pantries in Philadelphia, anxiety, violence and stress were strongly associated with the experience of hunger (Chilton and Booth 2007).

Other C-SNAP studies demonstrate household food insecurity is associated with a 260% increased risk for maternal depressive symptoms (Casey et al. 2004; Zaslów et al. 2008; Bronte-Tinkew et al. 2007). Maternal depression is central to the health and wellbeing of young children, as it is associated with greater probability of poor development, and behavioral and emotional problems in children (Williams and Carmichael 1991; Beardslee 1989; Zuckerman and Beardslee 1987; Downey and Coyne 1990; Petterson and Albers 2001). These associations of poor child development, poor child health and problematic behavior are generally due to disordered parent-child interactions, ineffective parenting, or to marital distress (Reis 1988;

Leadbeater and Bishop 1996; Hall and Farel 1988; Chavkin and Wise 2002; Romero et al. 2002).

Policy interventions related to access to health insurance coverage have shown substantial effectiveness in reducing risk for prolonged maternal depression (Kahn et al. 1999; Murray et al. 2003; Bramesfeld et al. 2006; Melfi et al. 1999; Melfi et al. 2000). But policy interventions related to maternal depression and food insecurity interplay are not limited to health care access, and sustained access behavioral health care treatment, but also to such food programs as the WIC program. The C-SNAP study has demonstrated that not only does the WIC program show an association with healthier weights and reported health in very young children, but it is also associated with a decreased risk of maternal depressive symptoms (Casey et al. 2004).

Overall, while the effects of food insecurity can be devastating to the health and development of young children, and to the depression of their mothers, there are policy interventions that could mitigate the effects. To begin with, however, it is important to consider the magnitude of the associations between household food insecurity and poor health at our local level.

### **Food Insecurity in Philadelphia — Results from the Philadelphia GROW Project**

The Philadelphia GROW Project participates in the multi-site Children's Sentinel Nutrition Assessment Program (C-SNAP) study, carrying out research in the emergency department of St. Christopher's Hospital for Children. In Philadelphia, our GROW Project results show that, over the course two and a half years of data collection (February 2005 - June 2007), 13% of young children requiring emergency care live in food insecure homes.

#### **Methodology**

The Children's Sentinel Nutrition Assessment Program – Philadelphia (C-SNAP) conducts emergency room interviews at St. Christopher's Hospital for Children in Northeast Philadelphia. Four to six days per week, interviewers approach families with children who are less than 36 months old. Infants that are critically ill or injured are

excluded from approaches. In order to qualify for the interview, the caregiver must have knowledge about the child's household and have not participated in a C-SNAP interview in the previous six months. Interviews are carried out in both English and Spanish. Institutional Review Board approval was granted by Drexel University and St. Christopher's Hospital for Children.

For this study, the sample included families without private health insurance. Of the 2,061 interviewed over 14 months, 246 (11.9%) received private insurance or had an unknown insurance status. Our restriction to those without private insurance serves as a proxy for low income, as those on Medicaid or public insurance qualify with certain low-income criteria, and those without insurance are generally low-income, underemployed or ineligible for reasons such as immigration status. There were 115 (5.6%) participants who were not born in the United States. These were excluded from the analysis because of the variability and uncertainty of their eligibility for public assistance programs. Between January 2005 and June 2007, 1,694 families with young children fit the criteria for this study.

The C-SNAP interview survey includes a variety of measures of demographic information such as race/ethnicity, educational status, employment and household participation in public assistance programs. It also asks questions about children's health, household food security, maternal depressive symptoms, and parental assessment of their child's development. The U.S. Food Security Scale is a reliable, valid, 18-item scale score that measures household food security over the previous year (Bickel et al. 2000). Households are defined as food insecure if they answer more than three responses to the 18 questions in the affirmative, acknowledging the lack of available, nutritious foods or if they could not afford food (Nord et al. 2006). The Parents' Evaluations of Developmental Status (PEDS) is a screening instrument approved by the American Academy of Pediatrics and validated for children aged four months to seven years to determine an array of developmental areas (Glascoe 2000; Brothers et al. 2008). Eight developmental areas are assessed including language, fine and gross motor skills, behavior, self-help, school, and social/emotional development using the following responses: yes, no, or a little. Scores are determined based upon the age of the child. Respondent depressive scores (most often mothers) were calculated after asking three questions using an instrument that has 100%

sensitivity, 88% specificity, and 66% predictive value (Kemper and Babonis 1992). If the respondent answered “yes” to two of the three questions, the depression score was marked as positive. At the end of the interview, the child’s weight and length are recorded and verified using the computer system in the emergency room at St. Christopher’s Hospital for Children.

### **Data Analysis**

For univariate analysis of categorical variables we utilized chi-square tests; for numeric variables we used unpaired t-tests and Mann-Whitney U tests. The statistical level employed for each was  $p \leq 0.05$  to determine associations between variables. To assess the association between household food insecurity and poor child health, developmental risk, and maternal depressive symptoms, we conducted logistic regressions using SPSS version 15. Confidence intervals were set at 95%. Based on results of the univariate chi-square analyses, and based on evidence in the literature, the following variables were controlled in the logistic regression analyses: maternal age, race/ethnicity, breastfeeding, and infant birth weight.

### **Results**

In the sample of 1,694 infants and their parents, 13% (N=268) reported household food insecurity (see Table 3, following page). Prevalence of household food insecurity among the top three race/ethnic groups in the sample (white, black, and Latino) did not differ statistically ( $p = .6510$ ). Although the sample does not indicate a significant difference in food insecurity between race/ethnic groups, it is important to highlight that among the general population (without consideration of income), differences in food insecurity between racial/ethnic groups exist in Philadelphia, as seen previously in Table 2 (page 61).

**Table 3. Characteristics of Household Food Insecurity Identified at St. Christopher's Hospital for Children**

<i>C-SNAP-Philadelphia Sample January 2005 - June 2007. N=1,694</i>			
<b>Variable</b>	<b>Food Secure Households N=1,426 69.2%</b>	<b>Food Insecure Households N=268 13.0%</b>	<b>P Value</b>
<b>Mother's Age in Years: Mean (SD)</b>	24.71 (6.114)	25.45 (6.518)	.0360+ <sup>^</sup>
<b>Mother Marital Status:</b>			
Married	14.5%	11.2%	.1570
Single	85.5%	88.8%	
<b>Race/ethnicity:*</b>			
Black	36.2%	33.5%	
Latino	52.0%	55.0%	.6510
White	11.8%	11.5%	
<b>Maternal Education</b>			
Incomplete High School	33.3%	44.++6%	
Complete High School/GED	38.8%	34.8%	.1610
College Graduates	22.9%	20.6%	
<b>Child Health Insurance:</b>			
Public	97.8%	98.5%	.4700
None	2.2%	1.5%	
<b>Mean Child Age Months (SD)</b>	14.3 (9.81)	14.3 (9.37)	.9600++
<b>Low Birth Weight (&lt;2500 grams)</b>	13.1%	12.5%	.7930
<b>Child Breastfed</b>	34.5%	41.8%	.0220 <sup>^</sup>
<b>Household Participation in Public Assistance:</b>			
TANF	42.1%	56.0%	<.0010 <sup>^</sup>
Food Stamps	58.5%	68.5%	<.0020 <sup>^</sup>
WIC	81.2%	86.6%	.0370 <sup>^</sup>
Subsidized Housing	11.4%	14.5%	.1750
Subsidized Child Care	17.8%	17.9%	.9700
Note: All tests were Chi-Square Test unless otherwise indicated.			
+ Mann Whitney U test, ++ Unpaired t-test.			
* The Race/Ethnicity category only includes the top three races/ethnicities within the C-SNAP Philadelphia sample and does not include mixed-Hispanic or Asian populations due to the small sampling of those populations.			
<sup>^</sup> Statistical tests indicate a significant relationship between the variable and food insecurity among the C-SNAP-Philadelphia sample.			

There was not a statistically significant difference in marital status between the food secure and the food insecure mothers. There also were no significant differences between the groups on health insurance status (public insurance or no insurance), or child’s birthweight. Those families that were food insecure were more likely to breastfeed, compared to the food secure households: 41.8% and 34.5% respectively,  $p = .0220$ . Overall, households that reported food insecurity reported higher rates of participation in TANF, food stamps, and WIC, as expected. There were no differences overall in the utilization of subsidized housing and child care.

**Table 4. Multiple Logistic Regression on Household Food Insecurity, Reported Child Health, and Maternal Depressive Symptoms**

<i>C-SNAP-Philadelphia Sample: January 2005 - June 2007</i>			
<b>Outcome</b>	<b>Adjusted Odds Ratio</b>	<b>95% Confidence Interval</b>	<b>P Value</b>
<b>Multiple Logistic Regression*</b>			
<b>Reported Child Health Fair/Poor</b>			
Household Food Secure	1.00	referent	referent
Household Food Insecure	1.49	(1.04, 2.11)	<b>.028<sup>^</sup></b>
<b>Developmental Risk (PEDS)**</b>			
Household Food Secure	1.00	referent	referent
Household Food Insecure	1.83	(1.31, 2.55)	<b>.000<sup>^</sup></b>
<b>Maternal Depressive Symptoms</b>			
Household Food Security	1.00	referent	referent
Household Food Insecure	3.07	(2.31, 4.09)	<b>.000<sup>^</sup></b>
* All multiple logistic regression analyses controlled for birth weight, race, breastfeeding, and maternal age to predict child health, developmental risk, or maternal depressive symptoms.			
**PEDS is the Parents’ Evaluation of Developmental Status.			
<sup>^</sup> Indicates significance $p < .05$ .			

Results of the multiple logistic regressions shown in Table 4 (page 70) reveal that food insecurity is significantly associated with a child's reported health status, parental report of developmental risk, and reported maternal depressive scores after controlling for race/ethnicity, maternal age, breastfeeding, and birthweight. Among the households that were food insecure, parents were 1.49 times more likely to report their child in fair or poor health than those parents living in food secure households ( $p = .0280$ ). In other words, for children in food insecure households, there was a 49% greater risk of being reported to be in fair or poor health. Young children who were in households that reported food insecurity were 1.83 times more likely to be at risk for developmental delay than children in food secure homes (adjusted odds ratio 1.83,  $p < .0001$ ). Finally, mothers who lived in food insecure households were three times more likely to report maternal depressive symptoms than mothers who lived in food secure households ( $p < .0001$ ).

### Discussion

Local data on infants and toddlers and their mothers in Philadelphia demonstrate that the overall percentage of household food insecurity among households that utilize the emergency department of St. Christopher's Hospital for Children is at 13%, that food insecurity is strongly associated with an increased rate of fair/poor child health, developmental risk, and maternal depressive symptoms. What is happening in Philadelphia is similar to the national trends in food insecurity and poor child health, developmental risk and depression. Maternal depression also compounds the negative effects that food insecurity and poverty already have on children (Pettersson and Albers 2001). These associations remain consistent after controlling for several variables known in the food insecurity literature as having potential confounding effects such as birthweight, maternal education level, and insurance status.

There are several plausible explanations for these associations. Food insecure infants and toddlers primarily live in poverty where their parents may struggle to not only provide housing, health care, and child care, but also adequate nutrition for their children. Lack of access to adequate, quality food in Philadelphia's poor neighborhoods may also exacerbate poor health outcomes for these infants (Chilton 2004; Chilton et al. 2004;

Chilton and DaCosta 2008). Moreover, poor nutrition caused by food insecurity can limit a child's ability to fight off infections, and maintain overall good health (Cook et al. 2004; Cook et al. 2006; Casey et al. 2001; Skalicky et al. 2006). Maternal depression may be related to inability to work and sustain gainful employment at a living wage, which in turn could negatively affect a woman's potential to purchase enough healthy food for her household (Zaslow et al. 2008).

Childhood hunger is a preventable condition. Our results suggest that it is damaging the developmental trajectories of Philadelphia's youngest children, and truncating the potential of their parents.

Legislators and policymakers can have a profound impact if they intervene early in a child's life. Nobel Laureate James Heckman and his team have shown that the best investments in human potential are those made in the earliest years of life. The highest return on investment early in life is found in greater academic achievement, improved health and reduced cost to the health system, and better earning potential (Heckman 2006). Investment through social programs at early ages literally "multiplies" skills (Heckman 2007).

There are interventions that help mitigate the effects of food insecurity such as: The Federal Food Stamp Program, Medicaid, the Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Head Start Programs. For example, food stamps helped reduce the child poverty gap by almost 20% in 2004 (United States Department of Agriculture 2005). Children who receive food stamps were 26% less likely to be food insecure than those children who are eligible but did not receive food stamps (Lee et al. 2006). Children enrolled in Medicaid who also utilized food stamps from birth have lower health care costs associated with anemia and severe undernutrition (Lee et al. 2006). Families who received food stamp assistance between kindergarten and first grade demonstrated better examination results on standardized math tests compared to families who stopped receiving food stamp benefits (Frongillo et al. 2006).

Food assistance and income support programs are sound investments. For every dollar spent on food stamps, almost two dollars are spent in the local economy. The beneficial effects of WIC have been shown to save direct and indirect medical costs from \$1.71 to \$3.00 for every dollar spent on WIC (Devaney and Schirm 1993). Enrollment in

these programs can improve infant health outcomes and can begin to break the cycle of poverty. These programs provide families assistance with access to food and intervention programs that can help facilitate infant development.

While food stamps provide essential support to families – especially young children – they still cannot provide enough protection against food insecurity and poor nutrition. Our most recent “Real Cost of the Healthy Diet research” where we surveyed 16 stores in the Philadelphia area according to the Thrifty Food Plan (TFP) food lists, reveals that even if a family was receiving the maximum allotment of food stamp dollars based on the supposed cost of the “thrifty food plan” families would be short on average \$192 dollars per month, or \$2,300 dollars per year. That is, what the TFP of the food stamp program supposes is \$1 worth of food, is actually 74 cents worth of food. With the rising cost of food and fuel, this will likely get worse (Chilton and Cook 2008). Despite, and perhaps in consideration of some of the weaknesses of the safety net programs, there are several things that state legislators and policymakers can do to intervene for low-income families at nutritional risk.

### **Recommendations for Legislative and Administrative Intervention**

Policy change to improve the health of infants and toddlers requires focus on issues of food insecurity, as well as economic security and access to health care. Each of these recommendations can have immediate and long-term impacts on the health and wellbeing of children, as young children are in the most important and critical stage of development where a boost in nutrition access, or in mental health care access can have a magnified impact on a child’s present and future and health.

#### **Economic Support Programs**

- The Pennsylvania Department of Labor and Industry should continue to work to continue to increase the minimum wage. This would increase buying power, and increase access to nutritious food for the whole family. This is urgent especially because of the steep rise in the costs of fuel and food.

### **Nutrition Programs**

- Ensure every last food stamp dollar is utilized. The Department of Welfare could step up efforts to increase enrollment in food stamps by providing more venues through which to determine eligibility. Food stamp outreach could be performed at city health centers and hospitals, and in locations that reach citizen children of immigrants and other eligible immigrant families.
- Bolster the amount of food stamps families can receive by increasing access to the Low Income Home Energy Assistance (LIHEAP). If a family is deemed eligible for LIHEAP, the calculation for their food stamp allotment will increase. New York and Massachusetts are doing this already. Pennsylvania could follow suit.
- The appropriate state agencies should ensure that food stamp and WIC offices have extended operating hours to accommodate working families.
- Consider supplementing the food stamp dollar. For instance, New York City is implementing “health bucks,” where for every \$5 spent on produce, the food stamp recipient receives an extra food stamp dollar from the city. This enhances money spent on healthier foods, and increases purchasing power.
- Ensure that all eligible day care centers are receiving the federal entitlement benefits of the Child and Adult Care Food Program (CACFP). This can be done by increasing outreach to child care agencies and ensuring they have the tools necessary to apply for CACFP benefits.

### **Access to Income Support Programs**

- The Department of Welfare should enhance outreach and marketing of the COMPASS system (Commonwealth of Pennsylvania Access to Social Services) to make it widely available and known to all social service and health care agencies within the state.
- The Department of Welfare should consider categorical eligibility for a variety of programs – that is: if a family is eligible for TANF and food stamps, they should automatically be considered eligible for other programs administered by DPW. The burden of

administrative paperwork, and need for documentation should also be minimized, especially since DPW already has access to multiple databases that contain income and other essential financial information.

- The Department of Welfare and the governor should ensure that all LIHEAP dollars get to the families with young children who need these federal subsidies the most for the full extent of the cold season, and should consider keeping LIHEAP open all year round as do other states.

### **Health Care Settings and Early Intervention**

- The state and city health departments can remove barriers to mental health care for mothers of young children by integrating behavioral and mental health programs into primary care settings.
- The Department of Welfare and city health departments should collaborate more effectively to reduce wait times between positive screen for depression and access to the first appointment with a mental health care provider.
- Ensure that early intervention programs, such as ChildLink and Elwyn, have the training necessary to ask about and respond to needs related to food insecurity and parents' participation in the food stamp and WIC programs.
- Encourage all Medicaid-participating pediatricians to ask if a parent needs help with buying food, and ensure proper food stamp and WIC outreach.

### **Incorporate Statewide Data Tracking System for Food Insecurity and Undernutrition**

- The Department of Health should expand their mandate for growth screening and data management tracking for school age children to *all children* to include children in child care and pre-school.
- The Department of Health should collaborate with other agencies to integrate the USDA Food Security Short Form (Blumberg et al. 1999) into an annual state tracking system on the health and wellbeing of young children.

- Consider expanding the state supported Kindergarten Initiative, which seeks to teach kindergarteners about farms and healthy food, to younger children in preschools and day care centers.

#### **Coordinate Efforts Across State Agencies**

- The Governor's Inter-Agency Council on Food and Nutrition was created to address poor nutrition and related conditions of poverty. The Council consists of representatives from six executive agencies: Aging, Agriculture, Community and Economic Development, Education, Health, and Public Welfare. This council currently has no funded staff to administrate the work of this Council, nor report on the implementation of recommendations found in the Governor's Blue Print to End Hunger, 2007. We recommend ensuring that there is a fully funded, full-time staff person and sufficient funding 1) to allow this group to carry out its mandate; and 2) for the public to participate in the development of related programs so that they can hold Pennsylvania legislators accountable for improving the health and nutritional wellbeing of young children.

#### **Conclusion**

This study shows that food insecurity and infant development is a concern not just for those in public health or medicine, but also for policymakers that can improve the immediate health and well-being of the youngest residents in Pennsylvania. Our research shows that food insecurity is also significantly associated with a child's health status, child development, and maternal depression. Public health, medical, and economic research have made tremendous strides within the past decades to understand the complex nature of poverty, poor nutrition and health status. There is no one easy solution to breaking the cycle of poverty and poor child health, but there are known interventions that can mitigate and prevent household food insecurity. Food stamps and other nutrition programs such as WIC, CACFP, LIHEAP, housing assistance and cash assistance act together as a health buffer for small, developing children. Nutrition programs and income support programs are an excellent federal and state investment. They not only help to close the poverty and education gap, but they also facilitate the physical, cognitive, social, and cognitive development of children. Investing in young children now will

make the Commonwealth a state that can enjoy the benefits of having helped young children who are alive and developing before our very eyes, and the benefits of having promoted their full potential and capabilities.

## References

- Alaimo, K., C.M. Olson, and E.A. Frongillo, Jr. 2002. "Family Food Insufficiency is Associated with Dysthymia and Suicidal Symptoms in Adolescents: Results from NHANES III." *Journal of Nutrition* 132:719-25.
- Alaimo, K., C.M. Olson, and E.A. Frongillo, Jr. 2001. "Food Insufficiency and American School-aged Children's Cognitive, Academic, and Psychosocial Development." *Pediatrics* 108 (1):44-53.
- Beardslee, William R. 1989. "Children of Parents With Affective Disorder." *Pediatrics in Review* 10 (10):313-9.
- Bhaskaram, P. 2002. "Micronutrient Malnutrition, Infection, and Immunity: An Overview." *Nutr Rev* 60 (5 Pt 2):S40-5.
- Bickel, G., M. Nord, C. Price, W. Hamilton, and J.T. Cook. 2000. "Measuring Food Security in the United States: Guide to Measuring Household Food Security." Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Analysis and Evaluation.
- Black, Maureen M., Diana B. Cutts, Deborah A. Frank, Joni Geppert, Anne Skalicky, Suzette Levenson, Patrick H. Casey, Carol Berkowitz, Nieves Zaldivar, John T. Cook, Alan F. Meyers, Tim Herren, and the Children's Sentinel Nutritional Assessment Program Study Group. 2004. "Special Supplemental Nutrition Program for Women, Infants, and Children Participation and Infants' Growth and Health: A Multisite Surveillance Study." *Pediatrics* 114 (1):169-76.
- Blue Ribbon Commission. 2007. "The Mayor's Blue Ribbon Commission on Children's Behavioral Health." Philadelphia.
- Blumberg, S.J., K. Bialostosky, W.L. Hamilton, and R.R. Briefel. 1999. "The Effectiveness of a Short Form of the Household Food Security Scale." *Am J Public Health* 89 (8):1231-4.
- Bramesfeld, A., L. Platt, and F.W. Schwartz. 2006. "Possibilities for Intervention in Adolescents' and Young Adults' Depression from a Public Health Perspective." *Health Policy* 79 (2-3):121-31.
- Bronte-Tinkew, J., M. Zaslow, R. Capps, A. Horowitz, and M. McNamara. 2007. "Food Insecurity Works through Depression, Parenting, and Infant Feeding to Influence Overweight and Health in Toddlers." *J Nutr* 137 (9):2160-5.
- Brothers, K.B., F.P. Glascoe, and N.S. Robertshaw. 2008. "PEDS: Developmental Milestones - An Accurate Brief Tool for Surveillance and Screening." *Clin Pediatr (Phila)* 47 (3):271-9.

- Brown, J.L., D. Shepard, T. Martin, and J. Orwat. 2007. "The Economic Cost of Domestic Hunger: Estimated Annual Burden to the United States."
- Casey, P., S. Goolsby, C. Berkowitz, D. Frank, J. Cook, D. Cutts, M. M. Black, N. Zaldivar, S. Levenson, T. Heeren, and A. Meyers. 2004. "Maternal Depression, Changing Public Assistance, Food Security, and Child Health Status." *Pediatrics* 113 (2):298-304.
- Casey, P.H., K. Szeto, S. Lensing, M. Bogle, and J. Weber. 2001. "Children in Food-Insufficient, Low-Income Families: Prevalence, Health, and Nutrition Status." *Arch Pediatr Adolesc Med* 155 (4):508-14.
- Chavkin, W., and P.H. Wise. 2002. "The Data Are In: Health Matters in Welfare Policy." *Am J Public Health* 92 (9):1392-5.
- Children's Sentinel Nutrition Assessment Program (C-SNAP). 2007. "Food Stamps as Medicine: A New Perspective on Children's Health." Boston, MA: C-SNAP.
- Chilton, M. 2004. "Neighborhood Characteristics and Disparities in Access to Nutritious Foods." *American Public Health Association*.
- Chilton, M., and S. Booth. 2007. "Hunger of the Body and Hunger of the Mind: African American Women's Perceptions of Food Insecurity, Health and Violence." *J Nutr Educ Behav* 39 (3):116-25.
- Chilton, M., M. Chyatte, and J. Breaux. 2007. "The Negative Effects of Poverty and Food Insecurity on Child Development." *Indian J Med Res* 126 (4):262-72.
- Chilton, M., and R. DaCosta. 2008. "Healthy Diet Not Affordable for Philadelphia Families Using Food Stamps." Philadelphia: Philadelphia GROW Project.
- Chilton, M.M., L. Riddell, E. Ford, A. Opoku-Boateng, and S. McKinney. 2004. "Nutritional Challenges of Working Poor Families: Family Food Insecurity and the Emergency Food System." *American Public Health Association*.
- Chilton, M.M., and J.T. Cook. 2008. "Babies' Hunger Reflects Inflation: Poor Nutrition Rises With the Cost of Food. It Impedes Brain Growth, Especially in Toddlers." *Philadelphia Inquirer*, April 1, 2008.
- Community Health Database. 2006. "Southeastern Pennsylvania Household Health Survey." In *Community Health Database*. Philadelphia: Philadelphia Health Management Corporation.
- Cook, J.T. 2007. "Child Food Insecurity in the United States: 2003-2005, State-by-State Levels of Child Food Insecurity Averaged For Years 2003-2005." Chicago: Feeding America (formerly America's Second Harvest).
- Cook, J.T., and D.A. Frank. 2008. "Food Security, Poverty, and Human Development in the United States." *Ann N Y Acad Sci* 1136:193-209.
- Cook, J.T., D.A. Frank, Carol Berkowitz, M.M. Black, et al. 2004. "Food Insecurity Is Associated with Adverse Health Outcomes among Human Infants and Toddlers 1,2." *J Nutr* 134 (6):1432.

- Cook, J.T., D.A. Frank, Suzette M. Levenson, B. Neault Nicole, et al. 2006. "Child Food Insecurity Increases Risks Posed by Household Food Insecurity to Young Children's Health1,2." *J Nutr* 136 (4):1073.
- Devaney, B., and A. Schirm. 1993. "Infant Mortality among Medicaid Newborns in Five States: The Effects of Prenatal WIC Participation." ed. United States Department of Agriculture, Alexandria, Virginia.
- Downey, G., and J.C. Coyne. 1990. "Children of Depressed Parents: An Integrative Review." *Psychol Bull* 108 (1):50-76.
- Frank, D.A., N.B. Neault, A. Skalicky, J.T. Cook, J.D. Wilson, S. Levenson, A.F. Meyers, T. Heeren, D.B. Cutts, P.H. Casey, M.M. Black, and C. Berkowitz. 2006. "Heat or Eat: The Low Income Home Energy Assistance Program and Nutritional and Health Risks Among Children Less than 3 Years of Age." *Pediatrics* 118 (5):e1293-302.
- Frank, D.A., N. Roos, A. Meyers, M. Napoleone, K. Peterson, A. Cather, and L.A. Cupples. 1996. "Seasonal Variation in Weight-for-Age in a Pediatric Emergency Room." *Public Health Rep* 111 (4):366-71.
- Frank, D.A., and C-SNAP Study Group. 2006. "Protecting the Health and Nutrition of Young Children of Color: The Impact of Nutrition Assistance and Income Support Programs." Joint Center for Political and Economic Studies.
- Frongillo, E.A., D.F. Jyoti, and S.J. Jones. 2006. "Food Stamp Program Participation is Associated with Better Academic Learning Among School Children." *J Nutr* 136 (4):1077-80.
- Glascoc, F.P. 2000. "Detecting and Addressing Developmental and Behavioral Problems in Primary Care." *Pediatr Nurs* 26 (3):251-7.
- Hall, L.A., and A.M. Farel. 1988. "Maternal Stresses and Depressive Symptoms -- Correlates of Behavior Problems in Young Children." *Nursing Research* 37 (3):156-61.
- Hamelin, A.M., M. Beaudry, and J.P. Habicht. 2002. "Characterization of Household Food Insecurity in Quebec: Food and Feelings." *Soc Sci Med* 54 (1):119-32.
- Hamelin, A.M., J.P. Habicht, and M. Beaudry. 1999. "Food Insecurity: Consequences for the Household and Broader Social Implications." *J Nutr* 129 (2S Suppl):525S-8S.
- Heckman, J.J. 2004. "Lessons from the Technology of Skill Formation." *Ann N Y Acad Sci* 1038:179-200.
- . 2006. "Skill Formation and the Economics of Investing in Disadvantaged Children." *Science* 312 (5782):1900-2.
- . 2007. "The Economics, Technology, and Neuroscience of Human Capability Formation." *Proc Natl Acad Sci U S A* 104 (33):13250-5.
- Jyoti, D.F., E.A. Frongillo, and S.J. Jones. 2005. "Food Insecurity Affects School Children's Academic Performance, Weight Gain, and Social Skills." *J Nutr* 135 (12):2831-9.

- Kahn, R.S., P.H. Wise, J.A. Finkelstein, H.H. Bernstein, J.A. Lowe, and C.J. Homer. 1999. "The Scope of Unmet Maternal Health Needs in Pediatric Settings." *Pediatrics* 103 (3):576-81.
- Kemper, K.J., and T.R. Babonis. 1992. "Screening for Maternal Depression in Pediatric Clinics." *Am J Dis Child* 146:876-8.
- Kushel, M.B., R. Gupta, L. Gee, and J.S. Haas. 2006. "Housing Instability and Food Insecurity as Barriers to Health Care among Low Income Americans." *J Gen Intern Med* 21 (1):71-7.
- Leadbeater, B.J., and S.J. Bishop. 1996. "Quality of Mother-Toddler Interactions, Maternal Depressive Symptom and Behavior Problems in Preschoolers of Adolescent Mothers." *Dev Psychol* 32:280-8.
- Lee, B.J., L. Mackey-Bilaver, and M. Chin. 2006. "Effects of WIC and Food Stamp Program Participation on Child Outcomes." Washington, DC: United States Department of Agriculture.
- Melfi, C.A., T.W. Croghan, and M.P. Hanna. 1999. "Access to Treatment for Depression in a Medicaid Population." *J Health Care Poor Underserved* 10 (2):201-15.
- Melfi, C.A., T.W. Croghan, M.P. Hanna, and R.L. Robinson. 2000. "Racial Variation in Antidepressant Treatment in a Medicaid Population." *J Clin Psychiatry* 61 (1):16-21.
- Meyers, A., D. Cutts, D.A. Frank, S. Levenson, A. Skalicky, T. Heeren, J. Cook, C. Berkowitz, M. Black, P. Casey, and N. Zaldivar. 2005. "Subsidized Housing and Children's Nutritional Status: Data from a Multisite Surveillance Study." *Arch Pediatr Adolesc Med* 159 (6):551-6.
- Murray, L., M. Woolgar, J. Murray, and P. Cooper. 2003. "Self-Exclusion from Health Care in Women at High Risk for Postpartum Depression." *J Public Health Med* 25 (2):131-7.
- Neault, N., J.T. Cook, and C-SNAP Study Group. 2004. "The Safety Net in Action: Protecting the Health and Nutrition of Young American Children." C-SNAP
- Nord, M., M. Andrews, and S. Carlson. 2006. "Food Insecurity in the United States, 2005." ed. E. R. Report. Washington, DC: USDA/ERS.
- Nord, M., M. Andrews, and S. Carlson. 2007. "Food Insecurity in the United States, 2006." ed. E. R. Report. Washington, DC: USDA/ERS.
- Nord, M., and H. Hopwood. 2007. "Recent Advances Provide Improved Tools for Measuring Children's Food Security." *J Nutr* 137 (3):533-6.
- Petterson, S.M., and A.B. Albers. 2001. "Effects of Poverty and Maternal Depression on Early Child Development." *Child Dev* 72 (6):1794-813.
- Reis, J. 1988. "Correlates of Depression According to Maternal Age." *Journal of Genetic Psychology* 149 (4):535-45.

- Romero, D., W. Chavkin, P.H. Wise, L.A. Smith, and P.R. Wood. 2002. "Welfare to Work? Impact of Maternal Health on Employment." *Am J Public Health* 92 (9):1462-8.
- Rose, D. 1999. "Economic Determinants and Dietary Consequences of Food Insecurity in the United States." *J Nutr* 129 (2S Suppl):517S-20S.
- Rose, D., and V. Oliveira. 1997. "Nutrient Intakes of Individuals from Food-Insufficient Households in the United States." *Am J Public Health* 87 (12):1956-61.
- Rose-Jacobs, R., M.M. Black, P.H. Casey, J.T. Cook, D.B. Cutts, M. Chilton, T. Heeren, S.M. Levenson, A.F. Meyers, and D.A. Frank. 2008. "Household Food Insecurity: Associations with At-Risk Infant and Toddler Development." *Pediatrics* 121 (1):65-72.
- Shonkoff, J.P. 2003. "From neurons to neighborhoods: old and new challenges for developmental and behavioral pediatrics." *J Dev Behav Pediatr* 24 (1):70-6.
- Skalicky, A., A. F. Meyers, W.G. Adams, Z. Yang, J.T. Cook, and D.A. Frank. 2006. "Child Food Insecurity and Iron-Deficiency Anemia in Low-Income Infants and Toddlers in the United States." *Matern Child Health J*.
- United States Department of Agriculture. 2005. "Making America Stronger: A Profile of the Food Stamp Program." ed. N. a. E. Office of Analysis. Washington, DC: USDA.
- Vozoris, N. T., and V. S. Tarasuk. 2003. "Household Food Insufficiency is Associated with Poorer Health." *J Nutr* 133 (1):120-6.
- Walker, Susan P., Theodore D. Wachs, Julie Meeks Gardner, Betsy Lozoff, Gail A. Wasserman, Ernesto Pollitt, and Julie A. Carter. 2007. "Child Development: Risk Factors for Adverse Outcomes in Developing Countries." *The Lancet* 369 (9556):145-57.
- Weinreb, L., C. Wehler, J. Perloff, R. Scott, D. Hosmer, L. Sagor, and C. Gundersen. 2002. "Hunger: Its Impact on Children's Health and Mental Health." *Pediatrics* 110 (4):e41.
- Williams, H., and A. Carmichael. 1991. "Depression in Mothers and Behaviour Problems with Their Preschool Children." *J Paediatr Child Health* 27 (2):76-82.
- Zaslow, M., J. Bronte-Tinkew, R. Capps, A. Horowitz, K.A. Moore, and D. Weinstein. 2008. "Food Security During Infancy: Implications for Attachment and Mental Proficiency in Toddlerhood." *Matern Child Health J* (March 4, 2008).
- Zuckerman, Barry S., and William R. Beardslee. 1987. "Maternal Depression: A Concern for Pediatricians." *Pediatrics* 79 (1):110-7.



## **Objecting to Public Health – Stories from Four Pennsylvania Counties**

**Dennis Gallagher, MA, MPA**, Drexel University  
School of Public Health

**Jennifer Kolker, MPH**, Drexel University School of Public Health

### **Stories from Four Counties**

This should be a very nice story to tell: most people – from the average citizen to the elected official – believe in the importance of protecting and improving the public’s health, and they also believe that where, how and when you do so really matters. Yet it’s not true – not for many, and maybe most, Pennsylvanians. The message that Drexel University researchers often heard throughout three years of working with wonderfully committed organizations and individuals in four Pennsylvania counties is that – for very many people – attending to public health locally is at best unimportant and wasteful, and, at worst, threatening.

One of the national goals for improving the health and quality of life of all Americans is to ensure that all public health agencies – including local ones – have the infrastructure to provide essential services effectively (U.S. Department of Health and Human Services, *Healthy People 2010*). Why? First, there are environmental threats: natural disasters (floods included) and man-made ones (bioterrorism especially) that would require direct, local, “hands-on” intervention; and many causes and sources of air, water, and ground contamination. Second, there are existing, and potentially catastrophic, threats of disease epidemics.

Third, there are many behavioral risk factors, such as smoking, poor diet, physical inactivity, and excessive drinking, that are linked to the leading causes of death in the United States. Confronting these behavioral risk factors through health education and promotion, and

using preventive health measures like hypertension screening, can substantially reduce the rates of serious disease and death in the United States population (Chowdhury et al. 2007). Public awareness and knowledge of these risks, and concerted action to deal with them, does vary substantially by state and locality – often owing to the depth and quality of public health agency presence at the local level.

The reasons why the public should favor more local public health presence in Pennsylvania are easy to enumerate. The math alone is simple: 67 counties, six countywide health departments, and four multi-functional municipal ones in four other counties. As the readers of this Journal likely know well, the remaining 57 counties rely mostly on the Pennsylvania Department of Health to provide public health services through a network of regional offices and small county-based health centers. The national picture is different. The United States has more than 3,000 county and city health departments and more than 3,000 local boards of health (National Association of County and City Health Officials 2006). In the majority of states, most local public health work is done at a county level because prevention and protection are most often best done at this level.

From October 2004 through December 2007, faculty from the Drexel University School of Public Health (Drexel) collected information from and about the residents of four of the counties without a countywide health department. Drexel conducted four separate studies to assess ways to enhance local public health services, including the feasibility of establishing county health departments, in Lancaster, York, Berks and Dauphin Counties – which we will refer to as “the four counties.” In important ways, the four counties are similar. They are, respectively, the 6<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, and 15<sup>th</sup> most populous counties in Pennsylvania. They each have a large rural population, but each has a central city (also the county seat) that is a service hub for the County. The central city in each – Lancaster, York, Reading, and Harrisburg – is both the most populace place and the locus of many of the most pressing public health concerns in the county.

Each of the four counties has important environmental health concerns related to water and air quality, ground contamination, and lead poisoning. Age adjusted death rates for cancer, diabetes, and stroke in each of the four counties exceed both the average rates for Pennsylvania

as a whole and the goals of Healthy People 2010. Drexel's research of primary data sources affirmed that concerns about chronic disease and the lack of accessible prevention and treatment services in the four counties are serious issues. For example, in the most recent study, in Berks County, more than 60% of the persons who completed a survey cited the following areas of unmet need: access to health care via health insurance and support services; oral health education and access to dental care; nutrition education and counseling; and mental health education and treatment services. These are all significant health service needs – population based needs – now going unmet or receiving inadequate attention and resources in Berks County. Findings in the other counties were not very different. In short, improving the health of the four counties' residents needs more attention than it has received via the current configuration of public health in Pennsylvania. We, like many in the field of public health, believe that the attention can be provided best if it were provided locally.

The methods that Drexel used to collect and analyze information via targeted surveys, interviews with key informants, and common data sources evolved over time, but there were several elements common to each study. Each had five major components: 1) the analysis of programmatic needs and service gaps, community interest and support, from primary data sources; 2) the analysis of health status data and reports from secondary sources; 3) an assessment of programmatic activities, organizational structure, and financing in selected county health departments in Pennsylvania and Maryland; 4) the analysis of potential operational costs and revenues of a new countywide health department; and 5) the identification of next steps to build support for acting on the study findings and recommendations. (In the Dauphin and Berks County studies, Drexel also considered the technical and financial feasibility of non-governmental approaches to enhancing public health.) The methodology proved to be an effective way to identify key public health needs, to elicit the views of persons in the best position overall to comment on public health deficits in each county, and to present the research findings in a straightforward way.

In many instances, the findings from the surveys and interviews were consistent with information Drexel collected from public data sources. In some instances, however, the findings – the perceptions of problems and issues vs. the public health “record” – were contradictory or

disconnected. Sometimes the data pointed to issues that have not yet been realized by the people at large – even by the one hundred (or more) key informants that Drexel targeted in its research in each county. In many instances, there is simply not enough information to know if issues raised in interviews and surveys are valid. This in and of itself points to a need for greater capacity for public health related data collection and disease investigation at the local level.

Four themes emerged from Drexel’s research. First, *access to personal health care and management of chronic disease* are significant issues facing the residents of the four counties. Many residents have no regular health care provider, and residents of these counties fare worse than their counterparts in other parts of the Commonwealth on many health issues (as is clear from Department of Health data). There are significant disparities in health access and status by race/ethnicity as well as geography, with residents in the central city in each county and the far rural areas of the counties facing the greatest challenges. There are some areas of core public health, e.g., tuberculosis, STDs, lead poisoning, which may not be getting the resources or attention necessary to truly understand, prevent, and treat.

Second, *environmental health* is a key issue for many, and the concerns expressed during the studies are in this instance supported by public data sources. For example, Berks County ranks poorly in assessments of air pollution and lead, and there are concerns about industrial environmental hazards and potential cancer clusters. Radon levels in Berks County are higher than in other parts of Pennsylvania, and Lyme disease is a critical issue, with rates second highest in the Commonwealth. The environmental health experience in the other three counties studied is similarly worrisome.

Third, *public health epidemiology and investigation resources* are insufficient to meet any of the four county’s needs. Too often, the data are not available to pursue or confirm the validity of health concerns raised by individuals and groups – and there is no readily available agent to collect that data and investigate in a timely and effective way. For example, hepatitis C was cited in Berks County as a major issue in the interviews and surveys of key informants, but the data on county prevalence of the disease are limited. This points to a major gap in public health epidemiology and data collection. It also points to the need for an

agency focused specifically on the county's experience to determine whether or not there is a true public health problem in the county. Issues raised over cancer clusters and health impacts of environmental hazards would similarly benefit from a more locally focused and more expansive public health approach.

Fourth, *coordination of health services and leadership for public health* is lacking within each of the four counties. Despite all the services that are available from the Pennsylvania Department of Health – and there are many – and from the many private agencies doing the business of public health, there is no one, clear, organizing body or focal point for public health activities, no “go to” place in any of the four counties. In each of the four counties, one organization or a network of like-minded organizations has stepped in to try to make up for this deficit. In Lancaster County, it is the United Way of Lancaster County and the Partnership for a County Health Department. In York County, it is the Healthy York Network, a component of the broader initiative, York Counts. In Berks County, it is the Berks County Community Foundation. In Dauphin County, it is the State Health Improvement Partnership (SHIP). These organizations and coalitions have helped to focus activity and attention on the public's health within the respective counties; but they are not public health agencies. Because no county government agency has this responsibility, there is no clear authority or public accountability at the county level. Public health authority and accountability at the county level is the norm in most places in this country, but, as we have noted, not in Pennsylvania.

By any accounting, each of the four counties has a rich, though loosely tied, public health infrastructure. Yet the services, both public and private, to promote and protect the health of the residents are not available equally everywhere in these counties, nor in some cases, sufficiently. The public health services provided by the Pennsylvania Department of Health are significant assets. But the professional staff resources and public health programs available to the residents of the four counties are significantly fewer than those available, for example, to the residents of the six Pennsylvania counties with countywide health departments.

To gauge the contrast of the four counties' experience with the scope and scale of local public health department activity in counties with

health departments, Drexel interviewed and collected information from the Pennsylvania Department of Health’s Southcentral and Southeast District Office staff and carefully analyzed the Annual Program Plans of Montgomery, Chester, and Erie Counties, and of the cities of Allentown and York. What Drexel found are public health program activities in these localities that go far beyond the services that the Pennsylvania Department of Health is able to provide locally.

When Drexel began its first study, in Lancaster County, in October 2004, we expected to find compelling evidence why having a county health department to protect a population of almost 500,000 residents made good sense. The needs to assure access to personal health services for disadvantaged persons, to investigate and ameliorate environmental hazards, and to prepare for and respond to emergencies are certainly clear – to everyone connected to the public health world, even indirectly. Yet this story does not sell well. It has not been sold to the majority of Pennsylvanians, ever. And it has not been sold, yet, in Lancaster County or in the other three counties we studied. An important but neglected reason is that the objection to public health as a local government undertaking has a firm and – maybe – impregnable basis. That may not have always been so; but after several decades of public sentiment largely – and sometimes aggressively – opposed to government programs and taxes, it certainly is the true story for many residents in the four counties.

### **The Contrarian Viewpoint**

Despite clear and strong evidence for why more local attention to public health would benefit the residents of the four counties, the reaction to the idea of creating a county health department, or otherwise expanding public health services, has often been negative. The reasons fall into three general categories. The primary one is the deep and abiding fear of an additional tax burden, in the future if not also the present. A second objection is a libertarian objection to the expanded, intrusive presence of government in “private” business matters, and associated concerns about service duplication, inefficiency, and waste. A third is the failure to explain why a government public health agency has any real value at all since no crisis exists and no harm from the absence of one can be convincingly shown.

First, the fear of taxes. What is the money angle behind all this? – a question that so many wanted to raise. In fact, the fear of new taxes and expanded government spending seemed to live independently from any reality, and seemed deaf to any meaningful answer that might be offered. Drexel presented several organizational and financial models for each study. The models described county health departments ranging in staff size from 32 to 73, and in annual operating costs and revenue from \$5 million to \$8.3 million. The variation was driven fairly equally by size of population and what might loosely be called “political feasibility.” Support for creating a county health department, based on surveys that Drexel distributed, varied among the four counties: 46%, 53%, 66%, and 69%. In those same counties, in the same order, the following percentages of respondents were *undecided* about whether or not to support creating a health department: 40%, 45%, 30%, and 22%. Yet the percentage of survey respondents who said that they *opposed* creating a county health department was very small, ranging from only 2% to 9%.

In one sense, these data make a reasonably encouraging case FOR creating county health departments. But the Drexel surveys were targeted to key informants – persons and organizations which would best understand the domain of public health. So we expected to see both understanding of the key issues confronting the county in question, and appreciation for the utility of a local government response to the county’s public health needs. In that sense, the support shown by the respondents is less encouraging than one might expect – at least for two of the four counties. The prime reason why so many were undecided is very straightforward: a concern for what it might cost county taxpayers.

For the county where interest in expanding public health services seemed the least (46% support), the scope and scale of county health department activity we modeled was kept small (52 staff and \$5 million in operating costs and revenue). For the county where interest in expanding public health seemed the highest (69%), the health department model we developed called for a much larger organization (72 staff and \$8.3 million in operating costs and revenue). The amount of local tax contribution to the total annual operating budget varied significantly as well, from \$150,000 to \$826,000 – depending on the level of support reported on the surveys and elicited via interviews (markers of “political feasibility”) more than any other variable. Finally, the *per capita* annual local contribution – a direct draw from county tax revenue – also varied

substantially by county: \$0.30, \$1.00, \$1.50, and \$2.00. By any calculus, these amounts are quite small – and ridiculously so given what this small investment might buy in prevention, protection, and treatment.

Drexel offered financial models that showed how reliance on local funding sources – taxes and fees combined – could be kept quite modest, in contrast to the national experience, and even more modest than is the case in the Pennsylvania counties with health departments. The opportunity to fund operations through effective use of grants (under Pennsylvania Acts 315, 12, and 537, and various categorical programs) is very real, and very significant. The table below shows national and Pennsylvania revenues by sources for county health departments, and contrasts that with the revenues that Drexel *estimated* for the four counties it studied, assuming that each would in fact establish a county health department (National Association of County and City Health Officials 2006).

**Table 1**

<b>County Health Department Revenue: All Sources (Percentage of Total)</b>			
	National	Pennsylvania	<b>The Four Counties</b>
Federal and State Grants	36%	67%	<b>77%</b>
Local Sources	47%	23%	<b>19%</b>
Other Support	17%	10%	<b>4%</b>

What we heard, though, was a recurring drumbeat of worries. What will it cost? We answered: much less than you think, and we showed how much. How much more will it cost in the future? We answered: no more than the commissioners and citizens of the county choose. What if the state cuts its financial support? We answered: it has not happened since the law enabling the creation of county health departments was enacted in 1951. Will we end up paying what the taxpayers in, for example, Chester County have to pay for their county health department – which started small but has grown to cost \$11 million per year, with the county paying \$1.6 million annually from county taxes (Chester County Health Department Program Plan 2007)? We answered, again: not if you don't choose to do so. How will restaurants afford the

licensing fees, and won't we have to pay more for the food we eat there? We answered: on average, food establishments would be expected to pay less than \$200 per year in licensure if they met the county's health code standards. We suggested that \$200 per year per establishment would not have a noticeable effect on any one person's food bill.

And along go the many questions about money. The frustrating part of the process is not the many questions that are posed. The frustrating part is that so many people seem to reject the credibility of the answers, even though there are four county health departments (Bucks, Chester, Montgomery, and Erie) and four municipal health departments (Allentown, Bethlehem, Wilkes-Barre, and York) which, if studied, will confirm the logic and realism of the answers. Perhaps the contrarian view is so deeply set in the four counties we studied – and throughout the country – that any NOT unpleasant answer about taxes and government spending must be seen as lacking in credibility.

The second objection to enhancing public health services, especially through a county government approach, is related to the first, but it is broader. It is an objection to an expanded, intrusive presence of government in “private” business matters. It is closely associated with concerns about service duplication, government inefficiency, and waste. One commentator said: “The (existing private) agencies cover everything that needs to be done; we don't want duplication of services” (Drexel University School of Public Health 2007). Another said: “Companies are engaged in wellness programs (disease prevention, obesity, and smoking cessation) which fill the needs” (Drexel 2007). And another said: “I am a service provider and I am concerned that if a county health department were created, it could hurt the level of services that agencies like mine provide. If money goes to the county health department instead of to these agencies, the agencies might not be able to survive” (Drexel 2007).

This point of view, correct or not, is based on a suspicion of government itself. This distrust seems to go deep. We sensed – and sometimes were told – that a county health department would certainly find public health problems, like lead and groundwater contamination. If the county looked and found such things, property owners and businesses would be forced to fix the problems. The focus then becomes fixed upon enforcement by a hypothetically nose, arrogant, untrustworthy county agency, not on the threat to public health and safety. We tried to make

the case that enhancing local public health was about protecting little children, not building big government. But the suspicion remained.

We recommended in one study that a concerted effort be made to develop relationships with the region's major businesses based on the business interest in having a supply of healthy workers in the community. We referenced a recent article from *Health Affairs* by Paul Simon and Jonathan Fielding entitled "Public Health and Business: A Partnership that Makes Cents." The authors make a strong case. "Businesses should have a financial interest in supporting organized public health efforts, and collaborative efforts can increase the reach and effectiveness of public health" (Simon and Fielding 2006). We saw this "business case" as one way of confronting an innate anti-government bias on the part of many.

We heard this bias expressed about restaurant inspections, in particular. Owners we interviewed objected to having to comply with new codes and county inspectors. That is not surprising. But some citizens – even some commissioners – who are connected to restaurants only as patrons also objected to more frequent and more comprehensive restaurant inspections. The general view is that food service establishments that are unclean and unsafe will not be patronized. The corollary, we must suppose, is that popularity (in the view of some, maybe many) is an empirical assurance of safe and sanitary food handling. As one commentator from York County noted: "Have we had outbreaks of food poisoning linked to restaurants that the media has failed to report?" (Dunn 2006). Of course, the answer might well be: who knows? Yet we were told bluntly on several occasions that county government should not get into the business of food service inspections, period. This seemed especially shortsighted for communities that depended economically on tourism and, in turn, on their reputations as inviting, safe places to visit – and in which to eat.

The last major objection is the lack of hard, local evidence to demonstrate why and how a government public health agency has any real value at all. If no crisis exists, then no harm from the absence of one can be shown. It is as though no local police are needed because no crimes are being committed. No local fire department is needed because no homes or businesses are on fire. Of all the objections, this is the hardest to overcome because there are no numbers, no symbols, no

stories that make a compelling case for more public health at the local level when there is no sense of an actual or looming threat. As one commentator said, “I travel all over the county and have heard nothing about the need for public health services of any kind” (Drexel 2007).

Playing into this last objection is the urban-rural divide in each of the four counties. The health and social problems in Lancaster, the cities of York, Reading, and Harrisburg, are viewed by many as the problems of the poor and minorities only. The deep divides along racial and socioeconomic lines, embodied geographically in the differences among those cities and the surrounding suburbs, outlying towns, and rural communities, constitute a psychological firewall for many of the majority population. That’s a Harrisburg problem, or a Reading problem. We often heard that. The logic is that there is no public health threat in the county if the threat is contained within the poor populations of the central cities. And so there is no need for a county health department that taxpayers outside those cities need to support.

As one cogent commentator in York County noted, “The idea of a county health department has been around for at least 40 years. It never gained any significant support in the past, probably because no significant need was ever identified” (Dunn 2006). That commentator went on to say that the need for more effective immunization programs was not demonstrated because there have been no “disease outbreaks resulting from the lack of such programs” (Dunn 2006). This commentator was not expressing an anti-government bias. He noted that “over the past 40 years ... highly successful county programs have come into being. These include planning, solid waste disposal, parks and recreation. In all of these cases, unmet needs were (first) identified” (Dunn 2006) – and so county government intervention was warranted. Not so with and for public health – precisely because its value lies preeminently in its prevention ethos. If you do not envision prevention as an unmet local need, you will not buy into the idea that local public health matters.

### **Confounding the Contrarians – Can It Be Done?**

In the four studies that Drexel completed, we tried to assess how much – and how little – local conditions affect the perceptions of both

public health needs and the opportunities for enhancing county-based and countywide programs. Public health issues for residents of Lancaster County bear a resemblance to the issues for residents of Berks County, for example. Issues facing the residents of the four central cities are very similar – all connected to racial and ethnic health disparities, and poverty. Issues of remoteness and too few health and social services facing residents in the northwest and southeast communities of York County are not unlike those facing residents of southeastern Lancaster County and upper Dauphin County. The stories from the four counties sound similar, but they are still different enough to help make the case for why public health is best understood within a very local context. The politics are different. The health care organizations interested in – even committed to – local public health are focused on the specific needs of their surrounding community. The key to answering the contrarian views is to know in fine detail the unique features of the issues faced by the different communities. That is something that only local people, local institutions, local collaborations can undertake.

From a distance, Drexel offered several generic but very real reasons for why the stakeholders in the four counties should build a more effective local public health presence. Creating a county health department, for example, would have several tangible benefits. It *could* bring into each of the four counties more than \$1 million in additional state categorical grants, and more than \$2 million of Acts 315/12/537 state grant support to benefit county residents. Put another way, each of those four counties annually foregoes more than \$3 million that could go directly to public health programs targeted to the needs of the residents if it does not create a county health department. Creating a county health department would also likely ensure:

- More effective *standards setting and consistency* in overseeing public health matters (communicable disease surveillance, disease prevention, inspection, and licensure of food service establishments, environmental health, etc.).
- More effective *county-wide coordination* of public health related services, by municipalities, school districts, hospitals, and other non-profit private agencies.

- More effective *local control* and priority setting through more effective *leadership* of health-related matters at the county level.

But one final question always remains: if having a county health department is such a great idea, why have so few Pennsylvania counties established one – especially since Act 315 was passed in 1951 to do just that?

There are likely several answers, all of which make the argument for why there should be more local public health presence in Pennsylvania a particularly hard one to win. Few in Pennsylvania really understand or care about public health, unlike in Maryland, New York, Michigan, North Carolina – and many other places throughout the United States. There are several possible reasons. First, medical schools and hospitals dominate the health world in Pennsylvania. Perhaps, in turn, because of this institutional medical dominance, except for the University of Pittsburgh, there have been no schools in Pennsylvania devoted to studying public health and encouraging its expansion, until the Drexel School of Public Health was established a decade ago.

Second, as we described above, there really is an abiding fear about government intrusion in private and business matters, and the costs associated with that intrusiveness. This is especially so in the less urbanized parts of Pennsylvania – meaning, most of it.

Third, we have been relatively lucky in terms of avoiding food borne and communicable disease outbreaks. It might also be that outbreaks are undercounted precisely because there is no consistently designated authority who the public knows to contact when a food borne illness occurs. In either case, there is insufficient regard and caution in the public mentality about such threats – and about the associated risks we then bear in having inadequate inspection, surveillance, and response systems.

The last point is important because if that changes, all of the contrarian arguments could be overcome. For similar, but less urgent and scary reasons, that is how the Montgomery County Health Department got started: concern (among a few committed doctors at first) about responding to Lyme disease, rabies, and HIV/AIDS – at a critical, challenging point in time, 1989-1991. That fear or concern can be enough of a tipping agent to change the balance. Anyone promoting an

enhanced local public health presence needs to be mindful of that. But prevention is a hard sell, and until recently, so was preparedness.

We must also acknowledge that “selling” the need for more local public health presence is compromised by our inability to make a sure case for how and why a county health department improves the population’s health in a clearly demonstrable way. It’s what we call the “It’s a Wonderful Life” test. If the “XYZ” county health department did not exist, could we clearly see how the population’s health would be dramatically worse off? Can anyone REALLY show what the precise effect a county health department has on a population’s health – in the same way that George Bailey was shown how his life mattered so much to so many in Bedford Falls? We asked that question, informally, of persons who work in county health departments, and we were given fine, but modest answers. None of the answers were so dramatic that they would “make the sale” for local public health to a community full of committed contrarians – not in our view.

At the end of the day, selling public health at the local level must be built upon, and carried along by, some authentic and pointed message of prevention and protection – just like the need for more local police is promoted. It must be a message about being closer geographically, about knowing the community intimately, and the community knowing where it can turn for help. It’s likely the only way to confound – if not silence or convince – the public health contrarians who reside throughout Pennsylvania, both average citizens and elected officials.

## References

- Chester County Health Department Program Plan 2007-2009.
- Chowdhury, Pranesh P., Lina Balluz, Wilmon Murphy, Xiao-Jun Wen, Yuna Zhong, Catherine Okoro, Bill Bartoli, Bill Garvin, Machell Town, Wayne Giles, and Ali Mokdad. “Surveillance of Certain Health Behaviors Among States and Selected Local Areas.” *MMWR*, May 11, 2007/56(SS04); 1-160.
- Drexel University School of Public Health, *Health Department Feasibility Study: Berks County, Pennsylvania*, December 2007.
- Dunn, Jack. “Do we Really Need a County Health Department,” *York Daily Record*, 1 January 2006.
- National Association of County and City Health Officials. 2006. *2005 National Profile of Local Health Departments*.

Simon, Paul A. and Jonathan E. Fielding. 2006. "Public Health and Business: A Partnership that Makes Cents," *Health Affairs*, 25, 4, 1029.

U.S. Department of Health and Human Services, Healthy People 2010.



## **Financial Analysis and Structural Considerations to the Problem of Rural Public Health in Pennsylvania\***

**Alberto J.F. Cardelle, PhD, MPH**, East Stroudsburg University

### **Abstract**

Currently, none of Pennsylvania's 48 rural counties has a local health department (LHD). This is despite the existence of laws that provide locales with per capita funding for public health and environmental services. This study examines the financial issues that may influence the establishment of a robust public health infrastructure in rural areas. The study looks at 10 rural counties in the state and, through financial analysis of different LHD models (using the 2003-04 financial data) for rural counties, helps demonstrate that the relatively high levels of local funds required to establish LHDs would be a major financial undertaking. Testing three models – single-county, bi-county and tri-county LHDs – the study shows that locales would require an average of \$16 per capita annually in local funds. The model analysis shows that small population size, large geographic area, and the low availability of primary care services drive expenses higher. Since rural counties have low population density, cover broad geographic expanses, and suffer from chronic lack of primary care services, rural LHDs covering rural counties have to cover a very large geographic area, a critical cost driver especially for environmental services such as water supply testing. Geographically large rural counties are also pressured to provide personal health services given the limited number of primary care providers. The result is a local health department with very high expenses. The paper concludes with policy considerations that may help to overcome these barriers, including establishing secondary formulas that are an alternative to per capita funding as well as creation start-up costs funds.

\*The research for this article was funded by the Center for Rural Pennsylvania.

## Introduction

In Pennsylvania, the creation of local public health departments (LHD) is left to the discretion of local government. This has meant that out of 67 counties in the Commonwealth of Pennsylvania, only five have a LHD. In addition, five municipalities have local health bureaus.<sup>1</sup> All of the 42 rural counties in Pennsylvania lack a LHD, meaning that 2,824,642 persons or 23% of the Commonwealth's population lack the services of a LHD. In the eventuality of a disease outbreak in any of the 42 rural counties of Pennsylvania, it is fair for the residents of these counties to ask, "Whom should we call?" In 2003, when 500 people in Beaver County, Pennsylvania, were infected with Hepatitis A as a result of eating at a local restaurant, the county had to rely on nurses and physicians mobilized by the Pennsylvania Department of Health from other parts of the state to complete the necessary vaccinations and carry out the necessary epidemiological investigations. While Beaver County is not rural, the hepatitis outbreak highlighted many of the difficulties faced by counties without a LHD. Although the source of the outbreak turned out to be contaminated food, the contrast between counties with LHDs and those without LHDs emerged. For example, it became evident that restaurants in Beaver County were inspected by the State Department of Agriculture, while those in Allegheny County, just over the county line, are regulated by one of 15 restaurant inspectors in the Allegheny County Health Department. While inspectors from both agencies look at the same food safety practices, the Allegheny County Health Department requires that restaurants always have an employee on-site who is trained in food safety by the county or an equivalent program in food safety (Rotstein and Snowbeck 2003). The events in Beaver County suggest that Pennsylvania's 42 rural counties lack the necessary resources to address a disease outbreak.

According to the Health Resources and Services Administration (HRSA), the estimated national public health workforce – including federal employees and the salaried staff of a limited number of voluntary agencies – is 448,254 employed workers, a ratio of 138 per 100,000 persons. Pennsylvania has 37 workers per 100,000 people, the lowest

---

<sup>1</sup>Counties with health departments are Montgomery, Bucks, Chester, Erie, and Allegheny; municipal bureaus include Philadelphia, York, Allentown, Bethlehem, and Wilkes-Barre.

ratio of public health workers to population in the nation. Of the federal workforce, 3.6% are identified as holding official/administrative positions, 44.6% are in professional positions, 13.9% in technical positions, and 12.9% in clerical/support positions.<sup>2</sup> In stark contrast in Pennsylvania, 12% of the public health workforce is identified as holding official/administrative positions, 49% are in professional positions, 6% in technical positions, and 20% in clerical/support positions. Therefore, not only does Pennsylvania have the smallest public health workforce, it has a very low percentage of professionals in the technical fields, particularly in the areas of mental health and substance abuse (Gebbie 2000).

Pennsylvania Act 315, passed by the legislature in 1951, governs the establishment of LHDs. In accordance to Act 315, county health departments will receive a grant equal to 50% of the total of the department expenditures but not to exceed more than \$6 for every person within the jurisdiction of the county department of health. Additionally, Act 12 provides established LHDs an additional annual grant of not more than \$1.50 per capita resident for environmental health services provided by the county or municipality. Therefore, existing legislation provides any county with a LHD up to \$7.50 per capita resident in funding. In addition to these grants, areas with LHDs have increased likelihood of qualifying for state and federal categorical health grant funding. Across the state, existing LHDs receive an average of \$3.14 per person in categorical grants. Many federal categorical health grants are available only to local health departments, and even those for which it is not necessary to have a LHD, counties with LHDs have a significant comparative advantage.

Given these health and financial advantages to establishing LHDs, this paper identifies the structural and financial obstacles that keep rural counties from establishing LHDs and it examines LHD models suitable for rural counties.

### **Existing Literature**

Similar to Pennsylvania, the national public health system varies greatly by geography, and fails to provide an equitable distribution of

---

<sup>2</sup>The remaining 25% could not be assigned to a specific category.

services. As a nation, the United States has used a “Band-aid” approach to funding in public health, favoring short-term interventions instead of long-term investment in the country’s public health infrastructure (Ohara 2001). Estimates show that 95% of United States’ health spending goes toward medical interventions, and only 5% to population-based health interventions and various research activities (Levi et al. 2007). The Trust for America’s Health (TFAH) showed that “the United States has made a major commitment to biomedical research, as evidenced by the \$28 billion budget for the National Institutes of Health, but has not yet made a similar commitment to public health” (Levi et al. 2007).

Before the events of 9/11, there had been a 10-year decline in public health infrastructure funding. From 1990 to 1993, the percentage of the nation’s health care dollars spent on public health declined from 2.7% to 1% (Johnson 2001). In some parts of the country, the combination of the Balanced Budget Act of 1997 and government cutbacks saw the per capita spending in public health decline by 33% between 1997 and 2003 (NACCHO 2003). Surveys and studies conducted before September 11, 2001, found that many communities lacked adequate laboratories or epidemiologists trained to detect infectious disease outbreaks. Even the Centers for Disease Control and Prevention (CDC), the nation’s premier public health agency, relied heavily on antiquated laboratories constructed in the 1960s and 1970s. Furthermore, prior to 1999, one-third of public health departments serving fewer than 25,000 people did not have access to the Internet or electronic mail, and almost 20% of all LHDs had no e-mail capacity at all (Frist 2002). After the anthrax outbreaks of 2001, CDC funds have increased from just under \$4 billion in 2000, to \$7.7 billion in 2003, and to \$8.4 billion in 2006. However, much of this can be attributed to post-9/11 terrorism preparedness activities rather than core public health functions (Levi et al. 2007). For example, even though HIV continues to be a domestic epidemic, funding for HIV has decreased 21% since 2001 (Levi et al. 2007). Similarly, the current level of chronic diseases, which account for the vast majority of morbidity and mortality in the United States, capture only marginal public health interest or financial support (Beitsch et al. 2006).

This lack of a national commitment has meant that the tendency in the country is for local government control and funding of public health service. Today most states in the United States organize their public

health systems around county health departments<sup>3</sup> (Mays et al. 2004). The National Association of County and City Health Officials (NAACHO) has currently identified 2,865 local public health agencies in the United States (NACCHO 2005; Beitsch et al. 2006). Of these, 59% were county-wide, 14% covered a city and county, 9% covered more than one county<sup>4</sup> with the remainder (18%) covering smaller geographic areas (towns and townships) (NACCHO 2005). Sixty-two percent of LHDs in the United States serve populations of less than 50,000 persons and 40% of LHDs serve even less populated rural areas (NACCHO 2005). The existing LHDs vary immensely in their per capita expenditures. A comparison of the expenditures of small boards of health with the expenditures of large city departments shows an average differential of 600%<sup>5</sup> (NACCHO 2005). LHDs also vary with regard to workforce. More than 30% of LHDs have fewer than 10 full-time staff, with a median of 19 employees (NACCHO 2005). The small entities typically employ a manager/ director, nurses, an environmental specialist, and clerical staff, while the specialized staff such as nutritionist, health educator, emergency preparedness coordinator, and epidemiologist, are in LHDs serving larger jurisdictions (NACCHO 2005). The variation in resources resulted in variation of services provided. Of the 75 public health-related activities and services offered by LHDs, three-quarters or more of LHDs offered only eight of them (NACCHO 2005).

A strong reliance on local resources has been an important factor in the development of the United States' "fragmented and uneven" public health infrastructure (Baker et al. 2005). The NACCHO survey showed

---

<sup>3</sup>An agency of local government, a local health department (LHD) develops and administers programs and services that are aimed at maintaining a healthy community. To ensure that these efforts address a community's most important health problems and concerns, the local health department encourages residents to participate in assessing public health needs and in formulating a community health plan. It also works with other community organizations to assure that needed services and programs are available.

<sup>4</sup>Bi-county or tri-county health departments are like single-county health departments except they serve a larger area and are responsible to more than one county board. With this arrangement, a board of health is created with representatives from each county. The revenues and expenses are shared proportionally.

<sup>5</sup>The median per capita expenditure is a low of \$9 per capita in Massachusetts to a high of \$94 per capita in Maryland (NACCHO 2005).

that 65% of the funding for existing LHDs comes from local government sources, the state, or is pass-through grants from the state. An additional 30% of the funding comes from fee-for-service programs and competitive grants sought by each department. Additionally, how LHDs access these funds varies, and states use multiple funding mechanisms to fund local public health programs. These include: 1) a combination of per capita funding and activity-specific or staff-specific grants; 2) negotiated contracts for local services; 3) formulas incorporating variables of health status and financial resources of the local population; 4) per capita distribution of state funds based on local population statistics; 5) reimbursement of allowable expenditures for pre-established set of services; and 6) state funding for local agencies that are extensions of the state agency (Potter and Fitzpatrick 2007).

The lack of an entity with comprehensive authority and responsibility for creation, maintenance, and oversight of the nation's public health infrastructure has resulted in the country's fragmented system. However, Potter and Fitzgerald found three key trends in state funding of public health that show that in cases where the state government plays a greater managerial role, funding increases. The three trends are: first, that the degree of state oversight and the procedures used for oversight of local budgets and programs are related to funding levels; second, an association between service mandates on LHDs and levels of state funding; and third, state mandates for local public health services appear typically to be funded mandates (Potter and Fitzpatrick 2007). In Pennsylvania, these trends are not present. There are no mandates requiring local governments to establish LHDs, however, if locales do establish LHDs, there are service mandates, but the state funds only 50% of the services. Overall, the public health infrastructure in Pennsylvania is reliant on local government to generate funds or identify funding, and there is a fragmented system depending upon whether or not a county has a LHD.

### **Methodology**

The project methodology is divided into three general tasks – data gathering, data analysis, and modeling. The first task was acquisition and preparation of the data. Twelve rural counties without a LHD that were most similar to counties with LHDs were purposefully sampled (Table

1). The 42 rural counties in the state were grouped by health district. The counties were then stratified by income, population density, and poverty rates. Three counties from four of the six health districts were selected. The Southeast Health District was not used because it includes only one rural county, and the Southwest Health District was not sampled because it had an unrepresentative population density level among its rural counties. Three counties from the remaining four districts were sampled, using counties that were most similar with regard to the mean income, population density, and poverty rate of the counties with LHDs.

**Table 1: Sampled Counties**

<b>Health District</b>	<b>County</b>
Northwest	McKean Clarion Jefferson
Northcentral	Bradford Snyder Tioga
Northeast	Monroe Susquehanna Wyoming
Southcentral	Mifflin Fulton Juniata

The 2003-04 budgets from the sampled counties, as well as the budgets from the counties and municipalities with existing LHDs, were collected. Legislative language of Act 315 and Act 12 and the Pennsylvania Code guiding the establishment of LHDs were gathered. Policymakers from all counties with LHDs and from the Pennsylvania Department of Health were interviewed. In addition, a purposeful sample<sup>6</sup> of policymakers of the sampled counties was interviewed.

The data analysis consisted of analyzing the mandated financial requirements of the legislation. The financial statements of counties and

---

<sup>6</sup>The sample consisted of policymakers who agreed to speak to the project researchers and who felt they had enough information on the process.

the existing LHDs were analyzed in order to determine the prototypical balance sheets, revenue streams and expense categories. The financial statements were also analyzed to identify the key cost drivers (per capita, per services, or personnel). Forecasted revenues were calculated by using the total population to be served as a multiplier for all potential revenue sources. In addition, the percent of the population living below poverty was used to determine categorical grant revenue since levels of poverty are a significant categorical grant revenue driver, and the grant revenues were forecasted by giving both factors (population and poverty level) equal weight.

The expenses were forecasted by categories. These figures were forecasted using population and land area covered, and medically underserved areas. Population and land area to be covered were used to forecast all of the expense categories. Underserved areas were used to forecast personal health expenses since the availability of primary care was a significant cost driver of personal health expenses.

Finally, the organizational structures of the existing LHDs were analyzed, and a prototypical organizational structure (personnel, programmatic, and decision-making) was developed. The final step, the modeling process, included the creation of an organizational, programmatic, and budget structure for a prototypical single county health department adequate for three of the sampled counties, for two bi-county LHDs (four counties), and two tri-county LHDs (six counties). Based on these structures, which provide a more specific expense structure, reconciled expense budgets for each model were developed.

### **Financial Requirements of Act 315 and Act 12**

According to Act 315, the Secretary of Health annually computes the disbursement to LHDs based on LHDs' eligible public health expenditures. The State's 315 disbursement provides LHDs with 50% of the funding of all expenditures that are public health related and not paid for out of any special grants received from the state or the federal government. LHDs will also receive a disbursement \$1.50 per capita from Act 12 for environmental health services. There is no required match of local funds for funds drawn down through Act 12.

As Table 2 demonstrates, the revenue structure of existing LHDs vary, but on average Act 315 and Act 12 funds represent about 30% of the funds employed by the LHDs.

**Table 2**

		Percent of Budget by Funding Source						
Extant LHD	Total Budget	Act 315/12	Grants	Fees	Direct Funds	Per Capita Cost	ROI	Per Capita Benefits
Allegheny*	\$43,866,737	21%	51%	9%	20%	\$6.93	399%	\$27.62
Bucks	\$ 9,056,640	42%	18%	10%	29%	\$4.51	241%	\$10.89
Chester	\$ 7,493,410	43%	26%	21%	9%	\$1.63	960%	\$15.65
Montgomery	\$ 7,200,000	42%	23%	9%	19%	\$1.93	414%	\$8.01
Allentown	\$ 3,048,295	25%	22%	5%	48%	\$13.74	108%	\$14.85
York	\$ 1,096,246	29%	44%	3%	21%	\$5.72	383%	\$21.89
<b>Average</b>	<b>\$11,960,221</b>	<b>28%</b>	<b>40%</b>	<b>10%</b>	<b>21%</b>	<b>\$5.74</b>	<b>417%</b>	<b>\$16.48</b>

\*The Allegheny LHD budget includes monies for its emergency medical system.

Usually, the second most important source of funding for LHDs are grants. These are usually either state or federal categorical and block grants. All of the existing departments and bureaus reported that any increase in funding is a result of the availability of non-Act 315 or Act 12 grants. Existing LHDs receive an average of \$2.3 million dollars in federal categorical grants. The most common categorical grants received by LHDs are for immunization, family planning, clean water, HIV/AIDS, and cancer prevention. Existing LHDs receive an average of \$1.8 million in state grants (non-Act 315 and 12). A majority of these funds are passed through from the Preventive Health and Health Services (PHHS) Block Grant that the state of Pennsylvania receives from the federal government. The PHHS block grant is the primary source of flexible funding that provides states the latitude to fund any of 265 national health objectives available in the nation's Healthy People 2010 Health Improvement Plan. In fiscal year 2001, Pennsylvania chose 17

priority areas for distributing its PHHS block grant and received approximately \$8 billion.<sup>7</sup>

The third source of funding for LHDs is inspection fees and licensures costs. LHDs that carry out public and recreational pool and restaurant inspections charge the sites a fee for the inspection and license. Although these services are Act 12 reimbursable services, the LHDs use this money to not only offset their additional environmental services costs, but also as part of the funds that are eligible for the Act 315 match. Any income that LHDs can generate as a result of their services serves to offset the amount of funds that the county must generate as direct contribution to the LHD, which is the fourth source of revenue for LHDs. Direct funding is any source not generated from reimbursable grants, categorical grants, or fees collected. These direct funds are usually not new funds collected by the local government for the purposes of subsidizing the LHDs. These funds may support other health services that the local government has historically provided and which is protecting the public's health. These services include: county funds used for vector control (mosquito and Gypsy Fly control), drug and alcohol prevention programs, preventative health services provided to seniors in long-term care settings (chronic disease screenings), preventive health service provided to prisoners in county jails (STD screenings), solid waste and litter control programs, weights and measures certification, county/municipal health services information and referral systems, county/municipal health and wellness fairs, and any other service that is designed to protect the health of the public.

Since counties may not use financial resources from state and federal grants as match, direct funds are the most critical financial issue associated with the reimbursable grants (Act 315) because these are the most common source of financing available for the match. These funds usually emanate from revenues or from intergovernmental transfer from an existing department to a new department, in order for the LHD qualify for the grants. Although as the data shows (Table 2, page 107), the

---

<sup>7</sup>Cancer, Diabetes, Educational and Community-Based Programs, Heart Disease and Stroke, Heart Disease and Stroke, Immunization and Infectious Diseases, Injury and Violence Prevention, Nutrition and Overweight, Oral Health, Physical Activity and Fitness, Public Health Data, Surveillance, Epidemiology, and Training, Respiratory Diseases, Rape or Attempted Rape, Administrative Cost.

investment made by counties with LHDs for LHD activities and the match demonstrate a return on investments (ROI)<sup>8</sup> of over 100%, the earmarking of these matching funds during the creation of a LHD represents a major barrier for counties. In the long term, these funds represent a very good investment with existing LHDs producing an average ROI of over 400%. For example, Chester County's Department of Health has almost an annual 1000% ROI. For its annual investment of about \$700,000 of direct county revenues into the Chester County Health Department, that health department offers the county \$7.5 million in services.

### Revenue Drivers

The analysis looked at various different revenue drivers (factors driving revenue) to determine the factors that most influenced the LHD's ability to generate revenue. The drivers explored were population, poverty rates, geographic size of the areas covered, size of the local government, and the demographic structure of the population covered. These factors were selected based on the qualitative data generated from the interviews with LHD administrators. Each of these factors was identified by at least one administrator as being a factor that affected their ability to generate funds. The two factors that show the strongest influence on revenue are population and levels of poverty in the community served. The other factors were either not significant, or closely related to population (number of townships for example). Table 3 shows the Pearson correlation coefficient<sup>9</sup> between the different revenue sources and total population and percentage of the population below poverty. The data means that as the population covered by the LHD increases, so does the revenue. The same relationship exists between revenue and poverty levels. In other words, as poverty levels increase, revenues increase. Although this is an expected trend given that Act 315

---

<sup>8</sup>The ROI was calculated by dividing the total amount of financial resources used to provide public health services (not including the direct funds) by the amount of LHD budgets stemming from direct funds.

<sup>9</sup>Pearson Correlation coefficient is a measure of how closely to variables relate to each other. A coefficient of close to one means that the two variables are positively correlated, or in other words as one rises the other also tends to rise.

and Act 12 funds are reimbursable on a per capita basis, the analysis shows these funds are not the only source that is dependent on population size. Table 3 shows there is a strong positive relationship between population and grants (a Pearson correlation coefficient of 0.84). This is explained by the fact that many of the non-reimbursable grants are formula grants based on the population covered. These trends are an important consideration for rural areas with small populations. Rural areas would be less likely to generate the additional funds from grants and fees, therefore requiring a relative greater proportion of the revenues to come from local government.

**Table 3: Correlation<sup>10</sup> Between Sources of Revenue and Revenue Drivers and Types of Services**

	Population	Poverty (%)	Personal Health Services	Environmental Health Services	Public Health Services
<b>Act 315 &amp; 12 revenue</b>	0.96	0.98	0.144	0.54	-0.36
<b>Grant revenue</b>	0.84	0.99	0.580	0.06	-0.61
<b>User fee revenue</b>	0.88	0.92	-0.200	0.91	-0.38
<b>Direct funds revenue</b>	0.86	0.97	-0.550	-0.78	0.95

A second important revenue driver is the level of poverty in the county. Table 3 shows that there is a strong correlation between poverty levels and all the revenue funds, with the highest strongest correlation (.99) found between levels of poverty and grants (this is controlling for the difference between the municipal LHDs and county LHDs). This relationship is also expected given that poverty levels, like population, are key eligibility criteria in many competitive grants.

### Cost Drivers

Act 315 and Act 12 funding require the recipient to provide a certain set of services and to maintain a certain personnel structure. Using the general structures established by the legislation, Table 4 shows how the

---

<sup>10</sup>Pearson Correlations.

extant LHDs compare with regard to expenditure structures. Expenditures are grouped into four general and generic categories: administration, personal health services (immunizations, STD testing counseling, maternal and child health services, etc.), environmental health services (all of the Act 12 mandated services), and public health services (health education, public health laboratory, public health policy development, epidemiology, etc). On the average, existing LHDs spend an average of 18% on administration, 30% on personal health services, 40% on environmental services, and 12% on public health services.

**Table 4**

<b>LHD<sup>11, 12</sup></b>	<b>Total Budget</b>	<b>Administration (%)</b>	<b>Personal Health (%)</b>	<b>Environmental Health (%)</b>	<b>Public Health (%)</b>
<b>Allegheny</b>	\$18,405,300	20%	29%	40%	11%
<b>Chester</b>	8,426,541	13%	31%	48%	8%
<b>Allentown</b>	1,902,799	27%	15%	21%	37%
<b>York</b>	1,096,246	14%	54%	23%	9%
<b>Average</b>	<b>7,457,722</b>	<b>18%</b>	<b>30%</b>	<b>40%</b>	<b>12%</b>

All of the LHDs interviewed indicated that the most important determinant of their expense structure is their revenue stream. In other words, what they spend is determined by their success in obtaining funds. In particular, their grant revenues are most influential. The existing LHDs report that the only significant revenue growth experienced by LHDs emerges from grant funds. The analysis of the expenditures shows that a LHD’s grant revenue is most influential on their personal health services. Table 3 (page 110) shows the correlation (Pearson correlation coefficients) between revenue sources and expenditure types. It also shows that as LHDs generate more grant revenue they are more likely to increase their personal health services

---

<sup>11</sup>The revenues reported in the previous section do not necessarily match the expenses because the budgets reported here are strictly for the expenses of activities considered to be core public health functions (for example, Allegheny County has \$500,000 pass-through grant to manage county jail health care) and because LHDs revenues streams have different fiscal years and therefore LHDs may carry a balance between fiscal years.

<sup>12</sup>These are the only reported budgets because of either difficulty in obtaining budgets or in obtaining budgets in which expenditures are reported per program.

(0.54). This again is consistent with the objectives of these grant sources, which include maternal and child health, STD treatment, counseling, and screenings, etc. There is also a very strong relationship between user fee revenue and environmental services (0.91). This is also an expected outcome since a major source of the user fee revenues comes from LHD's environmental services, and food handling facilities inspections. Finally, direct funds are most influential on public health services. While the reason for this is not completely clear, it is likely that these services are in part associated with LHD activities in policy development and consultation with government officials, not traditionally a reimbursable service.

Personal health services are also a significant cost driver for existing LHDs. Not only in Pennsylvania, but also throughout the country, LHDs that serve as safety-net providers are forced to invest a significant amount of resources in their personal health programs. The tendency has been that LHDs in areas with few safety-net providers tended to fill this void. Based on the examples examined here, the York City Health Department has the highest percentage of their funds expended on personal health services. The trend observed with these four LHDs correlates negatively (-0.71) with the number of primary care physicians per 100,000 persons. LHDs in areas with a limited number of primary care physicians tend to fill the service void and provide a wider array of personal health services, which in other areas private practitioners provide. It is important to highlight that nationally the trend has been for LHDs to reduce their personal health services as Medicaid has moved toward a managed care model because reimbursements have declined. As mentioned in section two, this has been a major factor in the reduction of funding for LHDs nationally.

Environmental services expenses are the largest expenditures of existing LHDs. While the reasons for this are not completely evident, there are four influencing factors. First is the size of the territory covered by the LHDs. Unlike the other types of services, environmental programs such as restaurant and pool inspections require periodic onsite visits increasing the need for staff and transportation. The percentage of overall expenditures that LHDs spend on environmental services correlates strongly with square miles covered by the LHD (0.97). Second, environmental services, compared to other services such as education and screening, for example, are more costly in that they involve testing

and laboratory procedures. Third, environmental services are a revenue-generating service for LHDs. Since LHDs charge an inspection fee from the sites that are inspected, LHDs have the incentive to provide extensive and continuous coverage so as to maximize their revenue-producing activities. In addition, administrators also report that environmental services are also the service that are most visible and most publicly and politically scrutinized. Since no local government, and more importantly no local elected official, wants to have an environmental incident in their jurisdiction (food poisoning or disease outbreak), local health officials feel compelled to provide thorough environmental services.

In summary, total population covered, geographic area covered, and availability of primary care services will be the key cost and revenue drivers used to assemble new public health models.

### **Rural LHD Models**

This section constructs three different viable models: the single county health department, the bi-county health department and the tri-county health department for four regions of Pennsylvania. These models include a sample revenue structure, an expenditure budget, a personnel structure, and a program budget.

The models' budgets consist of creating a general revenue and expenditure budget using a basic forecasting method that uses the revenue and expenditure data of the existing county health departments in Allegheny and Chester Counties and municipal health bureaus in Allentown and York City, as a base. The models' forecasted revenues and expenses were based on total population covered, area covered, poverty level, and primary care provider availability. Then, specific sample program budgets (using the Allentown Health Bureau budget structure because of Allentown's resemblance in population), identify the costs of the specific services created for each of the models. In addition, potential match sources are approximated using the county budgets of the sample counties.

Each model's feasibility is discussed using the forecasted direct contributions required by the counties, on a per capita basis, as well as the potential match sources. The models constructed are exhibited on the following table and figure:



Based on the characteristics exhibited in Table 7, a personnel structure for each model was developed. As the structures demonstrate, the models’ personnel structure differs significantly based on population covered and most importantly on area covered. The tri-county model designed for Bradford-Tioga-Wyoming would cover only 132,000 persons but it would be spread over 2,500 square miles. The large geographic area covered by that model requires the largest personnel.

The potential revenue streams of the different models were developed using the total population that was to be served as a multiplier for all the potential revenue sources. In addition, the percent of the population under poverty was used to determine categorical grant revenue since level of poverty is a significant driver of categorical grant revenue. The grant revenues were calculated by giving both factors (population and poverty level) equal weight. Table 8 shows the result of the revenue forecasting. The forecasts show that the two tri-county LHDs would have multi-million dollar revenue streams, as would Monroe County because of the county’s growing population (larger than any of the tri-county departments). All of the model LHDs show very high contributions from grants, over 40%. This is because of their relatively small populations, but relatively high level of poverty, in comparison to existing LHDs (almost twice the rate – 6.3 to 11.4). This means that these areas would be eligible for a greater amount of categorical grants relative to Act 315 and Act 12 formula grants.

**Table 8**

	<b>Local Health Department Models</b>						
	Bradford-Tioga-Wyoming	Mifflin-Juniata-Snyder	Susquehanna-Wyoming	Clarion-Jefferson	McKean	Monroe	Fulton
<b>Forecasted Revenue</b>							
Budget \$	2,571,363	2,028,745	1,312,304	1,718,374	842,004	2,775,084	330,312
Act 315/12	29%	28%	24%	25%	18%	31%	22%
Grants	45%	45%	48%	48%	54%	42%	55%
User Fees	9%	9%	9%	9%	9%	9%	8%
Direct Funds	18%	18%	18%	17%	18%	18%	15%

	Local Health Department Models						
	Bradford-Tioga-Wyoming	Mifflin-Juniata-Snyder	Susquehanna-Wyoming	Clarion-Jefferson	McKean	Monroe	Fulton
<b>Forecasted Expenses</b>							
Budget \$	7,809,675	3,259,014	2,321,767	2,906,886	1,362,989	2,991,986	431,135
Administration	28%	27%	26%	27%	24%	27%	15%
Personal Health	23%	26%	28%	27%	33%	27%	60%
Environmental Health	40%	38%	37%	38%	34%	38%	21%
Public Health	9%	9%	8%	9%	8%	9%	5%
<b>Reconciled Revenue Budget Based on Forecasted Expenses</b>							
Budget \$	7,359,310	2,894,065	2,083,466	2,609,760	1,209,935	2,484,445	382,151
Act 315/12	10%	20%	15%	17%	13%	34%	19%
Grants	16%	31%	30%	32%	38%	47%	48%
User Fees	3%	6%	6%	6%	6%	10%	7%
Direct Funds	71%	43%	48%	46%	43%	9%	26%
<i>Some percentages do not add up to 100 due to rounding.</i>							

Table 8 shows the forecasted expenses in broad categories. These figures were forecasted using population covered, land area to be covered, and underserved medical areas. Population covered and land area to be covered were used to forecast all of the expenses categories. Underserved areas were used to forecast personal health expenses since the availability of primary care was a significant cost driver of personal health expenses. The forecasts show the clear effect of having to cover large areas. The two tri-county LHDs have very large budgets relative to their populations. The Bradford-Tioga-Wyoming model would have a budget of over \$7 million. For both tri-county LHDs, environmental health expenses are significantly high because of the area to be covered. On the other hand, personal health services are a significant expense in the Fulton, Monroe, and McKean models because of the relatively low numbers of primary care providers in those areas.

Table 8 shows a reconciled revenue budget based on the expenses forecasted. As the table shows under the reconciled revenue budget, the local direct contributions increase dramatically so that local contributions now represent over 40% of the budget revenue in all but two of the

models. The shortfall occurs primarily because most of the models do not generate enough funds under Act 315 and Act 12 and from user fees, because of their small population size, to cover the expenses related to the large geographical coverage area. This assumption is made because the projections show it is not reasonable to assume that the locales will be able to cover the shortfall from grants or fees. In the largest of the models, the Bradford-Tioga-Wyoming model, the direct funds would now represent 71% of the revenue.

These budgets show that the tri-county health departments have very high expenses relative to their Act 315 and Act 12 funding. For example, the Bradford-Tioga-Wyoming model has close to a \$1 million deficit just as a result of the environmental services provided. In comparison, although the Mifflin-Juniata-Snyder model, the Monroe model, and the Fulton model still have a deficit, the deficits with regard to the environmental services are smallest. The reason for the small deficit in the Fulton model is because of its small size; however, the small deficits in both the Mifflin-Juniata-Snyder and Monroe models is a combination of the fact that they both have a substantial population within a manageable geographic area. This lowers expenses and maximizes funding. This is the trend throughout the budget calculations. In the models with small populations and large areas, the expenses are not offset by the revenue from grants and fees. The overall result is very high county contributions that make these structures unrealistic at the present funding levels.

Table 9 on the following page summarizes the overall trends in the revenue and expense analysis of the viable models. The table shows that with the exception of the single county health department models in Monroe and Fulton, all of the other models represent higher per capita investments than the existing LHDs. The large tri-county health departments with large geographical areas and small populations have the highest per capita investments. Of the two tri-county health departments, the Mifflin-Juniata-Snyder model is much more feasible because of its smaller geographic area and bigger population. However, even the two-county LHDs have relatively high per capita investments. This is again a result of the interaction between population and geography.

**Table 9**

	Direct Funds per capita Forecasting	Direct Funds per capita Program Budget	ROI
Bradford-Tioga-Wyoming	\$40	\$60	144%
Mifflin-Juniata-Snyder	\$11	\$ 9	341%
Susquehanna-Wyoming	\$14	\$22	208%
Clarion-Jefferson	\$14	\$14	260%
McKean	\$12	\$ 8	371%
Monroe	\$ 1	\$ 3	511%
Fulton	\$ 7	\$ 5	555%

In summary, the analysis predicts that the barrier that most local governments face when initiating a LHD is new funding. Although the model budgets represented here are representative of the expenses of a fully functioning LHD that most local areas would not see developed for a few years after inception of a LHD, they demonstrate the need for a combination of significant new funding or significant restructuring of local government funding and budgets in order to make LHDs viable. The most critical cost driver for these models is area to be covered. The existing funding stream dependence on population as the sole criteria for the Act 315 formula grant signifies that areas that require extensive coverage are at a major disadvantage. In the models that had a critical population and not as an extensive geographic coverage, the models become more viable. The tri-county LHD model covering Mifflin-Juniata-Snyder has local contribution amounts that are closer to the norm as are the single county LHDs in Monroe, Fulton, and McKean Counties. However, the other models highlight the problem of using population-based formula grants for rural areas.

### **Conclusions and Policy Implications**

The fundamental assumption guiding this research is that a strong local public health infrastructure is a critical component of the health care continuum. However, the national trend, as was demonstrated by the literature review, shows a slow erosion of the national public health

infrastructure. Funding for public health has steadily decreased since the 1980s and this, in combination with the reliance on local funds, has created significant gaps in services and increased vulnerability to the spread of disease. The threat of bioterrorism and the preparedness that has followed since 2001 has highlighted these gaps. The research also showed that, relative to this national trend, the local public health infrastructure in Pennsylvania is very weak. With only five county health departments, five municipal health bureaus, and a network of state clinics in the remainder of the state, Pennsylvania has the lowest public health workforce in the country: 38 public health workers per 1,000,000 persons.

The state's limited public health infrastructure is despite the existence of legislation (Act 315 and Act 12) that allows local government to draw down state funds for the operation of local public health infrastructure. The areas of the state with LHDs have demonstrated a very good capacity to use both state and federal funding to assemble vibrant health departments that provide an array of public health services. These existing LHDs have been able to grow their locales' capacity to provide public health services by not only using the state formula grants, but also federal and other state categorical health grants. As a result of these grants, these LHDs have established LHDs that have an average of 420% return on investment. On average, the residents of the locales with LHDs contribute less than \$5 per capita annually and receive services totaling over \$2,000 per person. The existing LHDs have been very successful at expanding services without using local funds. Nonetheless, there are critical policy and financial issues that locales must satisfy in the process of establishing these LHDs. Among the most critical aspects faced by locales trying to establish LHDs are the need to identify local funds for initial start-up funds and for the financial match of state funds.

The financial analysis of the different model LHDs open to rural counties of Pennsylvania demonstrate that the relatively high levels of local funds required to establish LHDs will be a major financial barrier. On average, the three different models analyzed for rural counties, a tri-county health department, a bi-county health department, and a single county health department, require \$16 per capita annually in local funds. The principal reason for this financial reality is that rural counties have relatively high levels of the factors that tend to drive expenses up and

relatively small populations, the major revenue driver for funding from Act 315 and Act 12. The analysis showed that primarily population covered, geographic area covered, and the availability of primary care services drive expenses. Although rural counties do not have very dense populations, they do cover broad geographic expanses and suffer from chronic lack of primary care services. This means that LHDs covering rural counties will have to cover a very large geographic area, a critical cost driver especially for environmental services, and will be pressured to provide personal health services in areas that have a limited number of primary care providers. This will result in very high expenses. This, coupled with the fact that these areas do not qualify for high reimbursement rates from formula and categorical grants because of their small population and their relatively low levels of poverty (a major criteria for categorical grants), means that they will have to generate significant amounts of local funds to operate LHDs. This trend varies somewhat among the different models, and those models that are geographically large and have small populations have the highest levels of local contribution while those with smaller geographic areas and larger populations tend to rely less on local funding. In the models tested in this research, the tri-county model that included the Counties of Bradford, Tioga, and Wyoming, compared with the worst, and the models that included single counties, McKean, Monroe, and Fulton, demonstrated the most viable financial models. In general, the reality is that the existing funding mechanisms in place for local public health are not appropriate for the realities of rural counties in Pennsylvania.

Although the barriers to a robust public health infrastructure are significant, many of the barriers have a policy basis; therefore, the recommendations below present policy projects that can be accomplished by the Commonwealth's administrative and legislative entities and by local governments to improve the state's public health infrastructure.

- 1) Additional core funding for Act 12 would mean that these models would have additional financing for environmental services. As was demonstrated by the paper, most of the existing LHDs and all of the models analyzed have significant deficits as a result of their environmental services which then become part of their Act 315 reimbursable expenses. So, in fact, in many respects the limited Act 12 funding is resulting in counties having to limit the services they

can offer under Act 315. This additional funding would be critical for rural counties that would have to cover a wider geographic area.

- 2) A second critical aspect would be the need for start-up funds to be available. The availability of start-up funds would go a long way in lowering the financial threshold that local governments must meet in establishing a structure for the first year of a LHD. The greatest barrier faced by local entities is the identification of funds for the initial establishment of LHD before they can begin to draw down state funds or before they can generate revenues from grants and fees. An initial one-time grant to help locales hire the personnel that Act 315 mandates (a director and a personal health and environmental health manager) would allow the local governments a one-year time period to establish the infrastructure and begin to generate revenue from other sources.
- 3) The legislature should establish secondary formulas for calculating Act 315 and Act 12 funds for rural counties. Formulas that address the cost drivers faced by rural counties should be taken into account. These formulas would allow LHDs covering these areas to draw down the additional funds necessary to cover large geographic areas. The formulas could be revised to take into account population density, with an additional allotment for travel expenses as population density decreases. There are many examples of formula grants that take population density into consideration. For example, transportation grants to cities with fewer than 200,000 persons receive a greater subsidy than cities with more than 200,000 persons to offset the lack of local revenue because of low usage (U.S. Department of Transportation 2003). In the area of bioterrorism, homeland security grants have “updated formulas that better take into account threats, population density, and the presence of critical infrastructure” (Ridge 2003). The existing legislation could then create an additional subsidy for countywide LHDs that fall below a specified population.

Most of the counties in the Commonwealth have a State Health Improvement Plan (SHIP). SHIP is a statewide health plan that places emphasis on improving the health status of populations through planning that addresses the root or underlying causes of premature disease, death, and disability. The plan calls for engaging with organized community-

based health improvement partnerships to coordinate resources in meaningful ways and address local health improvement issues and priorities. These partnerships are made up of coalitions of local social service agencies, health providers, and other community-based organizations engaging in the delivery of health services (PADOH 2003). These organizations already have relationships with the state regional offices. A possible model for improving local public health infrastructure in areas that are expansive and lack the critical population levels would be to formalize the link between these partners and local government. Local public health services could be offered through community based organizations, but with a central public sector-based coordinating body. Therefore, a potential policy option would be a modification to Act 315 that would allow local government to use Act 315 funds to provide services through community-based organizations and still retain the coordinating and planning responsibility. This would allow for decentralized services and more flexible expense structures.

Another policy option that also entails a break from the Act 315 structure would be the creation of decentralized regional offices of the State Department of Health. This option would be responding to the national trend of LHD consolidation. Baker and Koplan (2002), for example, estimate that as a result of a national level consolidation trend, the number of local public health entities across the nation could diminish from 3,000 to an estimated 500-1,000 entities. Therefore, under this policy scenario, the option would not be to create more LHDs but to use the existing six health regional offices that now cover an average of 10 counties to cover areas that cannot be feasibly covered by a LHD. However, these regional offices would need to be restructured into a network of sub-regional offices that would cover three to four counties. This would allow the state offices to have greater access to these underserved areas, without the need to create new structures.

The results show that it is clear on the need for a strengthened public health infrastructure in all of Pennsylvania, and in particular rural Pennsylvania; however, in areas where the political will exists to create these structures, local policymakers are stymied by the initial financial threshold set for their establishment. Policies that help counties attain this threshold would boost political will.

## References

- Allukian, M. Jr. 1993. "Forging the Future: The Public Health Imperative." *American Journal of Public Health* 83: 655-60.
- American Public Health Association. August 2004. "Shift in Preparedness Funds Undermines Readiness Efforts." *The Nation's Health*.
- Baker, Edward, and Jeffery Koplan. 2002. "Strengthening the Nation's Public Health Infrastructure: Historic Challenge, Unprecedented Opportunity." *Health Affairs* (Millwood) 6:15-27.
- Baker, Edward, Margaret A. Potter, Debora L. Jones, Shawna L. Mercer, Joan P. Cioffi, Lawrence W. Green, Paul K. Halverson, Maureen Y. Lichtveld and David W. Fleming. 2005. "The Public Health Infrastructure and Our Nation's Health." *Annual Public Health Review* 26:303-18.
- Baxter R.J., C.R. Steinberg, and J.R. Shapiro. 2001. "Is the U.S. Public Health System Ready for Bioterrorism? An Assessment of the U.S. Public Health Infrastructure and Its Capacity for Infectious Disease Surveillance." *Yale Journal of Health Policy Law Ethics* 1:1-21.
- Beitsch, Leslie, Robert G. Brooks, Nir Menachemi, and Patrick M. Libbey. 2006. "Public Health at Center Stage: New Roles, Old Props." *Health Affairs* 25:911-922.
- Cardelle, Alberto. 2004. "Assessment of Rural Public Health Infrastructure." unpublished manuscript.
- Center for Disease Control and Prevention. 2004. "Public Health Performance Measures." [http://www.ruralpa.org/county\\_profiles.html](http://www.ruralpa.org/county_profiles.html) (Accessed March 1, 2008).
- Center for Rural Pennsylvania. 2004. "Profile of Pennsylvania's Rural and Urban Counties." <http://www.cdc.gov> (Accessed March 10, 2007).
- Dreicker, M. 2004. Plans for a Northampton County Health Department. *Testimony presented to Northampton County Council*, April 12.
- Frist, William. 2002. Public Health and National Security: The Critical Role of Increased Federal Support. *Health Affairs* (Millwood) 6:117-30.
- Gebbie, Kristine. 1993. "Rebuilding a Public Health Infrastructure." *Journal of Law and Medical Ethics* 3-4:368-71.
- Gebbie, Kristine. 1999. "The Public Health Workforce: Key to Public Health Infrastructure." *American Journal of Public Health* 5:660-1.
- Gebbie, Kristine. 2000. "The Public Health Workforce; Enumeration 2000." Washington DC.: Health Research and Services Administration.
- Greiner, Philip, Oppewal Sonda. January 27, 2003. "Work Environment for Nurses and Patient Safety." *Testimony Institute of Medicine*.
- Institute of Medicine. 2003. "Overhaul of Government Public Health Infrastructure: New Partners Needed." *Public Health Reports* 1:74-5.
- Johnson, Robert. February 2001. "Rural Public Health: Issues and Considerations." The National Advisory Committee on Rural Health.

- Keanne, Christopher, John Marx, Edmund Ricci, and Gerald Barron. 2002. "The Perceived Impact of Privatization on Local Health Departments." *American Journal of Public Health* 7:1178-82.
- Koplin, Allan. 1993. "A National Program to Restructure Local Public Health Agencies in the United States." *J Public Health Policy* 4:393-402.
- Levi, Jeffery, Chrissie Juliano, and Maxwell Richardson. 2007. "Financing Public Health: Diminished Funding for Core Needs and State-by-State Variation in Support." *Journal of Public Health Management Practice* 13:97-102.
- Mays, Glen, K. Halverson, Edward L. Baker, Rachel Stevens, and Julie J. Vann. 2004. "Availability and Perceived Effectiveness of Public Health Activities in the Nation's Most Populous Communities." *American Journal of Public Health* 94: 1016-1026.
- Montgomery County. Montgomery County Health Department Program Plans. Montgomery County Government: Norristown, PA. 2001.
- National Association of County and City Health Officials. March 2003. Executive Director Congressional Testimony.
- National Association of County and City Health Officials. 2005. "2005 Local Profile Local Health Departments." [http://www.naccho.org/topics/infrastructure/2005\\_Profile.cfm](http://www.naccho.org/topics/infrastructure/2005_Profile.cfm) (Accessed March 10, 2007).
- O'Hara, James. 2001. "West Nile Virus: Success of Public Health Response Underlines Failure of the System." *J Urban Health* 2:392-5.
- Pennsylvania Department of Health, 2007. "Who Are We." [www.dsf.health.state.pa.us/health/site/default.asp](http://www.dsf.health.state.pa.us/health/site/default.asp) (Accessed March 13, 2007).
- Pennsylvania Department of Health, 2007. State Health Improvement Plan. [www.dsf.health.state.pa.us/health/site/default.asp](http://www.dsf.health.state.pa.us/health/site/default.asp) (Accessed March 1, 2007).
- Potter, Margaret, and Tiffany Fitzpatrick. 2007. "State Funding for Local Public Health: Observations from Six Case Studies." *Public Health Management Practice* 13:163-168.
- Ridge, Tom. 2003. Testimony before the Senate Committee on Governmental Affairs. March 2003.
- Rotstein, Gary, and Christopher Snowbeck. November 6, 2003. "Hepatitis Outbreak in Beaver Triggers Shots for Nearly 3,000." *Pittsburgh Post-Gazette*.
- Turnock, Bernard. 2004. "Public Health What It Is and How It Works." Boston, MA: Jones and Bartlett.
- Trevino, Fernando, and Jeff Jacobs. 1994. "Public Health and Health Care Reform: The American Public Health Association's Perspective." *Journal of Public Health Policy* 4: 397-406.
- Trust for America's Health. December 11, 2003. "Pennsylvania Scores 3 out of 10 in New Bioterrorism Preparedness Study." Press Release.
- U.S. Department of Transportation Federal Transit Formula Grants. 2004. 49 U.S.C. 5307, 2003. <http://www.cfda.gov> (Accessed May 5, 2004).

# **A Health Promoting Hospital: A Strategy in the Re-Design of the U.S. Health Care System**

**Matthew G. Masiello, MD, MPH**

Office of Community Health, Memorial Medical Center  
Windber Research Institute, Windber, Pennsylvania

## **Introduction**

*In 2006, Memorial Medical Center of the Conemaugh Health System, located in Southwestern Pennsylvania, became the first hospital in the United States to apply and be accepted as a member of the World Health Organization Health Promoting Hospital Network. There are over 35 European national and regional networks and more than 700 European hospitals participating in this international partnership. All member hospitals are asked to focus on promoting the health of patients and staff, make a commitment to the development of a formal health promotion infrastructure, and to organize and coordinate community and environmentally based health promotion/disease prevention programs. The United States health care system is experiencing many challenges and the development of a United States Health Promoting Hospital initiative should be a national priority. This Pennsylvania-based, health-promoting hospital may serve as a model program in this effort.*

## **Health Promotion and the World Health Organization**

The World Health Organization (WHO) Health Promoting Hospitals (HPH) European pilot project took place from 1993 to 1997. This initial effort has grown to become the International Network of Health Promoting Hospitals (Garcia-Barber 2002). Working within this network, the member hospitals have resources available to them to develop a corporate philosophy, which concentrates on three areas of health promotion (HP): changing the organization to a health promoting setting which will allow for a more comprehensive approach to health

promotion and disease prevention from the perspective of hospital patients and staff; promoting the health of the community; and promoting the health of the environment (Groene 2002).

The origins of this World Health Organization Health Promoting Hospital (WHO-HPH) initiative were established in international recommendations first outlined in the 1986 Ottawa Charter for Health Promotion. This HPH network is now a multi-hospital organization that sponsors international workshops and educational forums to support the development of hospital based health promotion programs and initiatives (Pelikan 2001). As defined by the WHO, health promotion allows for the establishment of a process of enabling people to increase control over, and improve, their health. As member countries of the WHO-HPH Network, many European, Asian, and Australian and Canadian hospitals have spent the better part of the past two decades identifying and reorganizing themselves as health promoting hospitals. The in-country networking among regional and national hospitals has allowed for a sharing of ideas, programs, and resources.

### **Health Promotion and the United States Health Care System**

Over the past two decades, numerous references in medical and public health literature have commented on the need for hospitals, health care systems, health care professionals, and public health institutions in the United States to evaluate their present strategies or develop new strategies to address the health issues of the communities in which they serve (Olden and Clement 2000; Ginn and Mosley 2004; and Hancock 1999). Hancock states that hospitals “must develop a community conscience rather than an institutional loyalty” (Hancock 1986). Poland comments on the lack of scientific rigor regarding the presence and degree of analysis of hospital and community based collaborative efforts (2005). In 2004, the Institute of Medicine reported on the need for United States medical and nursing schools and schools of public health to develop a more symbiotic relationship to better address the health issues of the community (Institute of Medicine 2004). Similarly, and related to the role of the individual health care provider, the American Academy of Pediatrics endorsed the need for a more defined health promotion (HP)

relationship between the community pediatrician and the community (American Academy of Pediatrics 1999).

Health care costs continue to rise in the United States, and the money spent on health care is significantly higher as compared to other developed countries. This expenditure has failed to demonstrate any significant gains in the nation's ability to increase life expectancy, reduce infant mortality, or increase access to a health care system. Significant public health issues, such as the present obesity epidemic, the epidemic of gun violence, and the inability to prevent as well as treat chronic illnesses, lack a formal national mandate or strategy. The recent concerns by the U.S. Congress regarding the absence or lack of well-defined charitable giving policies of non-profit hospitals also comments on the less than optimal health promotional strategies by many of our larger health care systems (Pear 2006). There have been numerous reviews on the status of United States hospital-based HP activities and the HP components used by these hospitals (Olden and Clement 2000). Ginn has outlined the steps necessary to become a HPH (Ginn and Moleley 2004). However, the United States health care and public health literature fails to identify a United States hospital or health care system that has formerly adopted the comprehensive World Health Organization (WHO) definition of "health" as being "the state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Until recently, it has been difficult to identify a United States health care system that has embarked on a formal approach to establish a comprehensive health promotion/disease prevention (HP/DP) environment for hospital staff, patients, or community. Historically, disease prevention and health education have served as marketing strategies for health care systems in their competitive attempts to promote clinical programs benefiting from the growth in preventable chronic diseases.

### **A Health Promoting Hospital in the United States – A Model Program**

The following review of the health promoting hospital activities of a United States-based, regional tertiary health care center is timely. In 1997, Memorial Medical Center, of the Conemaugh Health System

(CHS), located in Southwestern Pennsylvania, embarked on a process to develop and propagate a more formal public health advocacy profile. The CHS is a multi-hospital health care system serving a predominately rural population. In the early years of its existence, this public health activity took place in the form of a Child and Adolescent Health and Wellness Council. In 2004, the Board of Directors expanded the role of this initiative and created an Office of Community Health (OCH). At that time the physician director of the OCH was also identified as a vice-president in the health care system. With growing support from the hospital administration, a regional managed care system, and various other funding sources, additional staff and programmatic activities have been realized. Currently, the OCH has a staff of three public health professionals, three registered nurses, an educator, and an administrative assistant. Numerous other health professionals are associated with the OCH through contractual arrangements. Over the years, nursing, social service, educational, and pharmacy graduate school students have served as public health interns.

The following review comments on the adult, child, and community HP/DP activity of this U.S. World Health Organization Health Promoting Hospital.

### **A Model U.S. World Health Promoting Hospital and Children**

From 1999 to the present, the OCH at Memorial Medical Center, and the school districts of the region, have partnered in the development of school based health promotion/disease prevention (HP/DP) programs. Programmatic monitoring and evaluation are key components of these initiatives (Windsor 2004). Primary and secondary health data, specific to the schools and community of Cambria County, the largest county in the region, have been gathered and analyzed over this period of time. Based on this data and with community participation, health issues were discussed and prioritized. This OCH has now been able to introduce evidence-based health promotion/disease prevention programs to all of the public schools and the majority of the private schools in the county (CDC 2004; Pennsylvania Youth Survey 2002, 2004, 2006).

School-based injury prevention programs allowed for the participation of over 10,000 children, or 90%, of the identified children

based on age and program requirements. This injury prevention initiative now includes a teen component, scheduled child passenger safety clinics, and school-based bike safety clinics. An increase in knowledge and a decrease in risky behaviors have been documented, as well as an increase in the number of adolescents wearing seat belts and safety gear. In 1999, the OCH introduced the evidenced-based Olweus Bullying Prevention program to the schools of the county. Approximately 20,000 children have participated in this program with a documented improvement in the reporting of bullying and an increasing number of children coming to the assistance of a classmate during an observed act of bullying. We also documented an increase in the number of students feeling more comfortable and enjoying their time in school. In 2006, a regional managed care organization granted approximately \$2 million to the OCH. This funding will allow for the expansion of this bullying prevention/cessation program throughout western and central Pennsylvania, potentially affecting the lives of over 200,000 children and the adults they encounter on a daily basis. In addition to the abovementioned initiatives and, again, based on local health data, programs addressing the elevated childhood dental cavity rate and the obesity epidemic have been developed and introduced into the community. With funding from the Pennsylvania Tobacco Fund, the OCH developed an innovative program that allowed for the development of a combined car passenger safety seat and smoking cessation program. In the attempt to cumulatively evaluate the various school based HP/DP programs of the OCH, as well as assist the schools in developing federally mandated school health councils, the OCH developed a Coordinated Regional School Health Council (WIC 2004). The school districts of the tri-county area actively support this effort.

### **A Model U.S. World Health Promoting Hospital and Adults**

In 2004, when the hospital Board of Directors approved the development of an OCH, the scope of activity expanded beyond children. The mandate was to develop a more formal infrastructure to address the health issues of adults and community. A county-based Center for Disease Control Behavioral Risk Factor Survey was used as resource to gather primary health data. This health data allowed for the identification and prioritization of health needs from a larger segment of the county

population. In 2005, a formal worksite wellness program was initiated for the 4,000 employees of the principle system hospital. Incentivized employee health risk assessment (HRA) surveys were made available, with the data compiled and analyzed by trained public health professionals from this hospital based OCH. A campus-wide tobacco ban was a key component of this initiative. A *Tobacco Ban Policy Guide* was developed as part of this hospital-based worksite wellness effort. At the request of approximately 60 United States hospitals and several European health care professionals and hospitals, the guide has had a level of distribution greater than originally expected. Subsequent to these requests, an on-line survey was developed to monitor the use, and any potential impact, of this HP/DP tobacco prevention/cessation guidebook. The public health analyst from the OCH has developed numerous online, internet-driven surveys to monitor and evaluate programmatic activities. This service, for a nominal fee, has been made available to other hospital and community groups. A worksite wellness program, for local businesses, is now available for implementation.

With the oversight of this OCH, a comprehensive employee blood-screening program has also been developed. This screening activity, which serves as a free benefit to the hospital employee, has been extensively analyzed, especially as it relates to follow up by the primary care physician. A cadre of monitored, nutritional, and fitness programs have been developed and made available to the hospital employees. Transfat has been eliminated from the hospital cafeteria and other dietary changes have been made due to the efforts of the OCH and in-hospital partners. Continued monitoring of the employee HRA surveys, as well as the hospital based worksite wellness programs, has documented costs as it relates to unhealthy employee practices as well as the potential for savings secondary to positive changes in employee behavior and health. Specifically, a potential savings of \$300,000 to \$700,000 per year may be realized with a decrease in the number of smoking breaks by the hospital staff. A formal report from the OCH has been made available to the hospital administration summarizing the programmatic activity of the worksite wellness program. This report included the results of the employee HRA survey, with an analysis of participating employee risk factors. It also comments on the potential for savings and the need for continued support and expansion of the program.

### **A Model U.S. World Health Organization Health Promoting Hospital and the Community**

In 2004, a system-wide “community benefit inventory” was designed and implemented by the OCH to better identify those hospital based individuals and groups who were offering a varying array of formal and informal health and wellness programs to the community (Boscarino 2004). As is typical in most hospitals, these hospital-based individuals or groups essentially function as independent entities and usually exist without any formal strategies to qualitatively monitor or measure for positive change in behavioral or health impact. Thus, a health care system may find it difficult to convey a clear and concise message to the community of exactly what the system is contributing to the community in the form of wellness/educational activities or as charitable giving. This availability of this inventory was considered timely by those in hospital finance who are now assigned to gather this type of activity secondary to congressional oversight of non-profit hospital community giving.

As a response to the “brain drain” phenomenon experienced by many rural communities and the difficulty hospitals and communities have in attracting young physicians to a community, the Associate Director of the OCH, along with a community physician developed an innovative and popular Mentoring in Medicine (MIM) program. This summer “internship program” allows college and pre-medicine students to participate in an organized physician office and hospital-based activity that exposes the students to the real world of medicine. It also allows the hospital the opportunity to encourage these young physicians of the future to return to practice medicine in the community in which they were raised. A stipend is provided to relieve the student of the anxiety of finding summer employment. If the student expresses an interest to return to the area, the hospital will also provide financial support for school loan repayments. A public health internship program is also available that allows nursing, pharmacy, social work, educational, and public health students the opportunity to have a “hands-on” experience in formal community based, health promotion programmatic activities. One former intern was recently accepted as a Center for Disease Control Fellow.

The OCH has produced multiple programmatic reports and an annual *Community Health Profile and Needs Assessment*, which includes measurable impact data, comments on the health issues of the region, and summaries of the hospital and community-based HP/DP programs developed to address these issues. The programs of this OCH have been presented at national and international forums.

In recent years, a new and critical role for the health care system has come to fruition in the area of community (disaster) preparedness. In the local planning process, there is often an adequate level of emergency management expertise but with minimal public health input. The local Emergency Medical Service system has recently accepted an OCH prepared School and Business All Hazard Plan, which is based on current state and national guidelines.

### **Discussion and Recommendations on Becoming a HPH**

The development of a United States-based Health Promoting Hospital infrastructure, modeled after and in partnership with the WHO-HPH initiative, would be a viable and potentially cost effective approach to address the many concerning issues of a struggling United States health care system. A health promoting hospital could serve as both a community and regionally based public health program and policy advocate. In addition, this level of public health positioning by regional hospitals could dramatically enhance the efficiency and impact of local, state run public health offices (Weber 2007).

Based on the history and success of this United States-based hospital, located in Johnstown, Pennsylvania, in advancing a health promoting hospital environment, the following recommendations for a hospital setting are offered for review and consideration:

- Identify a public health trained individual to coordinate the overall HP/DP plan for the hospital/health care system. More credibility, as well as community and institutional support, may be recognized if this individual is also a physician. Preferably, this individual should report directly to the Chief Executive Officer of the hospital/hospital system.

- Develop a programmatic/research partnership with a local school of public health.
- Identify hospital funds or outside grant funding that will allow for the hiring of support staff.
- Identify focus groups, and school and community based health surveys that will allow the hospital to improve its knowledge of the health issues of the community.
- Support the development of institutional and community-based health advisory committees. The direct involvement of the hospital administrative leadership and Board of Directors will more likely allow for an enhanced propagation of a HP/DP agenda (Institute of Medicine 1997).
- Incorporate public health theories and practices, as well as the WHO-HPH Standards and Strategies, into the design and implementation of the HP/DP programs and work towards official membership in the WHO-HPH network.
- Incorporate monitoring and evaluation tools into the program design process and attempt to identify a public health professional or institution that will assist in this effort.
- Develop an inventory of hospital-based individuals and groups offering wellness and educational programs to the community as well as inventory any monies offered to the community as charitable giving.
- Develop a charitable giving policy committee consisting of representatives from the hospital administration, Board of Directors, and hospital-based public health representatives.

### **Summary**

This successful hospital-based Office of Community Health should serve as a model program for other health care systems that wish to be identified as health promoting hospitals (HPH). This OCH has been successful in assisting in the development of positive behavioral and health change for large segments of the population in its service area. It

has also been successful in identifying costs associated with identified health risks of the hospital employee population as well as savings associated with well developed worksite wellness initiatives.

The ultimate goal of a health promoting hospital would be to move from the historic, non-monitored, non-evaluated hospital, or community wellness and educational programs, to formal health promotion/disease prevention initiatives, which measure impact and are sustainable. The practices and recommendations made available by the WHO-HPH network and the related goals of Healthy People 2010 should also serve as benchmarks and important resources to United States hospitals and health care systems. The success of this United States-based program should prompt some level of national discussion regarding a new but necessary approach to a struggling United States health care system. Having a formal health promotion oriented approach to health care in all of those United States hospitals receiving state or federal support should be the ultimate national health care goal. A United States partnership with the World Health Organization Health Promoting Hospital Network would also serve as a timely and positive international effort.

## References

- Academy of Pediatrics. Committee on Community Health Services, *Pediatrics* Vol. 103, No. 6, June 1999.
- Boscarino, J.A., and J. Chang. "Nontraditional Services Provided by Nonprofit and For-Profit Hospitals: Implications for Community Health." *Journal of Healthcare Management*, Vol. 45, No.2, March/April 2000, p. 132.
- Center for Disease Control Behavioral Risk Factor Survey. Cambria County-2004.
- Garcia-Barbero, M. "Health Promotion in Hospitals: Evidence and Quality Management. Country Policies, Systems and Services, Division of Country Support," WHO Regional Office for Europe. May 2005, p. 1-2.
- Ginn, G.O. and C.B. Moseley. "Community Health Orientation, Community-based Quality Improvement, and Health Promotion Services in Hospitals." *Journal of Healthcare Management*, Vol. 49, No. 5, Sept/Oct 2004, p. 303-306.
- Groene, Oliver. "Health Promotion in Hospitals - From Principles to Implementation." "Health Promotion in Hospitals: Evidence and Quality Management." Country Policies, Systems and Services, Division of Country Support, WHO Regional Office for Europe. May 2005, p. 2-17.

- Hancock, T. "Creating Health and Health Promoting Hospitals: A Worthy Challenge for the Twenty-First Century." *International Journal of Health Care Quality Assurance Incorporating Leadership in Health Services*, Vol. 12, No.1, 1999, p. 14-17.
- Hancock, T. "Creating a Healthy Community: The Preferred Role for Hospitals." *Dimension*, Sept. 1986, p. 22-23.
- Institute of Medicine. "Improving Health in the Community: A Role for Performance Monitoring." National Academy Press 1997: p. 40.
- Institute of Medicine. "Who Will Keep the Public Healthy? Educating Public Health Professionals for the 21st Century." The National Academy Press, 2003.
- Olden, P.C. and D.G. Clement. "The Prevalence of Hospital Health Promotion and Disease Prevention Services: Good News, Bad News and Policy Implications." *The Milbank Quarterly*, Vol. 78, No. 1, 2000, p. 136-142.
- Weber, David. "American Exceptionalism." *Hospitals and Health Networks*. April 24, 2007.
- Pear, R. "Nonprofit Hospitals Face Scrutiny Over Practices." *New York Times*, Sunday, March 19, 2006.
- Pelikan, J., K. Krajic, and C. Dietscher. "The Health Promoting Hospital (HPH): Concept and Development." *Patient Education and Counseling*. Vol. 45 (4), 2001, p. 239-243.
- Pennsylvania Youth Survey – Cambria County.
- Poland, Blake, et al. "Working at the Margins" or "Leading from Behind?:" A Canadian Study of Hospital-Community Collaboration. *Health and Social Care in the Community*, Vol. 13(2), p. 125-135.
- WIC. Child Nutrition and Women Infant Child Reauthorization Act of 2004. Public Law, p. 108-265.
- Windsor R. Evaluation of Health Promotion, Health Education and Disease Prevention Programs, 2004, p.14-16.
- World Health Organization. [www.euro.who.int/AboutWHOPolicy](http://www.euro.who.int/AboutWHOPolicy).



# Credentialing of the Public Health Work Force

**Bernard D. Goldstein**, University of Pittsburgh

## Abstract

Pennsylvania ranks last nationally among all states in the size of its public health workforce per capita. More than a doubling of the current workforce would be needed for Pennsylvania to achieve even the national average. For the foreseeable future Pennsylvania will depend even more heavily than other states on having a highly skilled public health workforce to overcome our shortages in numbers. In this paper, I will discuss the efforts to at long last develop a core credential for the public health workforce and the potential impact this will have on ensuring a highly competent public health work force capable of responding to the public health challenges facing our state and our nation. I will also consider the relationship between public health and medicine including comparing the approaches toward credentialing.

Public health is virtually the only professional field without a credential. After many years of committees, task forces, and a recommendation from the Surgeon General, the National Board of Public Health Examiners (NBPHE) was incorporated in December 2005. Its volunteer board has seats allocated to a broad range of participating public health organizations. The first credentialing examination in August 2008, will test for knowledge of core and cross-cutting educational competencies that are relevant to the practice of public health. The driving forces leading to credentialing in public health include: 1) heightened recognition of the importance of the public health work force; 2) an increase in both the absolute number and percent of public health graduates who have no other credential; 3) increase in the availability of public health graduate education throughout the country; 4) societal demand for credentialing and for professional accountability; and 5) improved delineation of the core and cross-cutting educational competencies underlying public health practice.

## Introduction

Examination of the potential effectiveness of public policy requires consideration of the workforce that designs and carries out that policy. A notable aspect of the public health workforce that distinguishes it from virtually all other health or other professional fields is its lack of a formal credential in the general field of public health. I briefly describe the history and rationale for the new and long-awaited development of a national public health credential, as well as its potential impact on Pennsylvania.

The first core credentialing examination in the field of public health is being offered in August 2008, by the National Board of Public Health Examiners (NBPHE). Successful examinees among the close to 900 registrants for this new credential will receive the Certificate in Public Health (CPH), attesting to their competency in the core disciplines in public health (Gebbie et al. 2007; Goldstein 2008; National Board of Public Health Examiners 2008). Of the applicants, 6% are from Pennsylvania – only New York and California have a larger contingent among the examinees. Among the examinees, the largest employer group is government public health agencies.

The new core public health credential has developed after literally decades of discussion and debate. Following a call by the U.S. Surgeon General in the late 1980s, both the American Public Health Association (APHA) and the Association of Schools of Public Health (ASPH) developed working groups to explore credentialing (Akhter 2001; Sommer 2000; Association of Schools of Public Health 2000). Similarly, the U.S. Centers for Disease Control identified credentialing as among the pathways to strengthen the public health workforce (Governmental Public Health Implementation Team 2004). A key figure throughout the more recent discussions has been Dr. Charles Mahan. Dr. Mahan, the original President of NBPHE, has a broad background as former Commissioner of Health of the State of Florida; former President of the American State and Territorial Health Officials (ASTHO); and former Dean of the University of South Florida School of Public Health (Mahan and Malecki 2004; Gebbie et al. 2007). His ability to bridge the gap between academia and public health practice has been crucial in moving the NBPHE forward, particularly as there has been tension between the public health practice and academic communities.

Public Health is not unusual in having tensions between practitioners and educators. The perception that academics are primarily interested in furthering research rather than responding to practical problems in the field extends to every academic program leading to practice (see, for example, a recent article in *Solicitor's Journal* about the need for law school to be relevant to legal practice: Roberts 2008). A 1988 Institute of Medicine report on "The Future of Public Health" specifically enjoined schools of public health to be more responsive to the needs of public health practitioners (Institute of Medicine 1988). The result has been reluctance among the public health practitioner organizations to allow academia to take the lead in the credentialing of public health practice. This tension was resolved with the decision to move forward in developing a credential reflecting competency in the core and cross-cutting disciplines that are the basis for the practice of public health, but not in the practice competencies themselves. The five key public health academic and practice organizations all participate in the NBPHE, including nomination of board members. These are: the American Public Health Association (APHA); the Association of Prevention Teaching and Research (APTR); the Association of Schools of Public Health (ASPH); the Association of State and Territorial Health Officials (ASTHO); and the National Association of County and City Health Officials (NACCHO). Eight additional board members have been selected by the NBPHE to ensure diversity of representation, including other major public health organizations. Seven of the current 20 members are now or recently have been members of state or local government public health departments, including six who have headed such departments. The two board members from Pennsylvania are Dr. Walter Tsou, former Health Commissioner of Philadelphia and former President of the American Public Health Association, and myself. The first NBPHE meeting was held in December 2005. The National Board of Medical Examiners (NBME), based in Philadelphia, is assisting in preparation of the examination. The goal of the NBPHE is:

To ensure that students and graduates from schools and programs of public health accredited by the Council on Education for Public Health (CEPH) have mastered the knowledge and skills relevant to contemporary public health practice (National Board of Public Health Examiners 2008).

The sole focus of the NBPHE is on the core and cross-cutting educational competencies central to public health. The historic compromise that resulted in the NBPHE means that for at least the near future it will remain narrowly focused.

An exceptionally important impact of the NBPHE will be the enhancement of continuing education (CE) in public health spurred by the examination and by recertification (Allegrante 2001). We anticipate that recertification will occur every ten years through both continuing education and re-examination. Among the CE efforts related to the examination is a study guide prepared by the ASPH (Association of Schools of Public Health 2008). Other organizations involved with the NBPHE, as well as HRSA-sponsored Public Health Training Centers, are also planning programs to help study for the examination.

An important challenge faced by the NBPHE in accomplishing its goals is the issue of credentialing the current federal, state, and local health agency work force, many of whom are not eligible for the CPH by virtue of their not having received a graduate degree from a CEPH-accredited school or program. Almost all of these individuals have a bachelor's degree and have learned on the job. With the current broad availability of graduate education in public health, there seems to be no rationale that advanced public health education should not be a goal of anyone committed to a career in this complex and demanding field. Some state and local public health department employees are specialists, sometimes with their own graduate degree, e.g., an expert on informatics or a hydrogeologist. Such expertise is highly valuable and should be rewarded – but such specialists should not expect to be advanced to management positions without a broader grounding in public health achievable through graduate education to the master's level.

### **The Role of Workforce Credentialing In the Health Professions**

Health specialties, including public health, have at least some aspects of a guild – there is a body of specialized knowledge which must be mastered to function effectively. However, as with other modern professions such as law and engineering, entrance into health guilds is no longer through an apprentice system in which the first criterion is family kinship. Instead, entrance occurs through the progressive demonstration of mastery of core elements of the profession. This mastery is

demonstrated not only by graduation from an educational institution accredited to provide the core elements, but also by passing an examination testing mastery of the core elements. On-the-job education continues after credentialing in virtually all fields and is an important part of the professional development of the practitioner – there are few of us who would preferentially want our medical, dental, or legal case handled by someone who has just been licensed to practice medicine or dentistry, or has just passed the bar examination.

The rapid pace of developments in virtually all modern professional disciplines has usually led to the requirement for re-credentialing based upon demonstration of continued mastery of core elements and the integration of newer information and competencies. My board certification in internal medicine (1969) and hematology (1971), both based upon required training in accredited programs and upon the passage of examinations, were received at times when no recertification was contemplated. Since 1990, new recipients of either of these credentials must be recertified every ten years. I am more recently credentialed (1979) by the American Board of Toxicology which now requires recertification every five years – a process which helps me keep current with the field and comfortable in my credential.

Certain subspecialties related to public health do have credentialing examinations. Among these are health educators, environmental sanitarians, and industrial hygienists. For each of these specialties there are educational tracks that proceed through schools of public health. But alternative educational pathways are possible to achieve candidacy. One example is the Certified Health Education Specialist (CHES) which is administered by the National Commission for Health Education Certification, Inc, headquartered in Allentown, Pennsylvania. The NCHCEC granted its first credential for certified health education specialist (CHES) in 1989. As of 2005, there were more than 12,000 CHES holders nationwide (Airhihenbuwa et al. 2005). Of note has been the gradual transition from a highly controversial activity within the health education profession, to the current situation in which the majority of advertisements for health education jobs state that CHES is preferred or required. The NCHCEC statement of the benefits of certification applies very well to the NBPHE (see Table 1, page 142).

**Table 1: Benefits of Certification**

*(adapted from: National Commission for Health Education Certification, 2002)*

Voluntary professional certification programs establish a national standard. They differ from state and local certifications and registries in that the requirements do not vary from one locale to another. National certification benefits practitioners and the public in that it:

- Establishes a national standard
- Attests to the individual's knowledge and skills
- Assists employers in identifying qualified applicants
- Provides a sense of pride and accomplishment
- Promotes continued professional development
- Enhances the ability of the profession to accomplish its public mission

Receiving a credential has also been a pathway to achieving greater rewards for job performance. For example, the relatively new national teacher's credential is now recognized by all states. Many states and school districts provide additional benefits to teachers holding this credential, including higher salaries and an enhanced ability to move to a new school district without losing seniority (All Star Directories 2002). Governmental agencies are also far more likely to provide support for continuing education or travel to a national meeting for those employees who are keeping up a job-related credential.

### **Why Now?**

An obvious question is, after all of these years of discussion, why is it now time to develop a core public health credential? I suggest there are at least five reasons:

### **1) Change in the Educational Background of Public Health Graduates**

The background of those receiving public health degrees has changed dramatically. At one time, schools of public health restricted admission to those who already had an advanced degree in medicine or another health field. This was liberalized over time to a matriculation requirement that specified either an advanced health degree or a minimum number of years in practice. Currently, any such requirements have virtually disappeared. While no national statistics have been kept, there can be no question that the overwhelming majority of those completing graduate education in accredited schools and programs of public health now have no other certifiable credential beyond that of their MPH degree. For example, only 20% of the University of Pittsburgh Graduate School of Public Health's most recent matriculates had another degree, while in 1992 it was 50%.

These graduates are younger and presumably will have more time in their careers than those who entered after first receiving a medical or other health degree. Until now, they have been virtually alone among the graduates of academic health programs in not having a credential attesting to their mastery of the core competencies relevant to the practice of their health discipline.

### **2) Increase in the Opportunity to Obtain Graduate Education in Public Health**

The increase in number of accredited schools and programs in public health in recent years has been phenomenal, outstripping that of virtually any other major academic health science field. During the past decade there has been a one-third increase in the number of accredited schools of public health to the current 42 and more than a doubling of accredited programs in public health to the current 69. Further increase in programs and schools is anticipated along with a continued increase in enrollment. For example, student enrollment in the University of Pittsburgh GSPH has increased from 400 to over 700 in the past decade. As a comparison, during this period there has been relatively little change in the number of new matriculates in American medical schools, and until the past three years, a significant decline in applicants.

### **3) Increasing Awareness and Complexities of Public Health Challenges**

Public health is in the midst of a transition. There is growing recognition of the need to improve the public health infrastructure, including development of a highly competent public health workforce (Gebbie and Turnock 2006; Gebbie et al. 2002; Baker et al. 2005). In the past it has largely been an unseen discipline, responsible primarily for preventing adverse health events through actions often grouped under the heading of sanitary engineering. Winslow, a leader in early 20<sup>th</sup> Century public health and the founder of the Yale School of Public Health, was fond of pointing out that a grateful patient cured of a disease is a commonality in medicine, but it would be unusual to express gratitude to the public health expert for your wellness. However, today there are many public health issues that again have caught the public's attention. These include emerging infectious diseases such as SARS and avian flu, the threats posed by bioterrorism, the obesity epidemic, the health of aging "baby boomers," the prevention of chronic diseases, and the health impacts of global climate change. For each of these, the public is aware of the need for an expert workforce to address the potential for major societal impacts that extend far beyond individual health effects.

There are other increasingly recognized societal issues that can be readily approached through the wide lens of public health. Among them are health disparities between our majority and minority populations; the growing number of uninsured; the health and societal impacts of urban sprawl; and the broad spectrum of global health and sustainability issues. Equity is at the heart of many of these issues, some of which, such as environmental justice, are framed in language that specifically recognizes that societal inequality is a root cause. All are issues that extend across usual disciplinary boundaries and that require a systems approach. Cross-disciplinary systems approaches characterize public health, in contrast to the reductionism that is at the core of subspecialty medicine.

### **4) Emergence of a Public Health Core Curriculum**

The NBPHE examination will rely on the core and cross-cutting competency processes developed by the ASPH, the Council of Linkages, and others (Association of Schools of Public Health 2005; Calhoun et al.

2008; Council on Linkages between Academia and Public Health Practice 2005; Moser 2008). The agreement among the major public health organizations that led to the creation of the NBPHE is built upon an agreement that there are core educational credentials that underlay the practice of public health. This recognition has developed through multiple complementary approaches by the various academic and practice organizations in the field. The Council on Education in Public Health (CEPH), the accrediting body in the field, requires that there be full courses in five core public health areas. These are epidemiology, biostatistics, environmental health, behavioral and community health sciences, and health policy and management. Determining what constitutes a core course suitable for accreditation has led to much discussion among academic and practice organizations. The CEPH board is itself made up of representatives from APHA and ASPH as well as others chosen to represent specific interests (Council on Education for Public Health 2008). Determining core competencies upon which core coursework should be based is a common issue in accreditation of educational institutions. In 2001, the ASPH embarked on a major effort to develop core competencies in the five core disciplines. Core curricular activities have increasingly represented collaboration between academia and public health practice. Particularly notable has been the core competency activities of the Council of Linkages, a coalition of representatives from 17 public health organizations that work to further academic/practice collaboration, particularly in workforce training and competency activities (Council on Linkages Between Academia and Public Health Practice 2005). The NBPHE test writers took into account all of these core curriculum activities pertinent to their area of test development. In addition, the examination will test for a variety of cross-cutting competencies that were added following the recommendations of an Institute of Medicine committee (Institute of Medicine 2003). These cross-cutting competencies are: communications and informatics, diversity and culture, leadership, public health biology, professionalism, program planning, and systems thinking.

One impact of the NBPHE will be to provoke continued discussion and improvement of these educational competencies. Inevitably, those who believe that their area of emphasis has been inadequately covered in the examination will work to change the core curriculum and the core competencies on which the examination is based. As is clear from the

experience of physician educators, building a competency-based curriculum can be challenging but is worth the effort (Albanese et al. 2008).

#### **5) Increased Societal Emphasis on Professional Accountability, Including Institutionalization of Rewards Based Upon Credentials**

Professional accountability is a central aspect of modern society. Work forces with almost any pretensions to a basic core of knowledge or a responsibility to the public have developed credentials that are based on the demonstration and maintenance of this knowledge and of a skill set. This pervasive societal demand for credentialing and for professional accountability inevitably has implications to the public health workforce, which has been virtually the only major health field without a central credentialing activity.

The National Organization for Competency Assurance (NOCA) is a national membership group of credentialing organizations that was formed in 1977. It has rapidly grown. Its web site in June 2008 lists 90 credentialing organizations offering 212 credential programs (National Organization for Competency Assurance 2007), mostly for workers in health professions. There are even more health credentials – for example, the American Board of Medical specialties, which consists of 24 medical/specialty certifying boards, is not a NOCA member.

The importance of assurance and accountability in public health is also reinforced by a separate national movement under way to develop standards for accrediting of public health departments (Public Health Accreditation Board 2007). Sixteen states, not including Pennsylvania, have been funded to explore the accreditation process with a goal of developing criteria that will begin to be applied in 2011. As Pennsylvania has relatively few local health departments, the accreditation activity is of somewhat lesser importance to our Commonwealth than to other states. The two activities of credentialing and accreditation are complementary – issues related to the quality of the workforce, which are central to credentialing, are also important to the criteria for accreditation of local health departments.

## **The Relationship Between Medicine and Public Health**

Any consideration of the role of the public health workforce must take into account the fact that our country is far more oriented toward treatment than prevention of disease. Various cost figures are used to attempt to describe the relative amounts spent on prevention versus treatment of disease, with treatment accounting for more than 90% in virtually all estimates. These estimates are complicated by the various definitions of prevention. An egregious example is that of a director of a National Institute of Health who defined heart transplantation as a preventive measure because it prevented heart failure (Rall 1994). However, there is clarity and agreement that we are not achieving societal health goals. Despite the highest per capita spending rate on health among all countries, we do not rank close to the best in usual metrics of health such as longevity, where we rank 47<sup>th</sup> (United States Central Intelligence Agency 2008b), and infant mortality, where we rank 43<sup>rd</sup> (United States Central Intelligence Agency 2008a). The amount of uninsured is over 40 million and continues to climb; and despite improvements in some areas, major health disparities remain between the disadvantaged and advantaged in our nation (Agency for Healthcare Research and Quality 2006).

In considering the relationship between medicine and public health in achieving national health goals, it is important to note that there is some degree of overlap among all of the health professions. From a policy perspective, a key issue is to enable the overlap to function effectively in accomplishing beneficial societal goals while minimizing the negative aspects of redundancy and organizational conflict. At one extreme, medicine can be described as reactively responding to an individual who has already developed a specific disease, and public health as proactively providing for the wellness of populations. The standard World Health Organization definition that guides public health is: “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization 2008).

Note that in the discussion above I have used the term “medicine” very broadly to include all of the components of health care, including nursing, pharmacy, dentistry, etc. Below I will define medicine more narrowly as those aspects of health care performed or directed by

physicians. I do so in order to consider the issue of credentialing by contrasting the requirements for physicians, and their role in society, with those of public health practitioners.

The overlap between public health and medicine in achieving health occurs in many ways, ranging from the medical subspecialty of preventive medicine to the bedside actions of physicians who act to treat or inform patients in ways to prevent further problems. A useful classification of preventive activities considers primary prevention as an approach that totally avoids a risk of adverse health consequences (e.g., prevention of smoking); secondary prevention as early detection and intervention to prevent disease (e.g., the detection and treatment of asymptomatic high blood pressure); and tertiary prevention as preventing complications of the disease or its treatment. Both medicine and public health are involved in all three types of prevention, with medicine focusing more on detection and treatment, and public health on primary prevention through policy as well as detection. An obvious overlap is in the example given for secondary prevention: detection of high blood pressure can occur in the physician's office during a routine visit, or during outreach to populations in the community organized by medical groups, such as hospitals, or by public health authorities working alone or with community-based organizations. Similarly, primary prevention of smoking can occur through a physician's advice to a pre-teen, or through a broad panoply of public policy initiatives, legal activities, and outreach. The Commonwealth's Department of Health maintains an active program in alerting the public about the benefits of screening for high blood pressure as well as many other preventable diseases. The Department of Health has been particularly active in tobacco prevention and cessation, working with programs in each county. Most of our state's tobacco funding, however, goes to the medical research community in part because of erroneous testimony by the head of a major Pennsylvania cancer institute that cigarette smoking was not preventable (Snowbeck 2000).

Public health credentialing can also be considered in relation to physician credentialing. The latter occurs in a stepwise fashion that begins with passage of three different examinations, known as the U.S. Medical Licensure Examinations, which are virtually required by every state before licensure. The first examination tests for knowledge of the basic science of medicine and is usually administered after the second

year of medical school. The Step 2 examination tests for knowledge expected to be obtained in the core clinical disciplines and is usually taken in the fourth year of medical school prior to graduation. The required Step 3 examination is aimed at examining for skills necessary for clinical encounters. While there is some variation among states, virtually all require passage of Steps 1, 2, and 3 or their equivalent (there are alternate examination pathways developed by osteopathic physicians and for foreign medical graduates). The new credentialing process in public health is comparable in some ways to Step 1 of the USMLE in that it tests for core knowledge on which public health practice is based. But, as it is not required for licensure, the NBPHE credential is in other ways similar to voluntary board examinations in medical specialties. These provide evidence of knowledge in the field and facilitate recognition that can lead to further practice opportunities – but are not required for licensure to practice. As with the NBPHE, eligibility to sit for specialty medical board examinations usually requires some element of accredited training, e.g., eligibility for the American Board of Family Medicine certification examination includes an MD or DO degree from an accredited institution and at least three years of training in a family medicine residency program accredited by the Accreditation Council for Graduate Medical Education.

Organized medicine is not unified in its consideration of public health. There is both a reaching out to schools of public health and an aggressive assertion that public health is a medical specialty. The NBME credentialing process has led to further exploration of the roles of medicine and public health in this country. The American Medical Association (AMA) reacted negatively to the credentialing of public health professionals. At the AMA's 2007 Annual Meeting, a resolution was passed that specifically names the NBPHE. The basic premise of the resolution is that public health is a specialty of medicine and that certifying public health practitioners would mislead the public into believing they are physicians (American Medical Association 2007). Ironically, this resolution was passed within a few weeks of an Institute of Medicine report decrying the lack of physician involvement in public health (Institute of Medicine 2007; Goldstein 2008).

Physicians do play an important role in public health, and those board certified by the American Board of Preventive Medicine have been particularly valuable (Institute of Medicine 2007; Goldstein 2008). But,

as discussed below, there are far too few whose training makes them eligible for board certification in Prevention and Public Health to respond to our nation's public health infrastructure needs.

The role of public health in physician education has recently begun to be explored in a standard questionnaire given to medical school graduates (Division of Medical Education 2007). The only specific question about "public health" in this questionnaire is subsumed under the heading of "Evidence Based Medicine." Of the responding students, 32.1% stated that the instruction was inadequate. The only other question in the category of "evidence based medicine" receiving such a high level of inadequate as a response was the related category of "role of community health and social service agencies." In essence, a third of medical school graduates felt that their training in public health or in community related activities was inadequate.

Further training of future physicians in public health is highly desirable, and there are efforts under way to accomplish this goal (Institute of Medicine 2007; Maeshiro 2008; Hernandez and Munthali 2007). But the major determinant of the medical field chosen by a future physician is their residency program. Unfortunately, residency programs in preventive medicine and public health represent a tiny fraction of total approved residencies. There are only about 130 approved preventive medicine residency positions, out of over 20,000 new residency slots each year nationally. Even with this small number, many of the preventive medicine residency positions do not fill. In comparison, there are over 5,000 MPH graduates each year.

Public health leaders have often considered medical education to be part of the problem. Roemer (1986) has stated: "After one has seen the failures to provide public health leadership in country after country, Province after Province, one begins to regard training in clinical medicine, training to be a clinical physician, as more of an obstacle than a preparation for the role of public health leader." To be effective in preparing for roles in public health, physicians need to transcend their medical education, not just supplement it.

### **Medical and Public Health Education in Pennsylvania**

Pennsylvania is active in public health education. The Drexel University School of Public Health was founded as the Allegheny University School of Public Health in 1996. The School's founding dean, Dr. Jonathan Mann, was a charismatic leader in public health who developed the World Health Organization's Global AIDS program. His vision of the interrelationship between human rights and human health was central to his development of a then unique model of public health education, in essence a "school without walls" in which the students learned in a case-based learning format and spent a significant amount of time in the community performing both their research and service hours. Although he died in a plane crash in 1998, Dr. Mann's vision has persisted in the successor Drexel University School of Public Health. Under the leadership of the current dean, Dr. Marla Gold, an infectious disease physician and expert in HIV/AIDS, Drexel in 2007 received full accreditation as a school of public health from CEPH. Students and faculty continue to focus much of their work in the regional communities. The School has thrived with an exponential increase in class size, expert faculty, and in research funding.

The University of Pittsburgh Graduate School of Public Health (GSPH) was founded in 1948, largely in response to the occupational and environmental health issues of western Pennsylvania. The founding dean, Dr. Thomas Parran, who had been Surgeon General under Presidents Roosevelt and Truman, established a focus on research to advance public health. The GSPH remains a public health research powerhouse, ranking third among 42 schools of public health in competitive funding from the National Institutes of Health. Only Johns Hopkins and Harvard Schools of Public Health receive more total NIH funding, but the GSPH exceeds them in funding per faculty member. Its annual NIH funding total also exceeds three of the six Pennsylvania medical schools. In recent years its public health practice components have achieved national recognition, including the Center for Public Health Practice headed by Margaret Potter, JD, and the Center for Minority Health, headed by Stephen Thomas, PhD. The new GSPH Dean, Dr. Donald Burke, has an exceptional record of leadership in global health issues, particularly emerging infections, and is the UPMC-Jonas Salk Chair in Global Health.

Pennsylvania is fortunate to have six allopathic medical schools, slightly above the national average in number (with 4.2% of the population we have 4.9% of the 129 accredited medical schools). We also have two osteopathic medical schools of the 25 in the United States. Two of the allopathic medical schools (University of Pennsylvania and the University of Pittsburgh) are leading research institutions, ranking in the top ten in terms of receiving NIH grants, and propelling Pennsylvania to be fourth highest among all states in terms of NIH funding. We received \$1.4 billion in NIH funding 2007, equivalent to 6.8% of the total (National Institutes of Health 2008).

Recently, there has been a movement in academic medicine to obtain support for increasing the number of medical students. At the state level, bills have been introduced to increase funding for medical education in Pennsylvania. Of note is that a driving force in the expressed need for more medical school graduates is the perceived shortage of primary care physicians. The American Association of Medical Colleges has campaigned for federal funding on this basis. This is also a major rationale for the new allopathic medical school proposed for Scranton which has received \$35 million in state funding and intends to admit its first class in Fall 2009 (Sonderman 2006; Pennsylvania Medical Society 2008). Not all agree. Goodman and Fisher (2008) argue that the perception that there is a physician shortage is a symptom of the underlying problems in our health care system, and that increasing the number of physicians will not be helpful. Central to this and other arguments about physician numbers has been the concern not only about the relative lack of primary care physicians, but also the declining interest among medical students in general care (Forrest 2006; Garibaldi et al. 2005). The reasons range from the focus of health care resources on specialized physicians, to burnout among primary care practitioners from seeing too many patients in too little time. As primary care physicians are at the forefront of preventive medicine to individuals, and in such settings as Community Health Centers (Rosenblatt et al. 2006; Iglehart 2008), their decline in number, and the increasing demands on their time, make organized medicine even less likely to be the locus of needed preventive activities thus increasing demands on the public health workforce.

The increasing recognition by academic medicine of the value of academic public health is evident in Pennsylvania. Of the six allopathic

medical schools, two are associated with schools of public health on the same campus offering master's and doctoral degrees (Pittsburgh and Drexel), and three of the four other medical schools have accredited programs of public health offering the MPH degree. Of note is that two of these medical school public health degree programs are relatively recent – the programs at both the University of Pennsylvania and at Thomas Jefferson Medical School being accredited in 2006. This represents the recent nationwide surge in public health educational programs at universities with medical schools. Of the 69 degree granting graduate educational programs accredited by the Council on Education for Public Health, 38 have been accredited since 2000. Not all of the programs that are on a campus with a medical school are closely associated with the medical school. Temple University, whose MPH program was accredited in 1985, is at the College of Health Professions. Similarly, New York University's accredited program in public health is on its main campus in a Department of Food, Nutrition and Public Health rather than on the medical campus.

The only Pennsylvania university that has an allopathic medical school but does not offer an accredited graduate degree in public health is The Pennsylvania State University. Although there have been moves in this direction, it is unlikely to occur at the Hershey campus due to the recent appointment of a Senior Vice President for Health Affairs and Dean of the Penn State College of Medicine who has a track record of opposition to public health educational programs.

Pennsylvania is also fortunate to have excellent accredited public health graduate programs that are not associated with universities with medical campuses. East Stroudsburg University and West Chester University both offer fully accredited MPH degree programs. East Stroudsburg University's program also represents the changing trends in public health education. In the past, there was a separate accreditation pathway for graduate programs that focused on health education. CEPH changed their rules to establish the same core public health requirements for all accredited programs. These are the core disciplines on which the NBPHE is based.

### **Professional Licensing and State Health Leadership in Pennsylvania**

Pennsylvania's Department of State has oversight function over 27 professional licensing boards and commissions with the goal of protecting the health, safety, and welfare of Commonwealth citizens. The 15 health-related boards alphabetically range from chiropractic to veterinary medicine and include medicine, dentistry, nursing, pharmacy, physical therapy, etc. – but not public health. In addition, there are a dozen business-related boards including accountancy and cosmetology (Pennsylvania Department of State 2002). Again, the field of public health is not among those covered by Pennsylvania licensing boards and commissions.

Pennsylvania is one of many states that have removed the requirement that the head of its state health department must be a physician (Pennsylvania Public Law 518 of July 2, 1996, Vol. 115, Section 4, p. 4-55). At the same time, the law created the new position of Physician General with the stated goal that this individual would serve as the primary advisor on medical issues to the Governor and to the Secretary of Health (id, p. 4-56) when the Secretary of Health was not a physician. Our first non-physician Secretary of Health was Robert Zimmerman, who has an MPH degree and had a long and respected career as a public health professional. Robert Muscalus, D.O., became the Commonwealth's first Physician General in February 1999. He left the position in March 2005. Our current Secretary of Health, Calvin Johnson, MD, MPH, is a physician, who also has excellent public health experience. New Jersey also changed its laws in 1990 to allow a non-physician to be its Commissioner of Health. The New Jersey experience has differed from Pennsylvania in that law has been the background of its two non-physician Commissioners of Health. Its first non-MD lawyer was appointed as Commissioner of Health in 1992 – as is Governor Corzine's present appointee. Both had extensive experience in legislative activities related to health care, but neither has any educational background or direct experience in public health or health care organizations. New Jersey has also appointed one physician during the time period that non-physicians have been eligible. In this case the physician was an internist with extensive practice and hospital experience, but with no public health background. However, New Jersey does have a State Board of Health that has statutory authorities and

oversight responsibilities. Pennsylvania, like many other states, no longer has a similar State Board of Health.

### **Implications to Public Health in Pennsylvania**

Pennsylvania presents a microcosm of the major public health challenges facing our country. We have large urban areas which share many of the characteristic health disparities found in disadvantaged inner city areas. Yet Philadelphia and Pittsburgh are remarkably different demographically; Pittsburgh is notable for its aging population, with Allegheny County said to have the second oldest population of any county in the state. There is also a relative lack of a migrant Hispanic work force in Pittsburgh, reflecting the fact that job creation, which has been slow, has tended to be at the middle or upper end of the wage scale. Eastern urban areas in our Commonwealth must put more resources toward meeting the health challenges of poor documented and undocumented immigrants. Problems such as HIV/AIDS and violence tend to be more evident in Philadelphia than Pittsburgh. The rural parts of our state provide yet other challenges to public health that differ from those of our two major urban areas. It has become clear that rural health issues go well beyond access to care (Meit, 2005).

It has been conventional to describe the “three Pennsylvanias” as being Philadelphia, Pittsburgh, and a “T” of rural counties that extends across the north and central parts of the Commonwealth. This can be helpful in looking at Pennsylvania’s public health needs. However, it does not tell the whole story. For example, reviewing the prevalence of smokeless tobacco use is an informative means of further distinguishing among the distinct cultural factors that affect public health in our state. Among the nine Pennsylvania health districts, male use of smokeless tobacco, as expected, is lower in cities than in rural areas. Yet the major gradient is east-west. The estimated prevalence of male users of smokeless tobacco in 2002-03 was 16% in Pennsylvania’s Southwestern Health District and 15% in the Northwestern Health District as compared to 3% and 2% in the Northeastern and Southeastern Health Districts. Allegheny County had an estimated prevalence of 6%, three times higher than that for Philadelphia County. The Northcentral and Southcentral health districts, at 10% and 8%, were in between, confirming that there is

a geographical component whose cultural influences on the use of smokeless tobacco transcend usual urban-rural differences.

The example of smokeless tobacco is just one of many that support the concept that local knowledge is crucial to responding to public health needs. It would be inappropriate to assign the same priority to smokeless tobacco in eastern as compared to western Pennsylvania. The Allegheny County Health Department must confront health problems related to an Appalachian life style that are not all that common in Philadelphia County. Similarly, there are large Hispanic immigrant populations in cities in the eastern half of our Commonwealth. Such populations present challenges to public health authorities ranging from classical migrant health issues to the need to be sure that public health messages are understood by those to whom English is not a native language. Major programs to address rural public health issues have been developed at the Pennsylvania State University, which houses the Pennsylvania Office of Rural Health, and the University of Pittsburgh-Bradford. However, despite the local nature of many public health issues, there is a commonality in the core competencies needed to address these issues. These are the core competencies that are the basis for the NBPHE credentialing examination.

Pennsylvania stands out from other states in its relative lack of an identifiable public health workforce. A HRSA-sponsored study (Gebbie 2000) showed that in public health workforce per capita we ranked last among all 50 states and the District of Columbia. The difference was substantial: the public health workers per capita for Pennsylvania was 37/100,000 population while the average for the entire country was 138 and for our region was 174. Put another way, we would have to almost quadruple our public health workforce simply to achieve the national median, and more than quadruple it to achieve the median for our region.

A major reason for Pennsylvania's relative scarcity of identifiable public health workers is the lack of local health departments. Nationally, there are approximately 3,000 local health departments (Salinsky and Gursky 2007) – only seven of which are in Pennsylvania. Most of our 68 counties are covered by the state Department of Health which has regional offices in various locations throughout the state. I am unaware of any systematic study of whether our state's organizational system is better for public health than are more usual organizational systems in which there are many local county or municipal health departments in

addition to a state health department. However, the disparate and fragmented local and state public health organizational structure and responsibilities has been considered to be both a symptom of what ails public health, and a cause of its problems.

More information about Pennsylvania's state public health workforce is available from a 2007 ASTHO study (Association of State and Territorial Health Officials 2007). The average age of a PADOH public health professional is 49, slightly older than the national average of 47 years. One of the problems facing Pennsylvania and the nation is an expected turnover of the existing public health work force – 23% of the nation's public health workforce is eligible to retire by 2012 (Association of Schools of Public Health 2008) and for Pennsylvania the number is 29% (Association of State and Territorial Health Officials 2007). Secretary Calvin Johnson has noted this issue for Pennsylvania and has led the Department in dealing with a variety of public health workforce issues. He has made recruiting and retaining a highly skilled public health workforce one of his primary goals, along with developing initiatives to improve workforce accountability (Pennsylvania Department of Health 2007).

In addition to the failure to obtain adequate funding for Tobacco Cessation and Prevention, a glaringly evident symptom of the weakness of public health as a policy force in Pennsylvania is the 2003 repeal of the motorcycle helmet law, a repeal that was supported by Democratic Governor Edward Rendell. The dire predictions of the public health community have been more than borne out with data demonstrating a 32% increase in head injury deaths and a 42% increase in head injury-related hospitalizations (Mertz and Weiss 2008). Despite the highly publicized statement after his motorcycle incident by head-injured Steeler quarterback Ben Roethlisberger that he would have worn a helmet had that been the law, and despite newspaper editorials throughout the state supporting reinstatement of universal motorcycle helmet laws, any change in our state's motorcycle helmet coverage is unlikely.

One way to determine what is needed in any system is to stress the system. In essence, the post 9/11 anthrax outbreak and continued threat of bioterrorism, along with the need to meet emerging infections such as SARS and avian flu, has provided this stress. Studies of the ability of the

public health system to respond to an emerging natural or terrorist bioterror have provided ample documentation of the need for a transformation of public health. In addition to fragmented lines of authorities, there is a patchwork of capabilities and a workforce that already has too much to do with too little resources and too little training (Gursky 2005). Any public health emergency will require a highly trained workforce capable of a knowledgeable and flexible response. It also will require a surge capability that will allow rapid response without sacrifice of other public health functions. Substantial criticism has been directed at current preparedness activities as diverting resources and workforce from existing and necessary public health activities – for example, in recent congressional testimony the head of the Association of Public Health Laboratories called the national post 9/11 biosurveillance system a “parasite” on public health laboratory function (Downes 2008).

In the words of one observer, for preparedness to deal with natural or terrorist biological threats, public health should be considered a sector that needs to become a system (Gursky 2005). Training and sustaining a skilled workforce has been identified as one of the key challenges to ensuring public health preparedness.

Pennsylvania’s public health workforce needs are substantial. New county and regional health departments are under consideration as are state initiatives to bolster the public health workforce. Providing a national core credential for the public health workforce will not by itself transform public health in Pennsylvania so it can effectively protect the public against all health challenges – but it is a necessary step toward a vibrant public health workforce responsive to longstanding public health threats and to the emerging problems of our times.

***Acknowledgments.*** I thank my colleagues at the National Board of Public Health Examiners and at the University of Pittsburgh Graduate School of Public Health Center for Public Health Practice for their insight and their dedication. Jessica Kanzler and Michael Bazaco provided valuable assistance in preparing the manuscript.

## **References**

Agency for Healthcare Research and Quality. 2006. “National Healthcare Disparities Report, 2005.” Available at: <http://www.ahrq.gov/qual/Nhdr05/nhdr05.htm>.

- American Medical Association. 2007. "Maintaining Medical Specialty Board Certification." American Medical Association House of Delegates Resolution 318.
- Akhter, M. 2001. "Professionalizing the Public Health Workforce: The Case for Certification." *Journal of Public Health Management and Practice*. 7(4) 46-49.
- Albanese, M.A., G. Mejicano, W.M. Anderson, and L. Gruppen. 2008. "Building a Competency-based Curriculum: The Agony and the Ecstasy." *Advances in Health Sciences Education Theory and Practice*. May 15 (Epub ahead of print).
- All Star Directories. 2002. "Teacher Certification and Licensure." All Education Schools. Available at: <http://www.alleducationschools.com/faqs/certification.php>.
- Allegrante, J.P., R.W. Moon, M.E. Auld, and K.M. Gebbie. 2001. "Continuing-Education Needs of the Currently Employed Public Health Education Workforce." *American Journal of Public Health*. 91(8): 1230-34.
- Airhihenbuwa, Collins O., Randall R. Cottrell, Matthew Adeyanju, M. Elaine Auld, Linda Lysoby, and Becky J. Smith. 2005. "The National Health Educator Competencies Update Project: Celebrating a Milestone and Recommending Next Steps to the Profession." *Health Education and Behavior*. 32:722.
- Association of Schools of Public Health. 2005. ASPH Education Committee. *MPH Core Competency Development Project*. Available at: <http://www.asph.org/document.cfm?page=851>.
- Association of Schools of Public Health. 2008. "Welcome to the ASPH CPH Study Guide." Available at: <http://www.asph.org/cphstudyguide/>.
- Association of Schools of Public Health. 2008. *Confronting the Public Health Workforce Crisis: ASPH Statement on the Public Health Workforce*. Washington, DC.
- Association of Schools of Public Health. 2000. Friday Letter No. 1089. *ASPH/APHA Steering Committee on Public Health Workforce Credentialing*. Available at: <http://www.asph.org/FRIDAY/1089.pdf>
- Association of State and Territorial Health Officials (2007); State Public Health Workforce Survey Report. <http://www.astho.org/pubs/WorkforceReport.pdf>.
- Baker Jr., Edward L., Margaret A. Potter, Deborah L. Jones, Shawna L. Mercer, Joan P. Cioffi, Lawrence W. Green, Paul K. Halverson, Maureen Y. Lichtveld, and David W. Flemming. 2005. "The Public Health Infrastructure and Our Nation's Health." *Annual Review of Public Health*. 26:303-318.
- Calhoun, J.G., K. Ramiah, E.M. Weist, and S.M. Shortell. 2008. "Development of a Core Competency Model for the Master of Public Health Degree." *American Journal of Public Health*. July 16 (Epub ahead of print).
- Committee on Educating Public Health Professionals for the 21<sup>st</sup> Century. 2003. *Who Will Keep the Public Health? Educating Public Health Professionals for the 21<sup>st</sup> Century*. Washington, DC: Institute of Medicine, the National Academies Press.
- Council on Education for Public Health. 2008. "About CEPH." Available at: <http://www.ceph.org/i4a/pages/index.cfm?pageid=3274>.

- Council on Linkages Between Academia and Public Health Practice. (2005) "Core Competencies for Public Health Professionals." Public Health Foundation. Available at: <http://www.phf.org/competencies.htm>.
- Division of Medical Education. 2007. *Medical School Graduation Questionnaire: All Schools Summary Report*. Association of American Medical Colleges.
- Downes, Frances Pouch. 2008. Statement of Dr. Frances Pouch Downes before the United States House of Representatives Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology of the Committee on Homeland Security; July 16, 2008
- Forrest, Christopher B. 2006. "Strengthening Primary Care to Bolster the Health Care Safety Net." *Journal of the American Medical Association*. 295(9):1062-1064.
- Garibaldi, Richard A., Carol Popkave, and Wayne Bylsma. 2005. "Career Plans for Trainees in Internal Medicine Residency Programs." *Academic Medicine*. 80(5):507-512.
- Gebbie, K., J. Merrill, and H.H. Tilson. 2002. "The Public Health Workforce." *Health Affairs*. 21(6): 57-67.
- Gebbie, K., and B.J. Turnock. (2006) "The Public Health Workforce, 2006: New Challenges." *Health Affairs*. 25(4): 923-33.
- Gebbie, K., B.D. Goldstein, D.I. Gregorio, W. Tsou, D. Petersen, C. Mahan, and G.B. Silver. 2007. "The National Board of Public Health Examiners: Credentialing Public Health Graduates." *Public Health Reports*. 122(4):435-440.
- Goldstein, Bernard D. 2008. "Credentialing in Public Health: The Time Has Come." *Journal of Public Health Management and Practice*. 14(1): 1-2
- Goodman, David C., and Elliot S. Fisher. 2008. "Physician Workforce Crisis? Wrong Diagnosis, Wrong Prescription." *The New England Journal of Medicine*. 358(16): 1658-61.
- Governmental Public Health Implementation Team (2004) *Final Report and Recommendations of the Governmental Public Health Implementation Team for the CDC Futures Initiative*. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.
- Gursky, Elin A. 2005. "Roundtable: When Terror Strikes – Preparing an Effective and Immediate Public Health Response." Statement presented to the U.S. Senate Committee on Health, Education, Labor, and Pensions Subcommittee on Bioterrorism and Public Health Preparedness – July 14, 2005.
- Hernandez, Lyla M., and A. Wezi Munthali (Eds.). Committee on Training Physicians for Public Health Careers. 2007. *Training Physicians for Public Health Careers*. Washington, DC: The National Academies Press.
- Iglehart, John K. 2008. "Spreading the Safety Net – Obstacles to the Expansion of Community Health Centers." *The New England Journal of Medicine*. 358(13): 1321-23.
- Institute of Medicine Committee for the Study of the Future of Public Health. 1988. *The Future of Public Health*. Washington DC: National Academy Press.

- Institute of Medicine Committee on Educating Public Health Professionals for the 21<sup>st</sup> Century. 2003. "Who Will Keep the Public Healthy Educating Public Health Professionals for the 21<sup>st</sup> Century." Washington DC: National Academy Press.
- Institute of Medicine. 2007. "Training Physicians for a Public Health Career" Washington DC: National Academy Press.
- Maeshiro, Rika. 2008. "Responding to the Challenge: Population Health Education for Physicians." *Academic Medicine*. 83: 319-20.
- Mahan, C.S., and J.M. Malecki. 2004. "Confronting the Impending Public Health Workforce Crisis in America: Perspectives from Academia and Public Health Practice." *Florida Public Health Review*. 1: 4-7.
- Meit, Michael. 2005. "Rural Public Health Preparedness: Setting the Agenda for Change." University of Pittsburgh Center for Rural Health Practice.
- Mertz, Kristen J., and Harold B. Weiss. 2008. "Changes in Motorcycle-Related Head Injury Deaths, Hospitalizations and Hospital Charges Following Repeal of Pennsylvania's Mandatory Motorcycle Helmet Law." *American Journal of Public Health*. 98(8): 1464-1167.
- Moser, J.M. 2008. "Core Academic Competencies for Master of Public Health Students: One Health Department Practitioner's Perspective." *American Journal of Public Health*. July 16 (Epub ahead of print).
- National Board of Public Health Examiners. 2008. "Welcome to NBPHE." Available at: <http://www.publichealthexam.org/about.cfm>.
- National Commission for Health Education Certification, Inc. 2002. "Why Certify?" Available at: <http://www.nhec.org/whycert/certify.htm>.
- National Institutes of Health. 2008. "Dollars Awarded by State for 2007." Available at: [http://report.nih.gov/award/trends/State\\_Congressional/StateOverview.cfm](http://report.nih.gov/award/trends/State_Congressional/StateOverview.cfm).
- National Organization for Competency Assurance. 2007. "About Us." Available at: <http://www.noca.org/GeneralInformation/AboutUs/tabid/54/Default.aspx>.
- Pennsylvania Department of State. 2002. "Professional Licensing Boards and Commissions." Available at: <http://www.dos.state.pa.us/bpoa/cwp/view.asp?a=1104andQ=432596andbpoaNav=1>.
- Pennsylvania Department of Health. 2007. "Office of the Secretary." Available at: <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=3andQ=228259>.
- Pennsylvania Medical Society. 2008. "Doctors Working to Open Scranton Medical School." Available at: <http://www.pamedsoc.org/Stories/Advancingprofession/CMC.aspx>.
- Perlino, C.M. 2006. "The Public Health Workforce Shortage: Left Unchecked, Will We Be Protected?" *American Public Health Association Issue Brief*. 1-11.
- Public Health Accreditation Board. 2007. "Public Health Accreditation Board (PHAB)." Available at: <http://www.phaboard.org/>.
- Rall, David P. 1994. "Shoe-Leather Epidemiology – The Footpads of Mice and Rats." *The Mount Sinai Journal of Medicine*. 61(6): 504-8.

- Roberts, Philip. 2008. "Practice Makes Perfect." *Solicitor's Journal*. 152(30).
- Roemer, Milton I. 1986. "The Need for Professional Doctors of Public Health." *National Library of Medicine*. 101(1): 21-29.
- Roemer, Milton I. 1988. "Preparing Public Health Leaders for the 1990s." *National Library of Medicine*. 103(5): 443-52.
- Rosenblatt, Roger C., C. Holly A. Andrilla, Thomas Curtin, et al. 2006. "Shortages of Medical Personnel at Community Health Centers: Implications for Planned Expansion." *Journal of the American Medical Association*. 295(9):1042-1049.
- Salinsky, Eileen, and Elin A. Gursky. (2006) "The Case for Transforming Governmental Public Health." *Health Affairs*. 25(4):1017-1028.
- Snowbeck, Christopher. March 4, 2000. "Tobacco Settlement Debate Smolders: Researcher Angers Anti-Smoking Forces" *Pittsburgh Post-Gazette* <http://www.google.com/search?hl=en&q=Herberman+testimony+pennsylvania+tobacco>.
- Sommer, A., and M. Akhter. 2000. "It's Time We Became A Profession." *American Journal of Public Health*. 90: 845-46.
- Sonderman, Jeff. 2006. "\$35M Set Aside for Medical School in Scranton." *The Times-Tribune*. June 29, 2006.
- United States Central Intelligence Agency. 2008a. "The World Factbook (Rank order- Infant mortality rate, 2008 estimates)." Available at: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2091rank.html>.
- United States Central Intelligence Agency. 2008b. "The World Factbook (Rank order- Life expectancy at birth, 2008 estimates)." Available at: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html>.
- World Health Organization. 2008. "Frequently Asked Questions." Available at: <http://www.who.int/suggestions/faq/en/index.html>.

# **Pennsylvania Medical Assistance: Connections within the Commonwealth's Public Health System**

**Judith R. Lave, PhD and Margaret A. Potter, JD, MS**  
Graduate School of Public Health, University of Pittsburgh

## **Introduction**

Nationally, the Medicaid program is the underpinning of the country's health care safety net. Jointly funded by the federal and state governments and administered by individual states, it is a source of health insurance for a high proportion of the most disadvantaged and vulnerable individuals, specifically low-income children and families. It provides long-term care assistance to individuals with disabilities and/or who are elderly, fills certain gaps in the Medicare program, and pays providers for treatment that would otherwise go uncompensated. Although the original Medicaid program acted like a traditional health insurance program by paying claims to providers for services given to individual Medicaid recipients, it has since evolved to being more population-oriented – like a public health system.

In this paper, we focus on the Medicaid program in Pennsylvania, known as Medical Assistance (MA), and its role in the public health system. We begin with some background and definitions about the purposes and functions of public health as these concepts have evolved nationally over the past two decades. Next, we provide a succinct description of the Medical Assistance Program in Pennsylvania, followed by a description of how MA contributes to the public health system by assuring access to personal health care services, evaluating the accessibility and quality of personal health services, monitoring health status, and developing policies that support individual health efforts. Then, we consider some of the ways that MA could be better connected to the overall public health system.

### **Background and Definitions**

The 1988 Institute of Medicine landmark report, *The Future of Public Health* (Institute of Medicine 1988, 1), defined public health as “What we as a society do collectively to assure the conditions under which people can be healthy.” The report argued that there was an organizational mechanism for achieving population health and that public health encompassed the activities undertaken within the formal structure of government and the associated efforts of private and voluntary organizations and individuals. The 2001 Institute of Medicine report, *The Future of the Public's Health in the 21<sup>st</sup> Century*, built upon these ideas and argued that the concept of a public health system describes a network of individuals and organizations that have the potential to play critical roles in creating the conditions for the public's health.

Subsequent reports defined the concept of a public health system in greater detail. Halverson (2002, 98) defined the public health system as “The organizations and individuals who collectively share the benefits, burdens, and responsibilities for the health of a defined population or community.” The Centers for Disease Control and Prevention (CDC) (2008) has said that public health systems are the constellation of individuals and organizations in the public and private sectors that provide information and assets to promote population health, provide health care delivery, and prevent disease and injury (including health care providers, insurers, purchasers, public health agencies, community-based organizations, and entities that operate outside the traditional sphere of health care).

All of these definitions have an unstated assumption: that the various parts of the system – the individuals and organizations – are interconnected and that they communicate with and reinforce each other's functions. Assuring such interconnectedness is not necessarily straightforward or simple. In the following section of this paper, we describe features of the Pennsylvania Medical Assistance Program that clearly function to benefit the “health of a defined population.” However, we later point out that the MA program lacks an explicit mandate for connectedness with the Commonwealth's governmental public health agencies and that this omission weakens the networks that support the health of all Pennsylvanians.

## **Overview of the Medicaid Program in Pennsylvania**

The federal Medicaid Program was created by Congress in 1965, as Title XIX to the Social Security Act. Governed by federal regulations, states are required to cover a set of mandated services for specific groups of people to qualify for federal matching payments. However, states administer the program and set rules for eligibility, benefits, and provider payments. In Pennsylvania, Medicaid is called Medical Assistance or MA. The Department of Public Welfare (DPW) is responsible for its management. Within DPW, the Office of Medical Assistance Programs (OMAP) has the primary responsibility for the administration of MA. However, the Office of Mental Health and Substance Abuse (OMHSA) is primarily responsible for administration of behavioral health care.

### **Program Resources in Pennsylvania**

In FY 2009, (July 1, 2008, through June 30, 2009), the state budgeted approximately \$14.4 billion in state, federal, and other dollars to pay for MA. About 55% of the total cost of the MA program will be paid from federal funds, 35% will be drawn from the state general fund, and 10% will be paid for by other funds (including \$134.1 million from the State Tobacco Settlement Fund). After basic education, MA is the second largest spending category in Pennsylvania's general fund budget – the state allocates approximately 18% of the state general fund to the program.

### **Eligibility**

Individuals are eligible for MA if they meet all of the following eligibility requirements: 1) they fit into a specified coverage group; 2) they meet the income requirement for the specific coverage group; 3) they meet the asset requirement for the specific coverage group; 4) they are United States citizens or qualified legal aliens; and 5) they are Pennsylvania residents. There are five broad MA coverage groups in Pennsylvania (children, pregnant women, families with children, individuals with disabilities, and the elderly), and each group has its own income and asset standards. In general, an individual has to be very poor to be covered under the program. There are subcategories within the five stated categories (Costlow and Lave 2007). For example, elderly and disabled individuals (with the exception of disabled children) are eligible for MA if their income is equal to or less than 100% of the Federal

Poverty Level (FPL) and their “countable assets” are less than \$2,000. Pregnant women are eligible with family incomes up to 185% of the FPL while women with breast and/or cervical cancer are eligible with family incomes up to 250% of the FPL. Children’s Medical Assistance eligibility is dependent on age; for example, children under the age of one are eligible if their family incomes are at or below 185% of the FPL; children aged one through six are eligible if their family incomes are at or below 133% of the FPL, while children aged six through 19 are eligible if their family incomes are at or below 100% of the FPL. Children who meet the disability criteria are eligible for MA regardless of their family income or assets.

### **The Organization of Care**

Although MA was initially a fee-for service program, MA recipients in Pennsylvania could enroll *voluntarily* in managed care plans starting in 1986. The HealthChoices Program, which was implemented in 1997 by DPW, expanded managed care considerably. This program separated physical health (medical services for physical health, dental care, and pharmaceuticals) and behavioral health (mental health and substance abuse) services. Physical health was to be provided through Managed Care Organizations (MCOs) and behavioral health was to be provided through Behavioral Health Managed Care Organizations (BH-MCOs). The HealthChoices program was phased in over time.

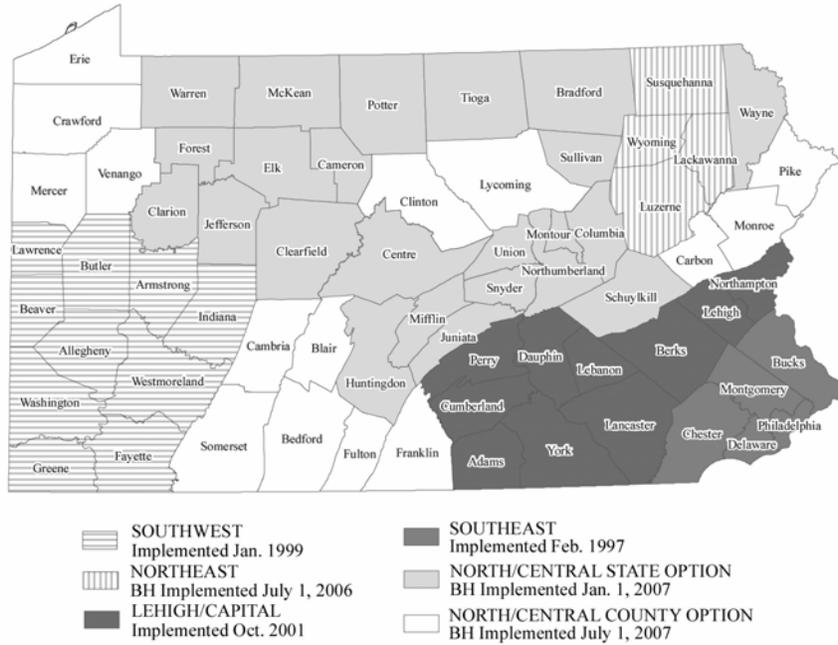
Figure 1 (page 167) shows the HealthChoices regions and the date when managed care was introduced into each region. Currently, MA recipients<sup>1</sup> who live in three regions of the state (southeast, southwest and Lehigh/Capital regions) are required to enroll in MCOs to receive their physical and dental health and pharmaceuticals. MA recipients may enroll voluntarily in MCOs in other counties (if there is a MCO available). All MA recipients receive their behavioral health care through a BH-MCO. Each county (or group of counties) contracts with a BH-MCO to provide behavioral health care services to the MA recipients in their counties. Currently, seven MCOs and five BH-MCOs operate in

---

<sup>1</sup>Some groups of Medical Assistance recipients such as Medical Assistance recipients who are also on Medicare (dual eligibles), people who have been receiving long-term care for more than 30 days, children in Juvenile Detention Centers (after 35 days), and residents of a state institution are not required to enroll in an MCO. Dual eligibles were required to be in a MCO prior to 2006.

Pennsylvania. There were 1,074,230 MA recipients enrolled in MCO in December 2007. Of this number, 93.4% were enrolled in mandatory managed care.

**Figure 1: HealthChoices Regions in Pennsylvania**



In 2005, Pennsylvania launched the Access Plus Program. Access Plus is a primary care case management system and disease management system for MA recipients. The disease management aspect of Access Plus provides case-management for individuals who suffer from selected chronic illnesses. In January 2008, 293,007 MA recipients were enrolled in Access Plus. MA recipients who live in the regions where managed care is not mandated may select a primary care physician to provide standard medical care and to serve as a gatekeeper to other medical specialties.

## Managed Care and Measurement of Plan Performance

Managed care has significantly changed since it was first introduced in the 1960s and 1970s. While it began as a mechanism to contain costs through controlling the utilization of services, it has evolved into a model for improving the overall delivery of services and quality of care. When managed care was introduced into the nation's private health care plans during the 1970s and 1980s, a number of policy concerns arose. First, many policy analysts felt that the optimal way of organizing the health care system was through "managed competition." Under this system, health plans would compete for clients based on cost and quality; however, there had to be objective measures of plan quality for such competition to work. Second, employers were spending a lot of money on health care and they began to clamor for measures to assess the results of their expenditures. Thirdly, many managed care plans were paid a fixed amount per member per month, and there was some concern that health plans would limit services inappropriately. Without measures on processes and outcomes, it would not be possible to monitor health plans.

### Plan Measurement Systems

Over the years, researchers addressed these concerns, with the results that two major sets of health plan performance measures emerged: the Health Plan Effectiveness Data and Information Set (HEDIS<sup>®</sup>), and the Consumer Assessment of Healthcare Providers and Systems (CAHPS<sup>®</sup>).

The HEDIS<sup>®</sup> measures were developed by the National Committee on Quality Assurance (NCQA). These measures are derived from either administrative data collected by the health plans or from data kept by medical providers.<sup>2</sup> NCQA specifies how each measure is to be collected and measured. HEDIS<sup>®</sup> measures are frequently classified into two groups: *Effectiveness Measures* and *Access and Visits Measures*.

*Effectiveness Measures* focus on aspects of performance such as the extent to which plan members receive certain types of recommended care (i.e., screening and prenatal care) or the extent to which selected

---

<sup>2</sup>For example, data on the number of physician visits can be obtained from the claims data (administrative data). However, the claims data does not have information on outcomes, such as the percentage of people with hypertension who have their hypertension under control. Thus, the health plans have to collect data from the providers' medical records to measure performance on these variables.

problems (i.e., blood pressure) are under control. *Access and Visits Measures* indicate the extent to which members make certain types of visits (such as “early care for pregnant women” and “well-child visits in the first 15 months of life”). While these measures were originally created for health plans that covered employed workers, they have been adapted for the Medicaid population. Although most of the HEDIS<sup>®</sup> measures relate to physical health care, some of them relate to behavioral healthcare.

For the CAHPS<sup>®</sup> measures, developed by the federal Agency for Healthcare Research and Quality (AHRQ), data are obtained from surveys of plan members. CAHPS<sup>®</sup> measures are frequently classified into two groups: *Experience Measures* and *Access Measures*. *Experience Measures* gauge the extent to which members are satisfied with aspects of the health plan. *Access Measures* indicate the extent to which members perceive they are able to access the services they need.

As work on measurement evolved and as health care costs continued to increase, a growing number of employers, health plans, and government programs began to look for ways to link their health care spending to quality care. This movement has been labeled Pay for Performance or P4P. By 2008, it had become quite widespread. The federal government had implemented a number of P4P demonstrations. A recent study found that more than half of a representative sample of commercial health maintenance organizations had incorporated pay-for-performance in their contracts (Rosenthal et al. 2006). A 2007 survey of State Medicaid Programs found that 43 states had implemented one or more pay-for-performance programs (Kuhmerker and Hartman 2007).

### **Performance Measurement in Pennsylvania**

Managed Care Organizations. When the HealthChoices Program was introduced in Pennsylvania, the Pennsylvania DPW mandated that MCOs report many of the HEDIS<sup>®</sup> and CAHPS<sup>®</sup> performance measures that had been developed for Medicaid plans. In addition, the Office of Medical Assistance Programs (OMAP) in DPW developed another set of measures to evaluate aspects of MCOs’ performance that were omitted by the other two performance measurement systems. The Pennsylvania-specific measures include items such as the extent to which children under six have been screened for lead poisoning or received dental

sealants. OMAP publishes information on plan performance of 27 of these measures on its website (Pennsylvania Department of Public Welfare, Office of Medical Assistance Programs 2007). In 2005, OMAP took another step to promote overall improvement in MCOs' performance by introducing a pay-for-performance system. It set aside over \$19 million to pay plans that improved their performances based on a complex formula.

Table 1, below, lists the performance measures that are publicly reported as well as the set of measures used in the Pay-for-Performance program. These measures, which are a small subset of the total number of measures reported to the state, illustrate the type of data collected.

**Table 1: Publicly Reported Performance Measures and Measures Used for Pay-for-Performance: Pennsylvania, 2003-2006**

Performance Program	Measurement Category	Performance Measures
CAHPS®	Experience	Satisfaction with Plan* Satisfaction with Child's Plan* Choosing a Doctor You are Happy with* Satisfaction with Specialist*
	Access®	Seeing a Specialist* Getting an Appointment with Your Doctor or Nurse* Getting Necessary Care* Waiting for Plan Approval*

Performance Program	Measurement Category	Performance Measures
HEDIS®	Effectiveness	Cholesterol Management Screening (after CV Events)* Cholesterol Management: LDL control <100# Controlling High Blood Pressure*# Eye Check-Ups for People with Diabetes* Diabetes: HbA1C Control# Diabetes: Cholesterol LDL Control < 100# Cervical Cancer Screening*# Breast Cancer Screening# Use of Appropriate Medications for People with Asthma#
	Access and Visits	Early Care for Pregnant Women*# Regular Prenatal Care* Regular Check-Ups for Children 3-6 Months* Well-Child Visits in the First 15 Months of Life* Doctor Visits for Children 7-11 Years Old* Doctor Visits for People 45-64 Years Old* Doctor Visits for People 65 Years and Older* Adolescent Well-Child Care#
Pennsylvania-Specific Measures		Finding Cervical Cancer in Women with HIV* Blood Lead Screening for Children under 19 Months*# Blood Lead Screening: Age 3 Years# BMI screening at Regular Check Up* Satisfaction with Dental Care* Dental Sealants for Children* Regular Dental Care, Ages 3-20 Years old* Annual Dental Visits for those with Development Disabilities* Emergency Room Visits for Asthma*

Key:

\* These performance measures are posted on the DPW web site.

# These measures were included in the pay-for-performance program.

Behavioral Health Managed Care Organizations. DPW requires that the BH-MCOs report on several measures including the few HEDIS<sup>®</sup> measures that have been developed for behavioral health (such as “patients should be followed up within specified time periods within a certain number of days after they were discharged from a hospital”). DPW also has set specific goals for selected measures (such as “involuntary admissions should decrease over time” and “less than 10% of hospitalized patients should be readmitted within 30 days”). DPW’s Office of Mental Health and Substance Abuse Services (OMHSAS) reports on the performance of the BH-MCOs through its quarterly monitoring reports (Pennsylvania Department of Public Welfare, Office of Mental Health and Substance Abuse Services 2008). These reports include information on individual performance improvement projects, adult involuntary admissions, 30-day readmissions, complaints, denials, grievances, and consumer satisfaction.

Access Plus. The reporting requirements under the Access Plus Program are somewhat different. The Bureau of Fee-for-Service, within OMAP, mines its administrative database to calculate measures of clinical quality of care and medical utilization measures for this program. It models the development of these measures after the technical specifications for the HEDIS<sup>®</sup> measures (Pennsylvania Department of Public Welfare, Bureau of Fee-for-Service 2005). In addition, OMAP requires the disease management companies to report on processes of care, as well as clinical outcomes. OMAP has also introduced a pay-for-performance system for the disease management component of that system.

### **Medical Assistance and Essential Public Health Services**

The definition of what a public health system does is well-established in the concept of “Ten Essential Services” (Public Health Functions Steering Committee 1994) shown in Table 2 (page 173). A brief review of the Ten Essential Services shows that MA contributes significantly to at least four of them. In order of priority for discussion in this paper, these four essential services are: 1) assuring access to personal health care services; 2) evaluating the accessibility and quality of personal health services; 3) monitoring health status; and 4) developing policies that support individual health efforts.

**Table 2: The Ten Essential Services of Public Health**  
(Public Health Functions Steering Committee, 1993)\*

1	<b>MONITOR HEALTH STATUS TO IDENTIFY COMMUNITY HEALTH PROBLEMS</b>
2	Diagnose and investigate health problems and health hazards in the community
3	Inform, educate, and empower people about health issues
4	Mobilize community partnerships to identify and solve health problems
5	<b>DEVELOP POLICIES AND PLANS THAT SUPPORT INDIVIDUAL AND COMMUNITY HEALTH EFFORTS</b>
6	Enforce laws and regulations that protect health and ensure safety
7	<b>LINK PEOPLE TO NEEDED PERSONAL HEALTH SERVICES AND ASSURE THE PROVISION OF HEALTH CARE WHEN OTHERWISE UNAVAILABLE</b>
8	Assure a competent public health and personal health care workforce
9	<b>EVALUATE EFFECTIVENESS, ACCESSIBILITY, AND QUALITY OF PERSONAL AND POPULATIONS BASED HEALTH SERVICES</b>
10	Research for new insights and innovative solutions to health problems

\*Entries in **BOLDFACE** type are those addressed in this paper as contributed in whole or in part by the Pennsylvania Medical Assistance Program.

### **Assuring Access to Personal Health Care Services**

Essential Service #7 calls upon a public health system to “Link people to needed personal health services and assure the provision of health care when otherwise unavailable.” The availability of health services depends not only on payment for services by or on behalf of those who need them, but also on the location of services and service providers even in areas of sparse population density. MA provides a health care plan and coverage for a large proportion of the Pennsylvania population.

Enrollment. In December 2007, 1,893,949 individuals, or about 15% of the population of the Commonwealth of Pennsylvania, were covered under MA. Medical Assistance covered almost 33% of the children in Pennsylvania. In addition, MA pays for about 41% of the births in the State.<sup>3</sup> It also covered 513,946 individuals with disabilities, many of whom are individuals with severe mental illness.<sup>4</sup> On an average month, MA covers about 38,808 children with disabilities (about 10.3% of the disabled MA population) and 1,165 women with breast and/or cervical cancer.

Since eligibility for MA is tied to income, the distribution of MA recipients varies across the Pennsylvania counties depending on the general level of income in the county. Figure 2 (page 175) shows the percentage of births covered by MA in 2005 and 2006, while Figure 3 (page 176) shows the percentage of children enrolled in MA in 2006. We focus on these groups because of the importance of medical care services, particularly prenatal and preventive care services, to the birth outcomes and the development of children.

As shown in Figure 2, there is wide variation across the counties in the percentage of births that are covered by MA – the percentage ranges from 18% in Montgomery County to 64% in Philadelphia County. These data indicate the importance for rural areas and for the poor. There were 21 counties where the proportion of births paid for by MA exceeded 50%. These counties were primarily rural counties – 17 were rural counties, two (Fayette and Pike) were fringe counties of a metro area with a population of million or more, and only two counties (Erie and Philadelphia) were metropolitan counties (U.S. Department of Agriculture 2003).<sup>5</sup> Furthermore, with one exception (Pike), the median family income in each of these counties was well below the median family income for the state: In 1999, the average median family income in these counties was \$32,850 while the median family income in the state was \$40,106 (Wikipedia 2008).

---

<sup>3</sup>These two percentages refer to 2006.

<sup>4</sup>We do not report the percent of people with disabilities who are covered under Medicaid because we do not know the denominator.

<sup>5</sup>All non-metropolitan counties are classified here as rural counties.

**Figure 2: Percent of County Newborns Covered by Medical Assistance: 2005-2006**

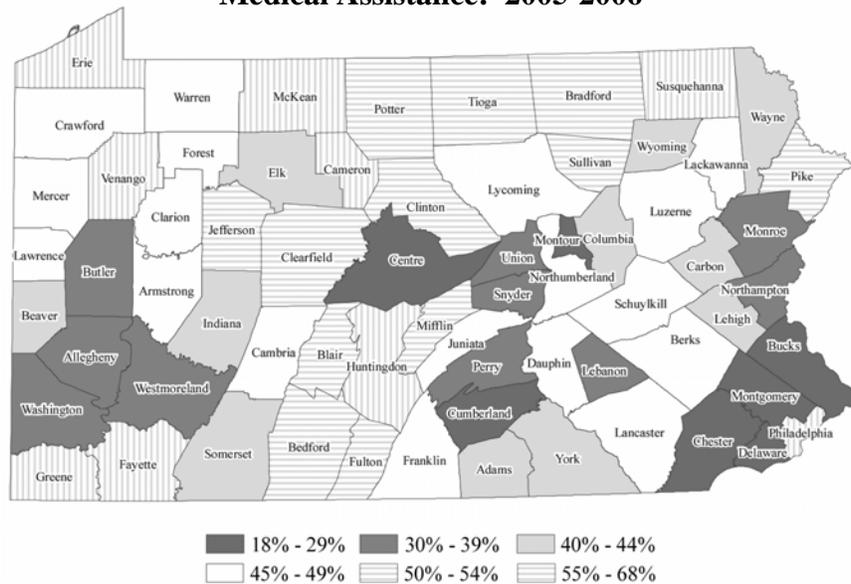
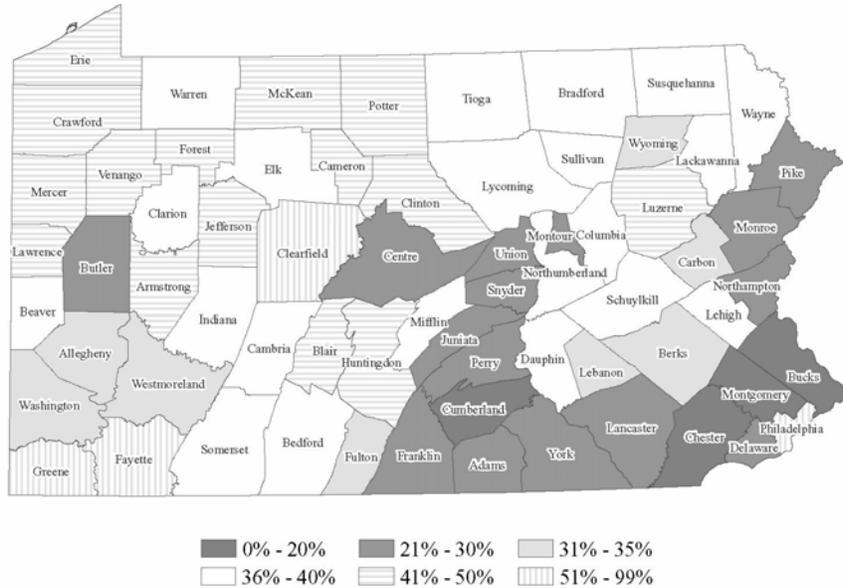


Figure 3 (next page) shows that, as with births, there is wide variation across counties in the percentage of children who are enrolled in MA. It ranges from 12% in Chester County to 63% in Philadelphia County. There are three counties where more than 50% of the children and nine counties where between 40% and 49% of the children, are enrolled in MA. Figure 4 (page 177) shows the relationship between the proportion of children covered by Medicaid in a county and the county median income. These data reinforce the importance of MA for the poor.

Provider participation. A Medical Assistance card is not of much value if individual providers do not accept MA recipients. Individual providers can choose whether to accept MA patients. Some providers in Pennsylvania, primarily dentists, do not participate in the Medical Assistance Program at all or they only accept a small number of MA patients because, they argue, the payment rates are very low. Pennsylvania Medical Assistance payment rates are in fact low. For example, the Kaiser Family Foundation reports that in 2003, physician fees under Pennsylvania’s Medicaid Program were low relative to

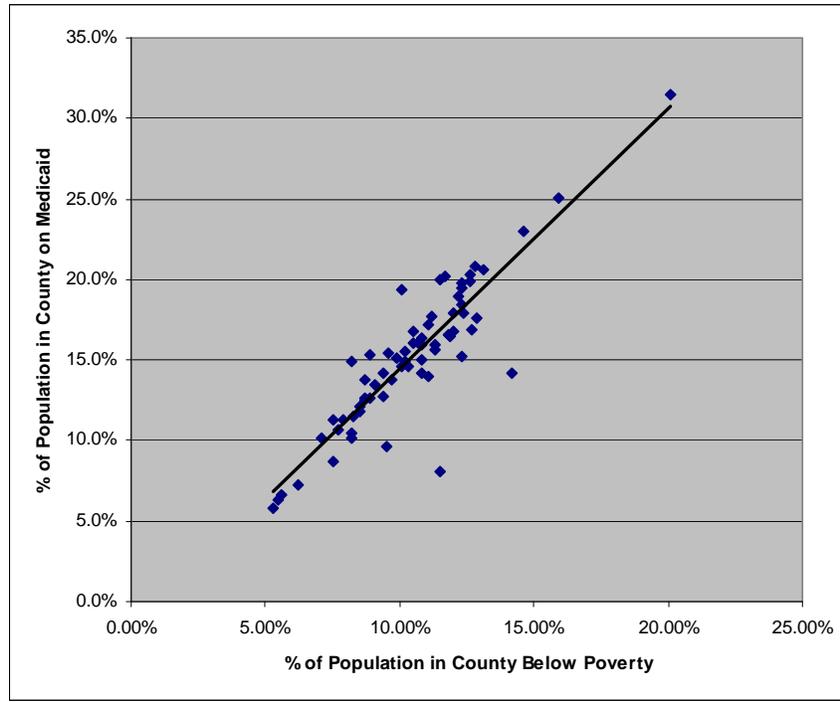
Medicare payment rates and to Medicaid rates nationally (Henry J. Kaiser Family Foundation 2003). Pennsylvania ranked 46<sup>th</sup> among all states in the level of payments for all services, primary care, and other services; and it ranked 30<sup>th</sup> among all states in the level of payments for obstetric care.

**Figure 3: Percent of Children in County Covered by Medical Assistance: 2005**



By using a managed care model for its Medicaid program, DPW increases the attractiveness of MA and thus improves access to care for enrollees. The DPW's contract with the managed care organizations usually specifies that the MCOs have a large enough network to serve the enrolled Medicaid recipients. There are specific provisions built into the contracts (factors such as time to appointment) that are meant to ensure that Medicaid recipients have access to the system. This means that the MCOs have to work hard to build their networks. One result is that MA MCOs in Pennsylvania usually have payment rates that are above the formal Medicaid payment rates but below the Medicare payment rates (Personal Communication 2008).

**Figure 4: 2006 Percentage of County Population on Medicaid by the 2003 Percentage of People in County Below the Poverty Income Level\***



\* We do not have 2006 data on the percent of the population in each county that falls below the poverty level.

**Evaluating the Accessibility and Quality of Personal Health Services**

Public Health Essential Service #9 calls for a public health system to “Evaluate effectiveness, accessibility, and quality of personal and population-based health services.” Pennsylvania’s Medical Assistance Program carries out this requirement – at least addressing the quality of *personal* health care services – by using a system of performance measures to which its MCO plan contractors are held accountable.

OMAP and OMHSA use the reported information to monitor the performance of the Medical Assistance MCOs. The general expectation is that the availability of this kind of information would help drive plan improvement. Both the MCOs and the BH-MCOs are given information on the performance of other plans as well as national benchmark information which is available for the HEDIS<sup>®</sup> and the CAHPS<sup>®</sup> data. Furthermore, much of these data are provided to other stakeholders – particularly advocates for various groups.<sup>6</sup> Furthermore, three MCOs compete for MA recipients in the three regions where managed care enrollment is mandatory. The data are meant to inform the choices of MA recipients in choosing a MCO and to spark improvements in quality. Finally, the implementation of Pay for Performance should be an additional stimulus to improvements in plan performance.

MCOs. Lave and Riaz (2008) examined the performance of Pennsylvania MCOs between 2003 and 2005. With respect to general access, they found that in 2005, the proportion of recipients who said that seeing a specialist was not a problem ranged across the plans from 58% to 74%. Furthermore, they found that the proportion of recipients who said that they could always see their doctor or nurse right away when they needed care ranged from 46% to 74%. These data indicate that there are some access problems. In looking at improvement in plan performance, they found that five of the seven plans had improved their performance on at least half of the performance measures that could be compared. However, overall performance on the CAHPS<sup>®</sup> data deteriorated over this time period. They also found that there was large variation in performance across the MCOs. The results for the Pay-for-Performance Program for 2006 also indicated variation in improvement across the plans. One plan received payouts for improvements in nine measures, one received payouts for improvements in seven measures, two received payouts for improvements in three measures, and three received payouts for improvements in only one measure (Kelly undated).

BH-MCOs. The OMHSAS Quarterly Monitoring Reports provide information on the plan performance in the southeast, southwest and Lehigh/Capital region (Department of Public Welfare, Office of Mental Health and Substance Abuse Services 2008). The data suggest that there

---

<sup>6</sup>The data on outcomes for the BH-MCOs have been available to the advocates for the mentally ill.

is considerable variation in performance across the regions and within the regions across the counties. Furthermore, there were few significant trends in the data across all of the plans. General readmission rates did decrease somewhat between 2005 and 2007. The number of readmissions for the severely mentally ill (which was a focus of specific performance improvement plans) also fell.

Access Plus. OMAP has examined change over time in performance on several measures. Of the 18 measures where they could compare performance between 2005 and 2006, OMAP found that performance on 13 measures improved (four statistically significantly) and on five performance measures deteriorated (one statistically significantly). Only one formal quality report, which looks at performance in 2005, has been prepared.<sup>7</sup>

### **Monitoring Health Status**

Essential Service #1 is to “monitor health status.” This requires a public health system to collect and analyze data affecting the population’s health across several threat categories including infectious diseases, chronic diseases, injuries, and environmental hazards. Pennsylvania, like most other states, allocates responsibility for mitigating these threats across numerous state agencies; and, for the MA enrollees, several aspects of program services yield information that could fulfill the need to monitor health status.

We noted above that Pennsylvania monitors the performance of the MCOs, the performance of BH-MCOs, the performance of care managers in Access Plus for individuals who suffer from selected conditions, and the health utilization data for individuals enrolled in Access Plus. Some of these measures are indirectly related to health (such as prenatal care) whereas others are directly related to health (the extent to which blood pressure and LDL are controlled). The number of measures monitored by these various systems is very large. Furthermore, MA complies with the requirements of the federal Early, Periodic Screening, Diagnosis and Treatment Program (EPSTD), which requires

---

<sup>7</sup>Access Plus – HEDIS® 2006-2007 rates were provided to the authors from the Deputy Secretary’s Office of the Bureau of Fee for Service, Pennsylvania Department of Public Welfare.

that all enrolled children are tested for specified environmental toxins such as lead exposure.

### **Developing Policies that Support Individual Health Efforts**

Essential Service #5 requires the public health system to “Develop policies that support health efforts.” At the state level, this includes health planning based on data that tracks measurable health objectives and establishes how to guide health improvement efforts. Pennsylvania has developed a number of programs within MA that support individual health efforts. One policy is pay-for-performance, which incentivizes the MCOs and the care managers in the fee-for-service sectors to exceed certain performance targets. A second policy is the implementation of smoking cessation programs for pregnant women. A third policy is the development of a set of fees that will enable the program to pay physicians for many services provided to manage the weight of their overweight patients.

### **Medical Assistance and the Pennsylvania Public Health System**

A major function of the public health system is to assure access to health care services throughout the population. The foregoing discussion demonstrates that Pennsylvania Medical Assistance or MA, functioning as a managed care program through Access Plus, carries out at least four of the Ten Essential Services of Public Health as they relate to the health care needs of the most disadvantaged and vulnerable residents in the state. MA *monitors health status* by tracking measures of performance on processes of care that are highly correlated with health outcomes (such as whether a pregnant woman had early prenatal care and whether children are receiving well-child visits) and by assessing certain types of outcomes such as whether the blood pressure of people with hypertension is controlled and whether the cholesterol levels of people who have had a cardiovascular event are within clinical guidelines. Pennsylvania MA has *developed policies and plans* to improve health care, implement a pay-for-performance system, and contract with the BH-MCOs to initiate plan improvement projects. MA *links people to needed personal health services*: it pays for about 40% of the births in the state, covers about 33% of the children in the state, and provides for the health care of individuals with physical or mental disabilities and for

the elderly. MA *evaluates effectiveness, accessibility, and quality of health services* by building and maintaining the technical capacity to assess the type of care that is being provided through the fee-for-service system and thereby assessing the managed care organizations through which it contracts.

Nevertheless, a comprehensive approach requires that we consider also those essential public health services that MA does not carry out or does not carry out alone. MA serves only a portion – albeit a large and particularly vulnerable portion – of the Commonwealth’s entire population. Although MA provides some public health services to many, the majority of Pennsylvanians are served by other health care plans or by no plans at all. If there is to be effective linkage of all Pennsylvanians to needed health care as Essential Service #7 requires, then sharing information about counties where needed services are unavailable can help other public health agencies to prioritize direct-service programs and to supplement the delivery of needed care to underserved populations. The same kind of interagency cooperation is necessary also to monitor the health of all residents (Essential Service #1), to support statewide health policy development (Essential Service #5), and to evaluate how well statewide health plans are performing (Essential Service #9).

MA’s public health services should be integrated with those provided throughout the public health system. For example, if the incidence of lead exposure detected among children in the MA program is never reported to an agency with authority to “diagnose and investigate ... health hazards in the community” (Essential Service #2), then ever more children will suffer the consequences of lead exposure. If the MA program functions only as a way to pay health care providers, then its recipient population is not benefiting from disease prevention approaches that “inform, educate, and empower people about health issues” (Essential Service #3) or that “mobilize community partnerships to identify and solve health problems” (Essential Service #4). The MA program lacks authority to enforce public health laws to protect health and safety (Essential Service #6), so its health-care contractors do not conduct the “contact-tracing” needed to prevent the spread of certain dangerous infections such as HIV. Although the MA program contributes to assuring a competent health workforce (Essential Service #8) and to

researching for new insights and solutions for health problems (Essential Service #9), those contributions are uncoordinated with other health and human service agencies in the Commonwealth.

State government holds the responsibility to coordinate among all public agencies and private organizations contributing public health services, and coordination requires communication through joint planning and data sharing. As stated by the Institute of Medicine, "States are and must be the central force in public health. They bear primary public sector responsibility for health" (1988, 143). Among the numerous public health duties of state government, those particularly important for inclusion of a Medicaid program are "assessment of health needs within the state based on statewide data collection" and "assurance of an adequate statutory base for health activities in the state" (Institute of Medicine 1988, 143).

### **Conclusions**

In Pennsylvania, the responsibility for all Ten Essential Public Health Services is distributed among several agencies of state government, local health departments, and non-governmental entities. Nevertheless, the Commonwealth retains the obligation and the powers to assure that all Ten Essential Services are being carried out and to maintain coordination and communication among the responsible agencies and organizations. The Medical Assistance Program performs some of the essential public health services, but only for its enrolled population and without formal coordination with those agencies and organizations responsible for other essential services and other population groups.

Pennsylvania's legislative policymakers should consider ways to explicitly link the public health aspects of the MA Program with the larger public health system. Two approaches to consider, both of which are currently used by other states, include:

- Making the MA Program accountable to a statewide public health policy board: Such accountability would take advantage of the excellent systems of MA quality oversight already in place and could

contribute to more robust public health programs elsewhere in state government.

- Sharing aggregated public health data: MA performance data can inform the public health system about the incidence of toxin-induced diseases in children, the sources of air-borne and water-borne toxic substances, and the geographic location of potential disease clusters. MA disease incidence data could help to inform the state's allocation of federal dollars from categorical and block grants.

## References

- Centers for Disease Control and Prevention. Coordinating Office for Terrorism Preparedness and Emergency Response. 2008. Preparedness and Emergency Response Research Centers: A Public Health Systems Approach. Frequently Asked Questions. <http://emergency.cdc.gov/planning/faq2008foa.asp> (Accessed July 21, 2008).
- Costlow, Monica R., and Judith R. Lave. 2007. *Faces of the Pennsylvania Medicaid Program*. Pennsylvania Medicaid Policy Center, University of Pittsburgh. <http://pamedicaid.pitt.edu/documents/facesofmedicaid.pdf> (Accessed February 3, 2008).
- Halverson, Paul K. 2002. "Embracing the Strength of the Public Health System: Why Strong Government Public Health Agencies Are Vitally Necessary but Insufficient." *Journal of Public Health Management and Practice* 8 (1): 98-100.
- Henry J. Kaiser Family Foundation. 2003. "Medicaid Physician Fee Index, 2003." *StateHealthFacts.Org*. <http://www.statehealthfacts.org/comparetable.sp?ind=195andcat=4> (Accessed July 22, 2008).
- Institute of Medicine. 1988. *The Future of Public Health*. Washington, DC: National Academy Press.
- Institute of Medicine. 2003. *The Future of the Public's Health in the 21<sup>st</sup> Century*. Washington, DC: National Academy Press.
- Kuhmerker, Kathryn, and Thomas Hartman. 2007. "Pay-for-Performance in State Medicaid Programs: A Survey of State Medicaid Directors." The Commonwealth Fund. [http://company.ipro.org/shared/pubs/p4p\\_state\\_medicaid\\_progs\\_report.pdf](http://company.ipro.org/shared/pubs/p4p_state_medicaid_progs_report.pdf) (Accessed July 28, 2008).
- Kelly, David, Medical Director, Office of Medical Assistance Programs. Undated. "Pay for Performance, 2007 Update. Improving Quality in Health Care." Slide presentation made available to the authors.
- Lave, Judith R., and Salma Riaz. 2008. *Performance of Medicaid Managed Care Plans Enrolling Medicaid Recipients between 2002 and 2006*. Pennsylvania Medicaid Policy Center, University of Pittsburgh. <http://pamedicaid.pitt.edu/documents/>

184 PENNSYLVANIA MEDICAL ASSISTANCE: CONNECTIONS WITHIN  
THE COMMONWEALTH'S PUBLIC HEALTH SYSTEM

Performance%20of%20PA%20MCOs%20-%20final2%20B%20 3 .pdf (Accessed July 28, 2008).

Pennsylvania Department of Public Welfare. Bureau of Fee for Service. 2005. *Clinical Quality of Care and Medical Utilization Measures for Access Plus 2005. Modeled after the Technical Specifications for HEDIS® 2006*. Provided to the authors.

Pennsylvania Department of Public Welfare. Office of Medical Assistance Programs. 2007. *A Consumer's Guide to the HealthChoices Health Plans*. <http://www.dpw.state.pa.us/Resources/Documents/Pdf/Publications/HealthChoices/2007HealthChoicesComparison-Eng.pdf> (Accessed July 28, 2008).

Pennsylvania Department of Public Welfare, Office of Mental Health and Substance Abuse Services. 2008 QMR. Quarterly Monitoring Report. Third Quarter 2007. March 17, 2008. (These reports will be posted the Report Section of the OMHSA website. <http://www.dpw.state.pa.us/About/OMHSAS/>).

Personal communication. Michael Blackwood, Gateway Health Plan. July 24, 2008.

Public Health Functions Steering Committee. 1994. *Public Health in America*. <http://www.health.gov/phfunctions/public.htm> (Accessed July 21, 2008).

Rosenthal, Meredith B., Bruce E. Landon, Sharon-Lise T. Normand, Richard G. Frank, Arnold M. Epstein. 2006. "Pay for Performance in Commercial HMOs." *New England Journal of Medicine* 355 (18): 1895-1902.

U.S. Department of Agriculture. Economic Research Service. 2003. *Urban-Rural Continuum Codes for PA*. <http://www.ers.usda.gov/Data/RuralUrbanContinuumCodes/2003/LookUpRUCC.asp?C=RandST=PA> (Accessed July 28, 2008).

Data from the 2000 U.S. Census as reported by [http://en.wikipedia.org/wiki/Pennsylvania\\_counties\\_by\\_per\\_capita\\_income](http://en.wikipedia.org/wiki/Pennsylvania_counties_by_per_capita_income) (Accessed July 23, 2008).

## **COMMONWEALTH: A Journal of Political Science**

*COMMONWEALTH: A Journal of Political Science* is a peer-reviewed journal that publishes original research in all subfields of political science along with interdisciplinary articles. Open to a variety of approaches and methodologies, *COMMONWEALTH* seeks manuscripts that are based on theoretical perspectives (empirical or normative) as well as those that employ an historical approach. *COMMONWEALTH* solicits manuscripts for a general issue and one or more policy options issues. An important part of the journal's mission is to encourage research on topics of Pennsylvania and regional importance (northeastern and mid-Atlantic United States). Manuscripts on state and local government, politics, and policy are especially desired. Book reviews are generally limited to essays on recently published works with a Pennsylvania or regional focus. The journal's special policy issues are devoted exclusively to dispassionate academic discourse on state and regional public policy issues and options.

*COMMONWEALTH* was founded by the Pennsylvania Political Science Association (PPSA) in 1987. In 2004, the Legislative Office for Research Liaison (LORL) of the Pennsylvania House of Representatives agreed to jointly publish and expand the journal. The journal's editorial staff, Editorial Review Board, and referees maintain the highest peer-review and publication standards. Public policy research emanating from academic fields other than political science is processed by the University Committee for Legislative Liaison, which advises LORL.

Copies of *COMMONWEALTH* are sent to all PPSA members — individual, departmental, and institutional. For PPSA membership rates, see the separate announcements in this issue. Mailing to PPSA members is generously assisted by the School of Public Affairs of Penn State-Harrisburg. LORL provides copies to members of both chambers of the Pennsylvania General Assembly, to key legislative staff, and to the presidents of each of the Pennsylvania colleges and universities that belong to the LORL Academic Network. In addition, LORL provides copies to the National Conference of State Legislatures, the Council of State Governments, the National Governors' Association, various other national associations of state and local officials, and to all Pennsylvania state depository libraries. Back issues of *COMMONWEALTH* are available online at [www.house.state.pa.us/CJPS](http://www.house.state.pa.us/CJPS). Hard copies in limited quantities may be obtained by contacting LORL.

## **SPEAKER'S JOURNAL**

The *SPEAKER'S JOURNAL* is a series of essays important to the future of the citizens of the Commonwealth of Pennsylvania. Published by the Office of the Speaker, Pennsylvania House of Representatives, in cooperation with LORL, topics addressed include Access to Higher Education, How to Save for College Education, the Importance of Libraries, Autism, Geospatial Policy, and Early Childhood Education. Past issues will soon be available online.

## **Legislative Office for Research Liaison Pennsylvania House of Representatives**

With initial funding from the National Science Foundation, the Pennsylvania House of Representatives established the Legislative Office for Research Liaison (LORL) in 1976 as the General Assembly's science and technology staff. LORL continues as a nonpartisan research office that enables legislators, committees, and staff to access the expertise of faculty in the LORL University Network, which includes most of Pennsylvania's institutions of higher education (Drexel University, Lincoln University, The Pennsylvania State University, Temple University, the University of Pennsylvania, the University of Pittsburgh, the 14 universities in the State System of Higher Education, and the member institutions of the Pennsylvania Association of Independent Colleges and Universities).

The universities in the LORL Network fund the services of two faculty members each year to serve as University Visiting Scholars in Harrisburg throughout the legislative session. The Visiting Scholars and one to three undergraduate or graduate student interns complement LORL's full-time staff of six. LORL handles more than 1,000 legislative inquiries annually, from both the House and Senate, including about 200 a year that require university assistance. Inquiry topics vary widely, ranging from agriculture to workers compensation. In addition, the LORL Committee has commissioned major academic studies on topics such as telemedicine and state medical licensure, land-use policy, school curriculum reform, workforce development, and the policy implications of genetic research. LORL and its Network have also sponsored a range of policy workshops, seminars, and major conferences for legislators and staff. LORL agreed to join with the PPSA to publish *COMMONWEALTH: A Journal of Political Science* in 2004.

## **The Pennsylvania Political Science Association**

Founded in 1939, the Pennsylvania Political Science Association (PPSA) is the nation's oldest state political science association. Its mission has always been to promote scholarship, research, and the exchange of ideas within the Pennsylvania community of political scientists. PPSA draws its membership principally from the political science and public administration faculties of Pennsylvania's public and private colleges and universities but also includes government professionals and faculty members from surrounding states.

PPSA's annual conference includes dozens of panelists covering a wide variety of subject areas. While university faculty comprise the vast majority of participants, legislators, legislative staff, executive officials, and undergraduates also have been participants. The PPSA began publishing *COMMONWEALTH: A Journal of Political Science* in 1987.

## Guidelines for Submitting Manuscripts

Manuscripts from all fields of political science are welcome, especially those on Pennsylvania or regional research (northeastern or mid-Atlantic United States) in the areas of state and local government, politics, or public policy. State and regional policy research may originate from any relevant academic discipline. Manuscripts should be submitted in Microsoft Word format. The preferred length is 15–30 double-spaced pages, including notes, references, tables, and appendices. Citations should follow the American Political Science Association's *Style Manual for Political Science*. For guidance, authors should consult previous issues of *COMMONWEALTH*, the *American Political Science Review*, or the editor. Tables should be created with the MS-WORD tools, not created manually, and they should be placed in the body of the manuscript, not at the end. Content notes should be used sparingly, and they should be contained in endnotes rather than footnotes. Appendices should be placed after the content notes. A list of references should be placed last. The author's name and affiliation should appear only on a separate cover page. An abstract of no more than 200 words should accompany the manuscript. Submit *three* paper copies (not disks or e-mail attachments) to:

Dr. Gerard J. Fitzpatrick  
Department of Politics  
Ursinus College  
Collegeville, PA 19426

Telephone: (610) 489-4111, ext. 2200  
E-mail: [gfitzpatrick@ursinus.edu](mailto:gfitzpatrick@ursinus.edu)

## Guidelines for Submitting Articles for Special Policy Issues

Guidelines for special policy issues of *COMMONWEALTH* may vary by issue. Generally, the request for papers that is issued for each special issue provides guidelines for that issue. Inquiries concerning active requests for papers as well as proposals for special policy issue topics may be submitted to:

Dr. Michael R. King  
Legislative Office for Research Liaison  
House Box 202218  
Harrisburg, PA 17120

Telephone: (717) 787-8948  
E-mail: [mking@legis.state.pa.us](mailto:mking@legis.state.pa.us)

## Guidelines for Submitting Book Reviews

*COMMONWEALTH* will consider proposals for book reviews of texts currently in print, with an emphasis on Pennsylvania or the mid-Atlantic and northeast region, in any subfield of political science or political history. Reviews should not be undertaken until the book review editor has accepted a proposal. Submit proposals to:

Dr. Thomas J. Baldino  
Department of Political Science  
Wilkes College  
Wilkes-Barre, PA 18766

Telephone: (570) 408-4474  
E-mail: [tbaldin@wilkes.edu](mailto:tbaldin@wilkes.edu)

**PENNSYLVANIA POLITICAL SCIENCE ASSOCIATION  
DEPARTMENTAL MEMBERSHIP FORM**

For a reasonable charge, on a single form, an entire department may join the PPSA. PPSA membership provides *each* member of a department listed on the application form the full benefits received by individual members. These include:

- personal copies of *COMMONWEALTH*.
- the **Pennsylvania Political Scientist**, the expanded PPSA Newsletter.
- advance "Call for Papers" to the annual meeting of the PPSA.

The departmental membership fee is based on the type of degree granted in political science by the member's institution and by the term of membership.

	1 Year	3 Years
* Doctoral degree institutions	\$100	\$200
* Masters degree institutions	\$75	\$150
* Baccalaureate degree institutions	\$50	\$50
* Associate degree institutions	\$25	\$25

To enroll prior to the annual meeting, mail by April 1 to:

Dr. Thomas Brogan  
PPSA Treasurer  
Department of Political Science  
Albright College  
P.O. Box 15234  
Reading, PA 19612-5234

CHAIRPERSON'S NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_  
\_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

Check enclosed for the sum of \$ \_\_\_\_\_

Please list alphabetically, on departmental (or university) stationary, the current faculty members in the department who are to receive PPSA membership along with their academic rank.

Libraries desiring copies of the Journal do not need a subscription or PPSA membership. Contact LORL for more information.