



DEPARTMENT OF COMMUNITY HEALTH

Public Health Administration Jean Chabut, Deputy Director

Presentation to
House Appropriations Subcommittee on Community Health
March 6, 2012





Our Guiding Principles

Our Mission is to **protect, preserve, and promote** the health and safety of the people of Michigan with particular attention to providing for the needs of vulnerable and underserved populations.



Our vision is for Michiganders to be healthy, productive individuals, living in communities that support health and wellness, with ready access to an affordable, person centered, and community-based system of care.

Leadership, Excellence, Teamwork

Public Health - Budget



	2012	2013
Children Special Health Services	\$307 M	\$301 M
WIC Program	270 M	270 M
Public Health Services	310 M	302 M
Health and Wellness Initiatives	8 M	11 M
Total	\$895 M	\$884 M

Budget Detail (in millions)



Programs	Fiscal Year 2012		Fiscal Year 2013		Change	
	GF/GP	Total	GF/GP	Total	GF/GP	Total
Children's Special Health Care Services (CSHCS)	\$127.1	\$307.3	\$128.4	\$301.1	\$1.3	(\$6.2)
Women, Infants and Children Food and Nutrition (WIC)	\$0.0	\$269.7	\$0.0	\$270.1	\$0.0	\$0.4
Other Family, Maternal and Children's Health Services	\$5.1	\$38.0	\$5.2	\$42.7	\$0.1	\$4.7
Health and Wellness Initiatives *	\$3.0	\$8.0	\$6.0	\$11.1	\$3.0	\$3.1
Essential Local Health Services	\$32.2	\$37.4	\$32.2	\$37.4	\$0.0	\$0.0
Laboratory Services	\$6.4	\$17.2	\$6.5	\$18.0	\$0.1	\$0.8
Infectious Disease Control	\$2.8	\$81.5	\$2.8	\$80.8	\$0.0	(\$0.7)
Epidemiology	\$1.8	\$69.5	\$2.0	\$56.1	\$0.2	(\$13.4)
Chronic Disease and Injury Prevention	\$1.7	\$26.3	\$1.8	\$28.2	\$0.1	\$1.9
Other Public Health Services	\$1.3	\$22.1	\$1.3	\$21.4	\$0.0	(\$0.7)
Health Policy	\$3.5	\$17.6	\$3.6	\$17.5	\$0.1	(\$0.1)
TOTAL	\$184.9	\$894.6	\$189.8	\$884.4	\$4.9	(\$10.2)

*Includes one-time appropriations of \$3M in FY 12 and \$5 million in FY 13

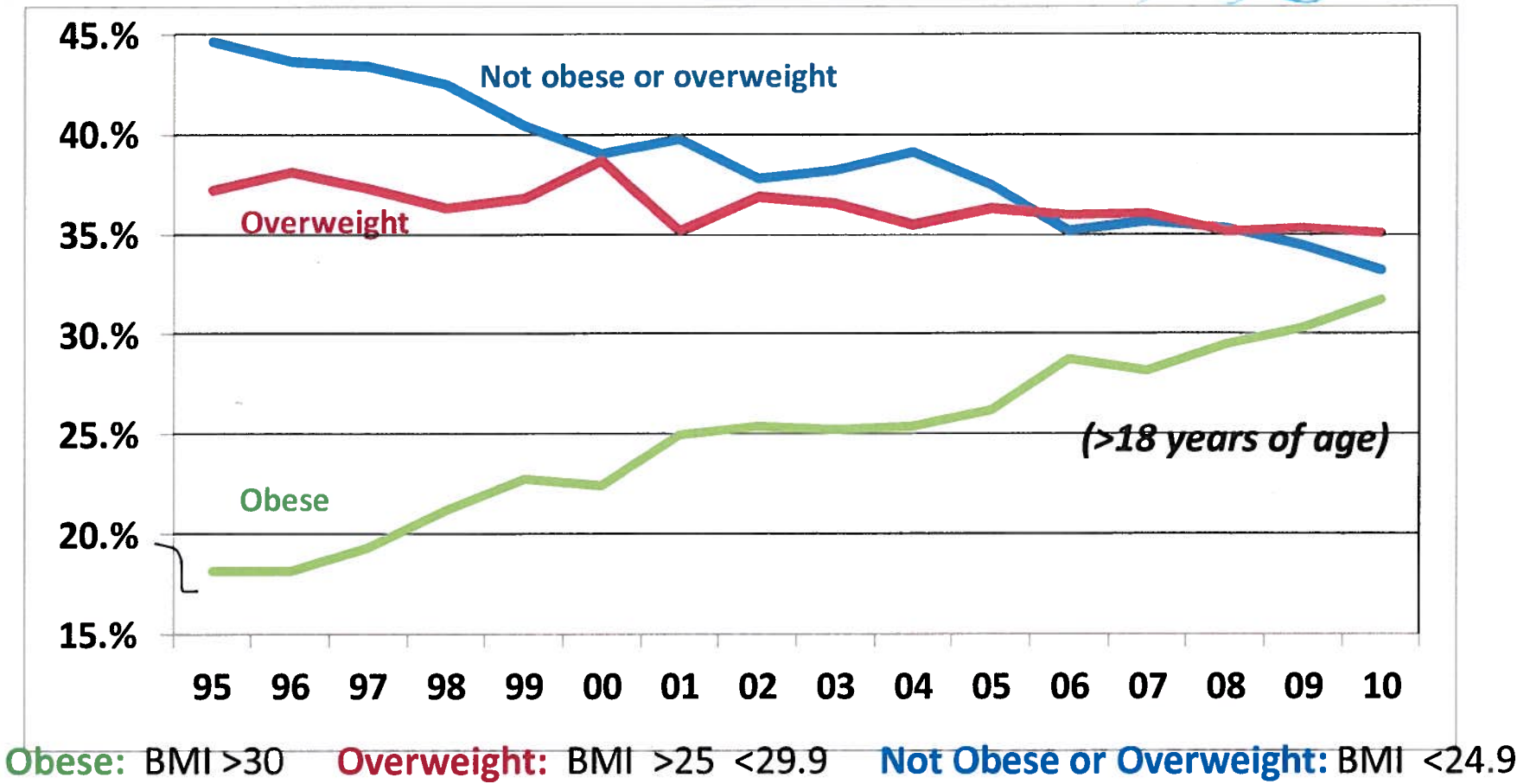
Health and Wellness Initiatives



Program Area	Total
Michigan Child Immunization Registry	\$2.10 M
Cancer	.90 M
Local Health Accreditation	.15 M
Ongoing Obesity Work:	1.87 M
Cardiovascular disease	\$.67 M
Diabetes & Kidney Disease	\$.60 M
School Health	\$.35 M
Health Disparities	\$.25 M

Program Area	Total
Ongoing Infant Mortality	\$1.15 M
Health Disparities	\$.25 M
Pregnancy Prevention	\$.90 M
Smoking Prevention	1.83 M
Implement 4 x 4 Plan	2.25 M
Implement Infant Mortality Plan	.90 M
Total	\$11.15 M

The Problem: A Public Health Crisis



Source: BRFSS Survey, 2011



The Michigan 4 X 4:

4 Key Healthy Behaviors

- Maintain a Healthy Diet
- Engage in Regular Exercise
- Get an annual physical
- Avoid all tobacco use

4 Key Health Measures

- Body Mass Index (BMI)
- Blood Pressure
- Cholesterol Level
- Blood Sugar Level

Michigan's Plan:

Public Awareness campaign
Policy and Environmental Changes
State Level Coordination
Health Care Agencies

Community Coalitions
Businesses
State Agencies
Schools



4 x 4 Plan – Year 1 Activities

Develop Multi Media Public Awareness Campaign

Deploy Existing or New Community Coalitions

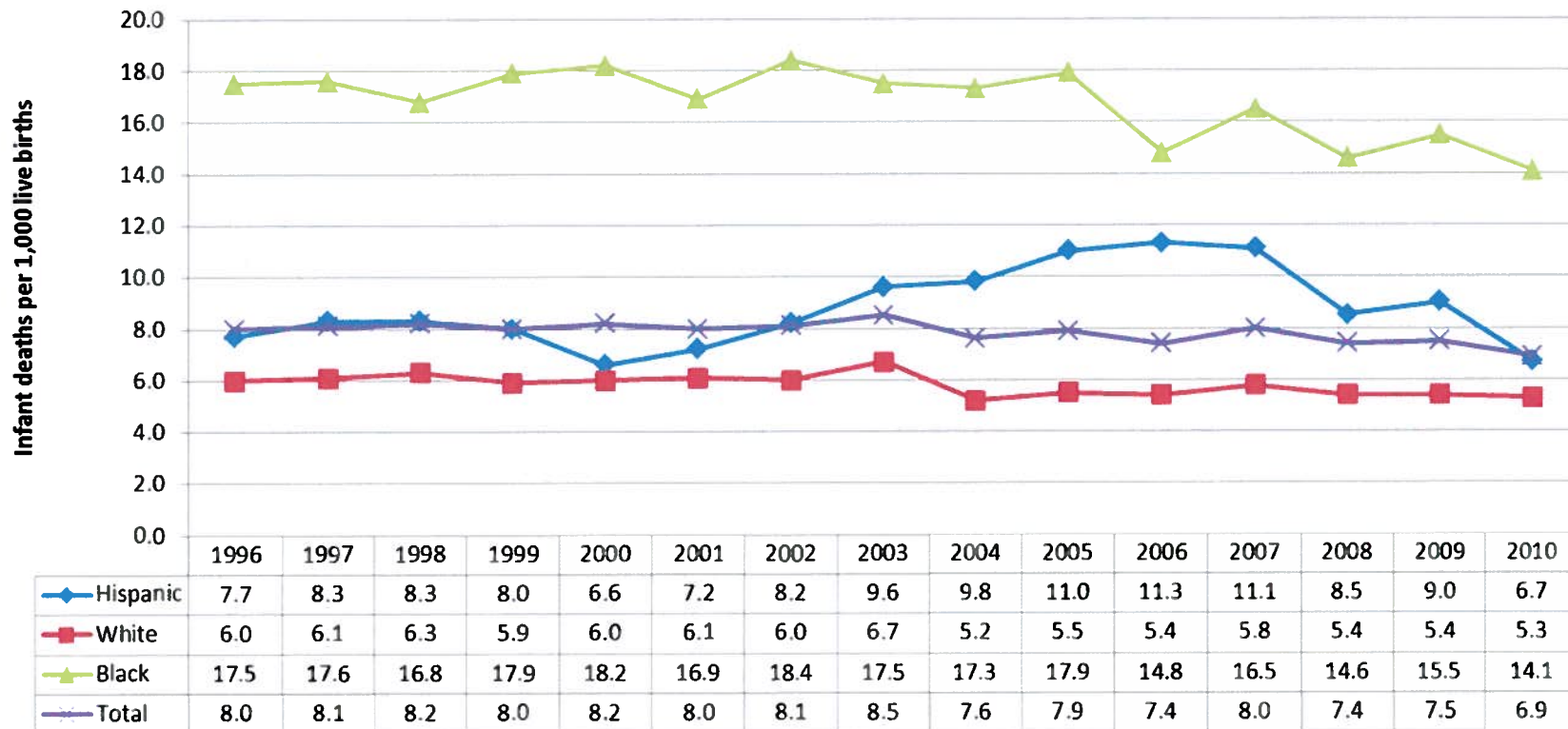
(5 for FY13; long-term goal 46)

State Level Coordination

Seek Additional Funding to Support the Plan



State Trends of Infant Mortality Rate by Race/Ethnicity





Infant Mortality: Michigan's Plan



- Improve Women's Health
- Home Visiting
- Safe Sleep
- Perinatal System
- Eliminate Early Deliveries
- High Risk for Preterm Intervention
- Address Social Determinants of Health
- Reduce Unintended Pregnancies



Infant Mortality Reduction Year 1 Activities

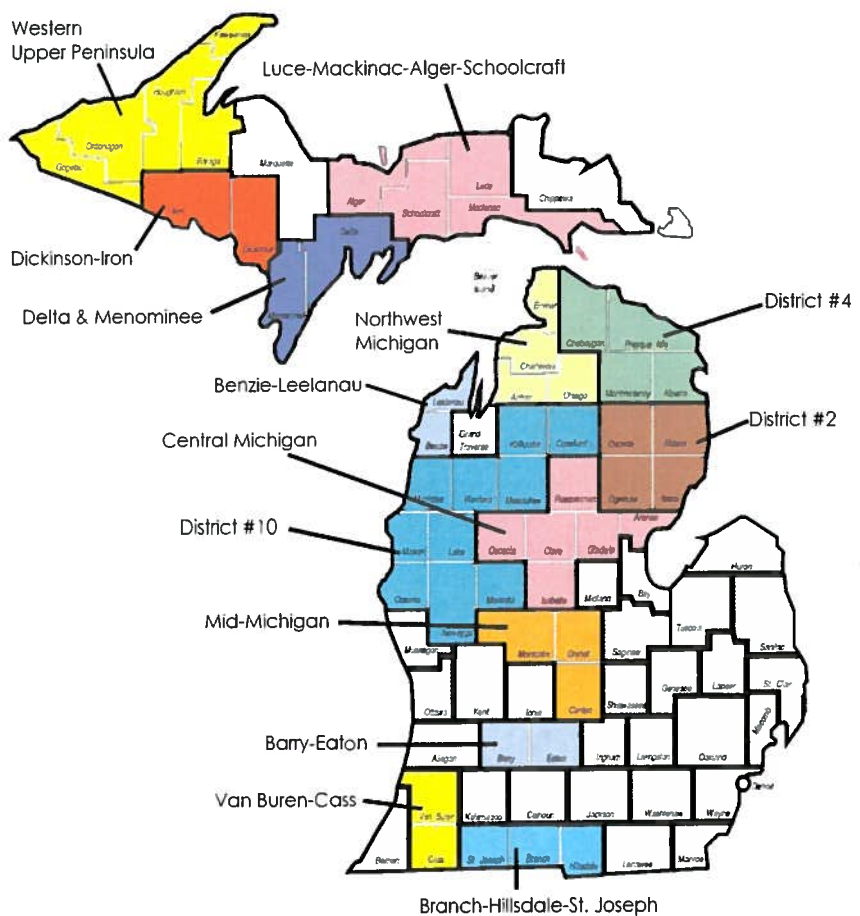
- Complete and disseminate the Infant Mortality Reduction Plan
- Continue implementation of home visiting program (last year received about \$8M for this)
- Refocus safe sleep efforts to emphasize sleep practices that keep the baby from suffocating
- Staff the workgroups of experts designing the Regional Perinatal System for our state
- Continue our work with WSU and other OB-GYN experts to determine how best to implement progesterone therapy for pregnant women; also with hospitals to develop protocols to eliminate unnecessary C-sections.
- Work with state and local PH staff to better understand health disparities and what we can contribute to the effort.



Public Health Population Based Services

- Local Public Health Services (45 LHDs)
- Epidemiology
- Public Health Lab
- Electronic Disease Surveillance
- Vital Records (birth/death) management
- Public Health Preparedness

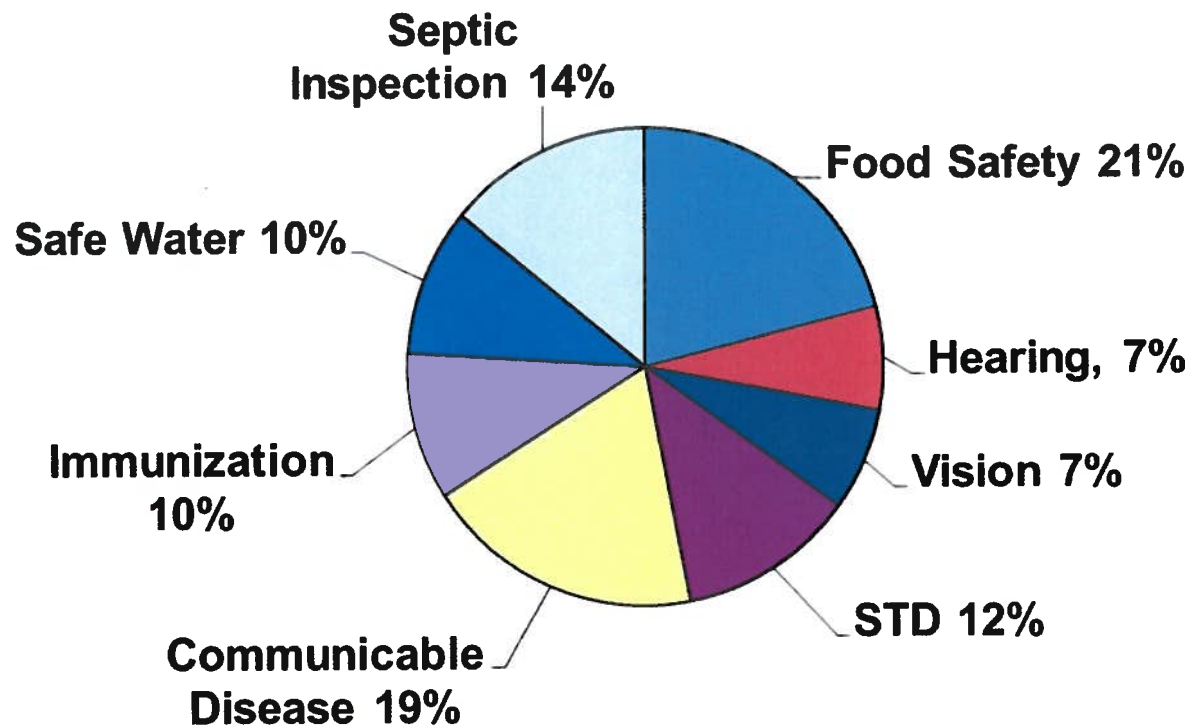
Map of Local Health Departments



30 County
14 District
1 City



Essential Local Public Health Services Projected 2013 Distribution





Essential Local Public Health Services

Funds support services in every Michigan County and benefits **every** Michigan citizen (FY 2013 funding is \$37.4 M)

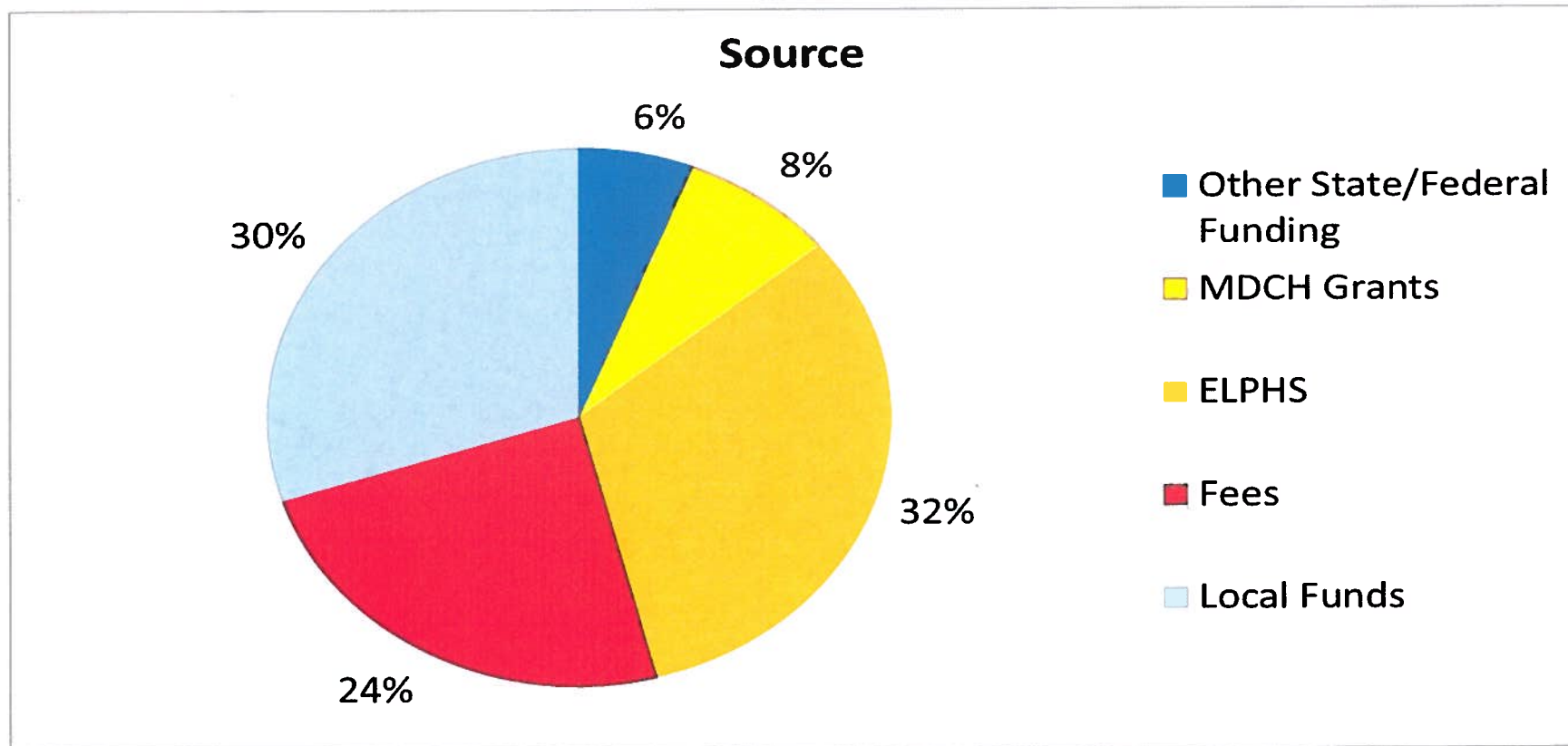
Partial List of Services:

- 1,500,000: doses of vaccine given in one year
- 1,070,000: child vision & hearing screenings
- 90,000: restaurant inspections, for 50,000 food establishments
- 65,000: Sexually Transmitted Disease Exams, in target areas

Results:

- Higher immunization rates with less vaccine preventable disease
- More children who can see and hear well and learn better in school
- Safer Food
- Less cost to the healthcare system for STD complications

Essential Local Public Health Services - Source of Funds FY 2011





Bureau of Disease Control, Prevention and Epidemiology

- Epidemiological response to over 100,000 communicable disease referrals annually
- Receipt of over 10,000 live emergency department reports DAILY allows rapid characterization of outbreaks and evaluation of impact
- Toxicology response to oil spill (evacuation, river closure – reopening)
- Response to illnesses and deaths associated with substances such as bath salts and synthetic marijuana
- 2010: Michigan ranked #4 in U.S. for childhood immunization rates (79%)
- Michigan Care Improvement Registry contains over 80 million vaccine records for 7.4 million people and accessed by 25,000 users



Disease Prevention and Control

HIV/AIDS

- 19,500 Michigan residents estimated to be living with HIV or AIDS (only 76% are aware of it)
- 114,292 clients received prevention services in 2011 (consulting, testing, partner services, risk reduction and education)
- 7,525 persons living with HIV/AIDS received care and treatment services in 2011

STDs

Cases diagnosed in 2011:

» Chlamydia	48,875
» Gonorrhea	12,696
» Syphilis	268



Disease Prevention and Control

Public Health Lab

- 2010 Over 7 million services provided to residents with 353,486 individuals receiving testing services
- Infectious Diseases Specimens Tested 101,727
- Newborn Screening Specimen Tested 123,619
- Blood Lead/Environmental Lead 39,644
- Fish Monitoring Program Report Downloads 8,500
- Emergency Notifications >1,000,000 message-recipients





Disease Prevention and Control

Injury and Violence Prevention

- Injury is the Leading Cause of Death and disability for ages 1-44 in Michigan
- Responsible for ~30% of Michigan Emergency Department Visits Annually
- Almost Entirely Federally Funded
- MDCH programs include:
 - Sexual Violence and Youth Suicide Prevention
 - Michigan Violent Death Reporting System
 - Childhood Injury Prevention and Teen Driving Safety



Office of Public Health Preparedness

- 100% funded through 2 DHHS Federal Cooperative Agreements
 - Funds to support 45 LHD's
 - 190 hospitals and HCO's
 - 8 Regional Healthcare Coalitions
 - 12 Federally Recognized Tribes
- Meets or exceeds all of the DHHS Performance Measures
- Activation of the Community Health Emergency Coordination Center to support real life events, incidents and exercises
- Successful activation of Michigan's mobile field hospital (150 Beds) during the New Madrid Fault National Level Exercise
- Recognized leader with National Strategic Stockpile program



Major MCH Program Areas include:

Family, Maternal, and Child Health

Family planning – 113,461 clients served
Teen pregnancy services -
Outreach and education for at-risk moms
and infants - 24,139 moms and infants
Lead poisoning - 157, 845 kids screened
Michigan Model - 1.2 M kids reached
School based clinics - 160,300 kids served
Safe delivery
Vision/hearing screening
Children's Special Health Care Services –
35,799 kids served
Women, Infants & Children





WIC

Supplemental Food Program for Women, Infants and Children

- 259,107 current participants
- 57% of infants born in MI are on WIC program
- \$171M in food packages for 152,000 families
- \$14M in fresh fruits and vegetables provided to participants
- *Every Ounce Counts* public/private campaign to increase breastfeeding rates



Funding Source:

US Department of Agriculture - \$211.5 M
Private Revenue - \$58.6 M



Chronic Disease Prevention and Control

Leading causes of Death



CVD

Cancer

Diabetes

Rank/Cause of
Death
National Rank
MI Prevalence
MI Health Care
Costs

1st
6th
753,553
\$8.9 Billion

2nd
37
52,607 new cases
\$8.6 billion

6th
15
1,065,000
\$8 Billion



Questions???



DEPARTMENT OF COMMUNITY HEALTH

Policy and Planning

Melanie Brim, Deputy Director

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Core Functions

Health Planning
& Access to Care

Health Policy

Nursing Policy

Certificate of
Need

Strategic
Planning

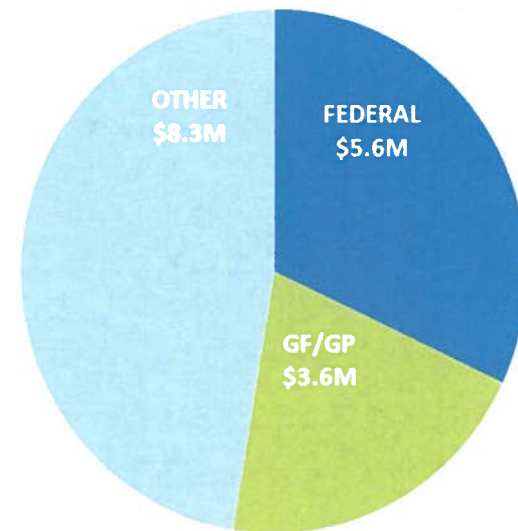
Performance
Management

Workforce
Engagement and
Transformation

Health Policy - Budget



	2012	2013
Emergency Medical Services Staff	\$4.9 M	\$4.5 M
Emergency Medical Grants & Serv	0.7 M	0.7 M
Health Policy Administration	4.1 M	4.3 M
Nurse Education Program	0.7 M	0.7 M
Certificate of Need Program	2.0 M	2.0 M
Rural Health Services	1.4 M	1.5 M
MI Essential Health Care Provider	0.9 M	0.5 M
Primary Care Services	2.9 M	3.3M
Total	\$17.6 M	\$17.5 M





Health Planning and Access to Care

Assuring availability and access to care

- Provides research for the designation and re-designation of health care shortage areas
 - Medically Underserved Population/Areas (MUP/MUA)
 - 116 areas federally designated
 - Health Professional Shortage Areas (HPSAs)
 - 491 federally designated HPSAs
- Designated as the Michigan State Office of Rural Health Policy and contracts for this activity with the Michigan Center for Rural Health
- Federally designated as Michigan's Primary Care Office through a collaborative agreement with the Michigan Primary Care Association to provide coordination of focus on primary care issues



Federally Designation Health Professional Shortage Areas (HPSAs)

212 Primary Care HPSAs

- 464 additional providers needed

153 Dental Care HPSAs

- 271 additional providers needed

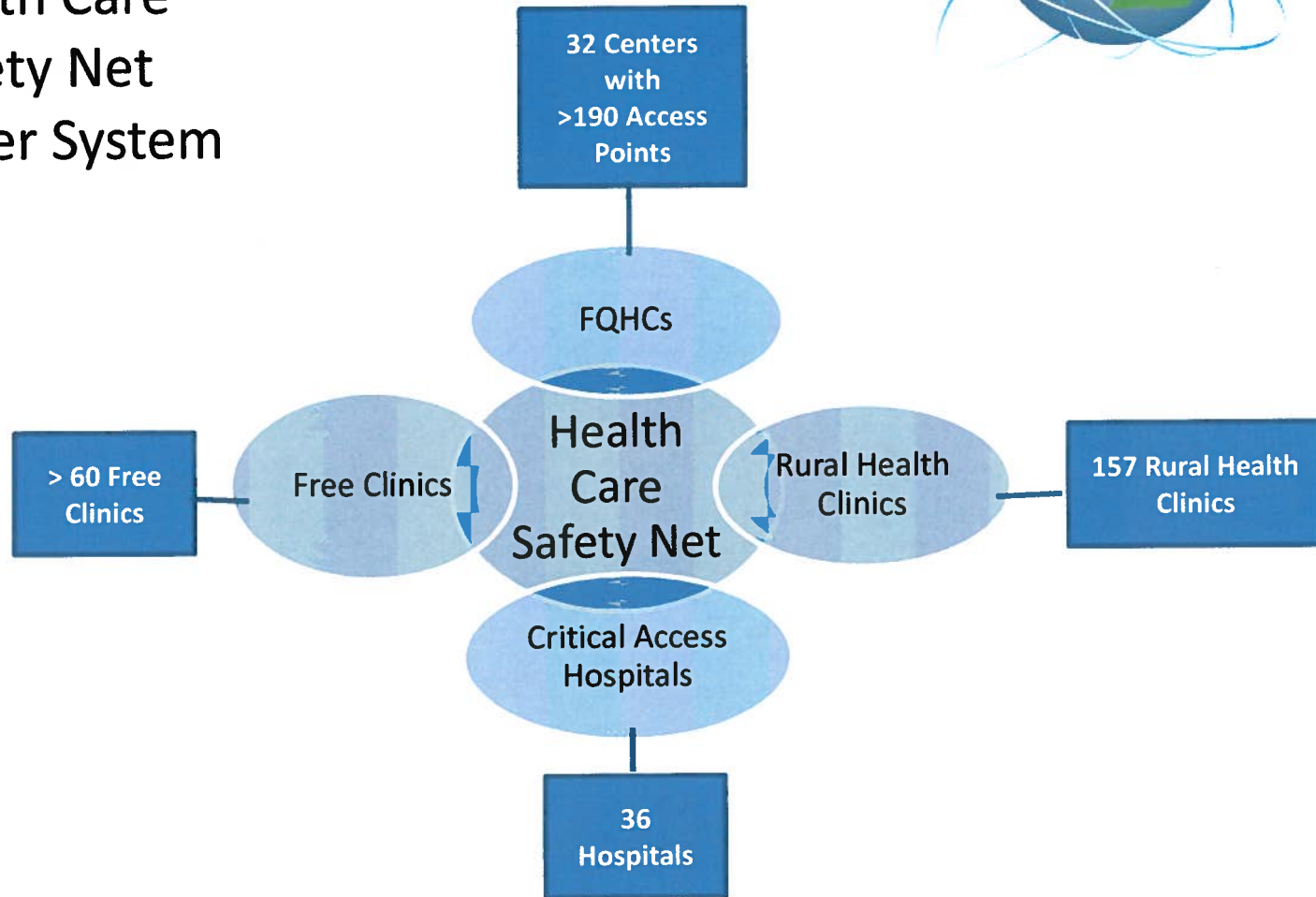
126 Mental Health Care HPSAs

- 107 additional providers needed



- Designations are used as criteria for establishing eligibility for federal and state programs
 - National Health Service Corps
 - State Loan Repayment Program
 - Federally Qualified Health Centers & Health Center Look-Alike Certification
 - Medicare Incentive Payment Program
 - CMS Rural Health Clinics Program
 - J-1 Visa Waiver Program
 - National Interest Waiver Program
 - Scoring preferences for various federal grants.

Health Care Safety Net Provider System



Workforce Development



National Health Service Corps

528 sites
296 placements



State Loan Repayment Program

11 placements in 2011



J-1 Visa Waiver Program

30 foreign medical graduates placed each year



Health Policy Development

<h2>Policy Reports</h2>	<ul style="list-style-type: none">• Michigan Rural Health Plan• Critical Health Indicators Report
<h2>Healthcare Workforce</h2>	<ul style="list-style-type: none">• Michigan Healthcare Workforce Center• State Healthcare Workforce Plan
<h2>Policy Research</h2>	<ul style="list-style-type: none">• Health reform• E-healthcare• Public Health Code Review• Nursing Policy

Certificate of Need



Goals

- Increase accessibility and quality of health services through oversight of 13 covered clinical services and three facility types (hospitals, nursing homes, psychiatric facilities).
- Restrain increases in costs of providing health services
- Prevent unnecessary duplication of health resources

Commission

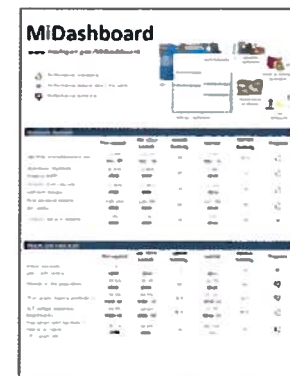
- Determines services, equipment and health facilities to be covered and makes recommendations to the Legislature
- Develops and revises standards for covered services, equipment, and beds

Department

- Reviews applications and approves or disapproves based upon the standard.

Organizational Support

- Strategic Planning
- Implementation of Governor's Health and Wellness Message
- Performance Management
 - Health and Wellness Dashboard
 - Department Scorecards
- Workforce Engagement and Transformation
 - New employee orientation
 - Staff training and development
 - Employee wellness activities
 - Employee recognition
 - Employee retention
 - Lean Process Improvement (LPI)
 - Internship program





Emergency Medical Services & Trauma Services

- License over 800 life support agencies and 3,327 life support vehicles
- Approve local Medical Control Authorities that provide community based prehospital emergency care oversight
- Approve all policies, procedures, and protocols for each of the 65 Medical Control Authorities prior to implementation
- License and regulate over 30,000 EMS personnel
- Currently developing a statewide trauma system





Crime Victim Services Commission

Providing Assistance, services, and aid to crime victims

- Membership defined by Public Act 223 of 1976
- Comprised of five members appointed by the Governor
- Duties defined by Crime Victims Compensation Act, Crime Victims Rights Act and Federal Victims of Crimes Act (VOCA)
- Three victim services programs:
 - Crime Victim Compensation
 - Crime Victim Rights
 - Crime Victim Assistance
- Supported with state restricted and federal VOCA funds



Crime Victims Services Programs

Crime Victim Compensation

Last resort for unpaid medical bills, loss of earnings, burial costs, counseling needs

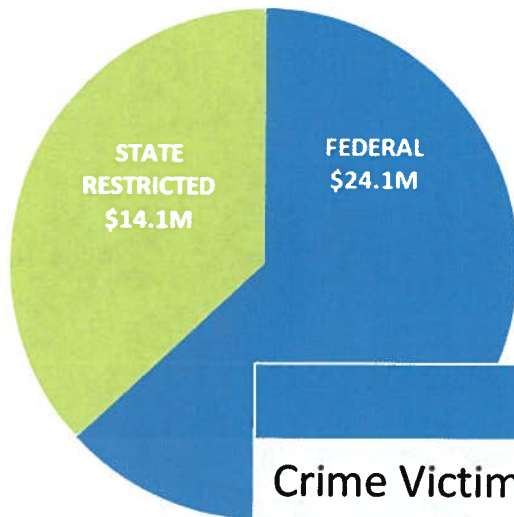
Crime Victim Assistance

Federal pass-through dollars to local public and non-profit agencies engaging in direct services to victims of crime through a competitive grant process

Crime Victim Rights and Assessment Revenue

Restricted funding to support Crime Victims Rights Activities
Funds Prosecuting Attorneys and Juvenile Courts
Supports mandatory notification rights of crime victims including the Michigan Crime Victims Notification Network
Provides advocate training to better assist victims

Crime Victims - Budget



	2012	2013
Crime Victim Rights Grants	\$16.6 M	\$16.6 M
VOCA Crime Victim Assistance Grants	19.1 M	19.1 M
Grants Administration Services	1.8 M	2.5 M
Total	\$37.5 M	\$38.2 M



Key Activities/Initiatives

- ✓ Expand forensic nurse examiner programs to facilitate training for improved evidence collection for the prosecution of sexual assault
- ✓ Work with Michigan State Police, Michigan Health Association, Michigan State Medical Society and Michigan Nurse Association on procedures to treat sexual assault victims and collect evidence
- ✓ Provide Michigan Crime Victims Notification Network training and education for Michigan's prosecutor's, sheriff's, local law enforcement and advocates



Michigan's governmental public health system is predicated on a State-Local relationship, grounded in Public Act 368 of 1978, Part 24, which identifies the local health department as the state's agent. The State's 45 local public health departments are required to provide a basic set of mandated public health services which, when enacted in an integrated manner, provide public health safety for Michigan's environment and its residents.

Public health is multidisciplinary in nature, depends on, and collaborates with, the knowledge from a cross sector of social, biological, and behavioral sciences including: physicians, registered nurses, sanitarians, veterinarians, social workers, dietitians, counselors, and laboratorians. The objective is to exercise and maintain the health of the population, as well as control or eradicate disease. Priorities are to empower the individual, to promote social responsibility for comprehensive health, and to create supportive environments to strengthen communities and their physical environments.

Over time, as our financial resource base continues to be eroded, the ability to prevent disease, respond to public health outbreaks, protect our environment, and foster the community's quality of life and place, are severely compromised.

2012 MALPH LEGISLATIVE AGENDA

- ✓ Encourage investment in Essential Local Public Health Services funding which encompass:
 - Drinking water safety
 - Food safety
 - Infectious disease investigation and reporting
 - Groundwater safety and on-site sewage monitoring/control
 - Immunization capacity
 - Sexually transmitted disease control
 - Hearing and vision services
- ✓ Support initiatives that prevent chronic and acute public health responses including:
 - Reducing infant mortality by preventing unintended pregnancies
 - Reducing obesity by fostering positive lifestyle habits
 - Reducing chronic disease incidence and consequences by prevention of personal and environmental activities and/or agents
 - Access to health screenings for early identification and intervention
 - Actions to foster clean water, and safe food and sanitary housing
 - Promotion of electronic capacity which fosters systematic efficiencies
- ✓ Implement a comprehensive Community Health Assessment program, anchored in the State Health Improvement Plan
- ✓ Support revenue sharing stewardship initiatives that ensure public funds are responsibly expended on tangible outcomes for the benefit of our communities, our environment, and our residents.



What Is Public Health?

Public Health is a complex system which protects people from unsafe or hazardous conditions and provides methods of promoting good health and preventing disease. Partners in this system include state and local health departments; community health centers; colleges and universities; schools; federal agencies; federal and state legislatures; community organizations; the business community; and, of course, the public.

Public health functions are often grouped into three basic areas by the Institute of Medicine - **assessment, assurance, and policy development**. While these terms are not well known; many of the functions that are provided under them are probably familiar to most people.

Assessment functions include determining if a community has enough doctors, nurses and dentists; recording the number of births and deaths; tracking health trends; conducting laboratory analyses; and evaluating the effectiveness of programs. Assessment programs primarily serve as the mechanism to determine if the total health system is working as well as it should.

Assurance covers those activities that deal with making sure people's health needs are safely and effectively met. For example, government's role in regulating, through licensure and inspection, falls under this heading. Programs that provide education to both health care providers and the community are part of assurance as well. Finally, assurance includes providing medical, dental, and psychological services directly to the public.

Policy development pertains to the setting of goals for health services, developing performance standards, determining priorities for the allocation of resources, and planning for systems to meet identified health needs. Setting immunization standards for children is an example of public policy development.

The story of public health is one of success. The public can eat at restaurants anywhere in Michigan, access health care, breathe clean air, work in a safe environment, and live without fear of catching many diseases because our public health system is working.

A Longer Life and a Better Life

Without strong public health protection, living in Michigan could be very different. Less than 100 years ago, imagine: the average lifespan was just 47 years; no sewers and septic tanks, so water is unsafe to drink; no vaccinations, so almost everyone is sick and medical costs are even higher; no restaurant inspections, so food is unsafe to eat; kids don't have a safe place to play; people live next to toxic waste.

Essential Local Public Health Services (Mandated ~ Cost Shared Services)



Michigan Public Health Code – Act 368 of 1978 ~ MCL 333.17015

Sec. 904: Allocations to local public health operations; contractual standards; distributions; report.

(1) Funds appropriated in part 1 for local public health operations shall be prospectively allocated to local health departments to support immunizations, infectious disease control, sexually transmitted disease control and prevention, hearing screening, vision services, food protection, public water supply, private groundwater supply, and on-site sewage management. Food protection shall be provided in consultation with the Michigan department of agriculture. Public water supply, private groundwater supply, and on-site sewage management shall be provided in consultation with the Michigan department of environmental quality.

(2) Local public health departments will be held to contractual standards for the services in subsection (1).

Food Protection - This service is intended to minimize the risk of foodborne illness to persons consuming food from licensed food service establishments. Secondary objectives include the satisfaction of reasonable customer expectations relative to sanitation, and protection of the environmental quality in the vicinity of food service establishments. Elements of this service include plan reviews, licenses and permits, inspections, complaint investigations, enforcement actions, and investigations of reported cases of foodborne diseases.

Private Groundwater/Public Water Supply - Works through education and regulation to assure the proper installation, operation, and abandonment of the water supplies serving private and public water supply users. This is accomplished through issuance of well permits for all water wells, inspection of well construction techniques, monitoring of water quality, and areas of known or suspected areas of contamination.

On-Site Sewage Disposal Management - Consists of the review of sites proposed for sewage disposal, issuance and/or denial of permits, sewage disposal system evaluations and inspections, plan review, review of proposals for alternative sewage disposal systems, investigations, and enforcement.

Hearing Screening - Includes screening of hearing problems, referral, and health education for the prevention of deafness and the amelioration of hearing problems. The primary focus of hearing services is preschool children (ages 3-5 years) and school-age children.

Vision Services - Includes screening, health education, and referral for the prevention of blindness and the amelioration of vision problems. The primary focus of vision services is preschool children (ages 3-5 years) and school-age children.

Sexually Transmitted Disease Control and Prevention - This program addresses disease transmitted through sexual contact, primarily syphilis, gonorrhea, Chlamydia, and HIV; the element targets the immediate effects and long-term sequelae, as well as prevention of the infections. Surveillance, screening, clinical services, sexual partner referral, and education are major program components.

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Michigan Public Health Code – Act 368 of 1978 ~ MCL 333.17015 (Concluded)

Immunization - This program entails the provision of immunizations to the entire population, with special emphasis on pediatric populations, including proper storage, handling and distribution; the assessment of immunization levels to identify susceptible populations and to evaluate the effectiveness of immunization programs; and the assurance of complete immunization coverage among children enrolled in school, daycare or other preschool programs.

Infectious Disease Control - This program renders services that cut across the full range of infectious diseases, including the vaccine preventable diseases, the sexually transmitted diseases, human immunodeficiency virus (HIV) related disease, and tuberculosis. The activities of this program are directed toward preventing infectious disease, the gathering of information concerning the occurrence of infectious diseases, investigating cases and outbreaks of infectious disease, evaluating data and case information, offering treatment in certain instances, and instituting measures to control epidemics.

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Attachment A

MATRIX OF SERVICES OF LOCAL PUBLIC HEALTH

Services	Rule or Statutory Citation	Required =	Basic +	Mandated +	LPHO	Allowable	Notes
		1	1.A.	1.B.	1.C.	2	
Immunizations	PA 349 of 2004 – Sec. 218 and 904; MCL 333.9203, R325.176	X	X	X	X		
Infectious/Communicable Disease Control	MCL 333.2433; Parts 51 and 52; PA 349 of 2004 – Sec. 218 and 904; R325.171 et seq.	X	X	X	X		
STD Control	PA 349 of 2004 -- Sec. 218 and 904; R325.177	X	X	X	X		
TB Control	PA 349 of 2004 -- Sec. 218	X	X	X			
Emergency Management – Community Health Annex	PA 349 of 2004 – Sec. 218 MCL 30.410	X	X	X			Basic Service under Appropriations Act and Mandated Service, if required, under Emergency Management Act.
Prenatal Care	PA 349 of 2004 – Sec. 218	X	X				
Family planning services for indigent women	MCL 333.9131; R325.151 et seq.	X		X			
Health Education	MCL 333.2433	X		X			
Nutrition Services	MCL 333.2433	X		X			
HIV/AIDS Services; reporting, counseling and partner notification	MCL 333.5114a; MCL 333.5923; MCL 333.5114	X		X			
Care of individuals with serious Communicable disease or infection	MCL 333.5117; Part 53; R325.177	X		X			(4) Financial liability for care rendered under this section shall be determined in accordance with part 53.
Hearing and Vision Screening	MCL 333.9301; PA 349 of 2004 – Sec. 904; R325.3271 et seq.; R325.13091 et seq.	X		X	X		
Public Swimming Pool Inspections	MCL 333.12524; R325.2111 et seq.	X		X			Required, if “designated”
Campground Inspection	MCL 333.12510; R325.1551 et seq.	X		X			Required, if “designated”
Public/Private On-Site Wastewater	MCL 333.12751 to MCL 333.12757 et. seq., R323.2210 and R323.2211	X		X	X		Alternative waste treatment systems regulated by local public health.
Food Protection	PA 92 of 2000 MCL 289.3105; PA 349 of 2004 – Sec. 904	X		X	X		

Services	Rule or Statutory Citation	Required =	Basic +	Mandated +	LPHO	Allowable	Notes
		1	1.A.	1.B.	1.C.	2	
Pregnancy test related to informed consent to abortion	MCL 333.17015(18)	X		X			
Public/Private Water Supply	MCL 333.1270 to MCL 333.12715; R325.1601 et. seq.; MCL 325.1001 to MCL 325.1023; R325.10101 et. seq.	X			X		
Allowable Services						X	This category would include all permissive responsibilities in statute or rule that happen to be eligible for cost reimbursement.
Other Responsibilities as delegated and agreed-to	MCL333.2235(1)					X	This category is NOT connected to express responsibilities within statute, but refers entirely to pure delegation by the department as allowed. In addition to general provision, the Code allows delegations for specified functions.

MATRIX DEFINITIONS

Name	Citation	Description
1. Required Service	MCL 333.2321(2); MCL 333.2408; R325.13053	Means: (A) a basic service designated for delivery through Local Public Health Department (LPH), (B) local health service specifically required pursuant to Part 24 or specifically required elsewhere in state law, or (C) services designated under LPHO.
1.A. Basic Service	MCL 333.2311; MCL 333.2321	A service identified under Part 23 that is funded by appropriations to MDCH or that is made available through other arrangements approved by the legislature. Defined by the current Appropriations Act and could change annually. For FY 2005: immunizations, communicable disease control, STD control, TB control, prevention of gonorrhea eye infection in newborns, screening newborns for 8 conditions, community health annex of the MEMP, and prenatal care.
1.B. Mandated Service	MCL 333.2408	The portion of required services that are not basic services, but are "required pursuant to this part [24] or specifically required elsewhere in state law."
1.C. LPHO	PA 349 of 2004 – Sec. 904	Funds appropriated in part 1 of the MDCH Appropriations Act that are to be prospectively allocated to LPH to support immunizations, infectious disease control, STD control and prevention, hearing screening, vision services, food protection, public water supply, private groundwater supply, and on-site sewage management.
2. Allowable Services	MCL 333.2403; R325.13053	"Means a health service delivered [by LPH] which is not a required service but which the department determines is eligible for cost reimbursement".
PA 349 of 2004		Fiscal year 2005 Appropriations Act for the Department of Community Health.

Analysis of the Value of Essential Local Public Health Services Funding

March 2010

Prepared for
Michigan Association for Local Public Health
Lansing, Michigan

Prepared by
Public Sector Consultants Inc.
Lansing, Michigan
www.pscinc.com

EXECUTIVE SUMMARY

The Michigan Association for Local Public Health (MALPH) is a member organization comprised of Michigan's 45 local public health departments. Each department endeavors to carry out its statutory responsibility of preventing disease, prolonging life, and promoting public health through organized programs in its area of the state. These organized programs encompass eight vital public health operations: immunizations, sexually transmitted disease (STD) control, infectious disease control, hearing screening, vision screening, food safety inspection, on-site sewage monitoring, and drinking water inspections.

The State of Michigan recognizes the importance of such programs; for that reason, the state has codified a cost-sharing formula into statute to share the responsibility of funding these programs. Unfortunately, Michigan's economy has steadily declined over the past decade and the state has not been able to fulfill its obligation of funding half the cost of these activities. Local public health departments believe strongly in the importance of the programs they provide and have continued to manage these services with diminished resources. In order to demonstrate the value of these programs to the state, this report estimates the return on investment for these eight programs using data collected by the local health departments and by reviewing and applying existing return on investment research for similar programs.

- Every dollar invested in childhood immunization programs provides a savings of \$22 in direct and indirect costs. Local health departments administered and monitored more than 36,000 doses of childhood vaccine in 2009 using \$4 million. The savings to the state as a result of this program were at least \$88 million.
- Every H1N1 vaccination administered saves between \$91 and \$141 in direct medical costs. As a result, every dollar spent to administer those vaccinations provides a savings of \$11.
- Chlamydia and gonorrhea are the two most commonly reported STDs and can be especially harmful to women. Left untreated, these diseases can develop into pelvic inflammatory disease (PID), which costs, on average, \$3,600 to treat. Based on the number of women screened and referred for treatment, every dollar invested in STD screening results in at least \$2.50 in savings.
- Surveillance of infectious disease is vital in understanding and halting disease outbreaks. Local health departments are responsible for tracking and reporting more than 100 diseases. Based on the costs of stemming the outbreak of just one of those diseases, bacterial meningitis, a conservative savings estimate for infectious disease control is \$2.00 for every dollar invested.
- Untreated hearing loss costs about \$250,000 in a lifetime, 75 percent of which is due to lost work productivity. Every dollar spent on hearing screening potentially saves \$112 in future work productivity with appropriate early intervention.
- Vision screening is effective in early detection of eye problems that can largely be prevented with early treatment. Every dollar spent on vision screening saves \$162.
- Local health departments are responsible for restaurant inspections, as well as investigation and follow-up when a suspected foodborne illness outbreak occurs. In

2009, approximately 187 confirmed cases of foodborne illness occurred, at an estimated cost of over \$1.5 million for treatment. Costly foodborne illness outbreaks would be more likely in the absence of this program.

- Proper sewage disposal and clean drinking water are without a doubt one of the most important historical breakthroughs in public health. Unfortunately, the few outbreaks of waterborne illness that still occur today can be devastating, as evidenced by a recent outbreak in Walkerton, Ontario, a town with a population of 5,000. Medical expenses of almost \$65 million were incurred when 2,300 residents became ill from ingesting *E. coli* through contaminated drinking water.

“Complacency is perhaps the cardinal sin for those charged with protecting public health. Infectious diseases, once thought conquered, are always marshalling their forces ready to strike back in the face of reduced vigilance. Recent years have demonstrated the remarkable potential for nature to generate new threats particularly when major changes are taking place in the human habitat and in behaviour.”

Sir Liam Donaldson, *Journal of the Royal Society for the Promotion of Health*¹

ESSENTIAL LOCAL PUBLIC HEALTH SERVICES FUNDING

Michigan’s 45 local public health departments play a vital role in protecting the public health of the residents of Michigan. Their role is considered so vital, in fact, that Michigan law requires the state to provide a minimum level of funding for eight basic health services. Michigan statute requires local health departments to “continually and diligently endeavor to prevent disease, prolong life, and promote the public health through organized programs, including prevention and control of environmental health hazards; prevention and control of diseases; prevention and control of health problems of particularly vulnerable population groups; development of health care facilities and health services delivery systems; and regulation of health care facilities and health services delivery systems to the extent provided by law.”² The statute further defines local health departments’ responsibilities as implementing and enforcing laws; utilizing statistics and research to protect the public health; investigating cause of disease and especially epidemics; planning, implementing, and evaluating public health education; preventing and controlling environmental health hazards, diseases, and health problems of particularly vulnerable populations; and having power to perform such duties and exercising that power.

While these duties may seem vast, eight basic services have developed which fulfill the statutory responsibility of local health departments. These services are immunizations, sexually transmitted disease control, infectious disease control, hearing screening, vision screening, food safety inspection, on-site sewage monitoring, and drinking water inspections.³ The state, having recognized the resources required to adequately provide such services, developed and codified a cost-sharing formula to fund the delivery of these services. As of 1984, the state and local health departments were each required to fund half of these services.⁴ Despite this requirement, the state has not funded local health departments for these services at the statutorily required level in more than 15 years, leaving local health departments to scramble for supporting funds from other sources, either through fees or from local governing entities. Funding for these eight essential services in the Essential Local Public Health Services (ELPHS) appropriation has decreased since 2003, when ELPHS received \$40.8 million. If ELPHS funding had been adjusted each year for inflation, ELPHS would currently be receiving \$47.6 million. In

¹ L. Donaldson, *Journal of the Royal Society for the Promotion of Health* 121 (2001): 146–151.

² Michigan Compiled Law, 333.2433.

³ Although on-site sewage inspection and drinking water inspections are considered separate programs, discussion of these two areas will be grouped because they are administered so closely together.

⁴ Michigan Compiled Law, 333.2475.

fiscal year (FY) 2008–09, however, the ELPHS appropriation was \$40.6 million for these mandated services (\$35.5 million General Fund; \$5.1 million School Aid Fund). If the state were meeting its statutory obligation, regardless of inflationary increases, ELPHS would have received \$66.8 million in FY 2009–10.

Immunizations

Immunizations have been one of the most important tools in fighting and, in some cases, eradicating deadly infectious diseases. The importance of vaccinations cannot be overstated. The fear of polio, measles, and diphtheria is almost non-existent in today’s society because of our effective local public health childhood immunization program. Seasonal outbreaks of new strands of serious influenza can be quickly quelled with well-organized vaccination campaigns. Local public health departments play a vital role in educating the public on the importance of vaccinations; tracking and reporting the number of people who have been vaccinated; and distributing vaccines for emergency outbreaks.

Michigan local public health departments receive approximately \$4 million from the state to provide a comprehensive, statewide vaccination program that includes vaccine administration, technical support to private providers, and surveillance and reporting through the Michigan Care Improvement Registry.

Childhood vaccinations remain crucial in fighting the resurgence of deadly diseases. Routine childhood immunizations include DTaP (diphtheria, tetanus, and pertussis), Hib (Haemophilus influenzae type b), IPV (polio), MMR (measles, mumps, and rubella), and HepB (hepatitis B). In Michigan in 2009, more than 36,000 doses of these vaccines were administered. Local public health departments record childhood immunizations so that children lacking proper vaccines can be easily identified. Local public health departments also work

Childhood immunizations provided \$22 in savings for every dollar invested.

In 2009, every dollar local health departments spent on H1N1 vaccinations provided up to \$11 in direct and indirect savings.

closely with schools and private providers to maintain appropriate vaccination coverage. The Centers for Disease Control and Prevention (CDC) reports that for every \$1 spent on these childhood immunizations in 2001, \$18.40 in savings were realized in direct and indirect costs.⁵ Today that would be about \$22 saved for every \$1 invested. (Throughout this report, cost estimates are adjusted based only on the consumer price index and assume all other factors have remained the same.) If the childhood immunization program had been the only vaccination program local public health departments administered, the amount of money save in 2009 with a \$4 million investment would have amounted to more than \$88 million.

Local public health departments’ responsibilities for immunizations are greater than just childhood vaccinations. When the H1N1 strand of influenza began spreading at alarming

⁵ F. Zhou, J. Santoli, M. L. Messonnier, H. R. Yusuf, A. Shefer, S. Y. Chu, L. Rodewald, and R. Harpaz, Economic Evaluation of the 7-vaccine Childhood Immunization Schedule in the United State, 2001, *Archives of Pediatric Adolescent Medicine*, 159, no. 12 (2005): 1136–44.

rates in 2009, local public health departments had the sole responsibility of acquiring and distributing vaccines to the most vulnerable populations in the most expedient manner possible. Research conducted in 2009 estimated the savings incurred as a result of H1N1 vaccinations. Each H1N1 immunization saves between \$91 and \$141 in medical costs, depending on when the vaccination is administered.⁶

Last year, 1,483,233 people in Michigan received the H1N1 vaccine. Local health departments received \$19 million in federal emergency funds to administer the H1N1 vaccination program. Based on the number of vaccines administered, the cost to administer each one averaged \$13, meaning every \$13 invested in this program saved up to \$141. As a result, every dollar invested in H1N1 vaccinations saved up to \$11 in direct and indirect costs. Without question, any money spent on immunizing the population provides a substantial economic return on investment.

Sexually Transmitted Disease Control

Local public health departments are required to provide screening for a variety of sexually transmitted diseases (STDs). Screening for STDs is vital to early treatment of infections and prevention of epidemics. Unfortunately, Michigan has seen an uptick in the number of STDs reported,⁷ paralleling a nationwide trend of increasing rates of STDs.⁸ More than 58,000 cases of STDs were reported in Michigan in 2009, up from 55,000 in 2007. With early treatment, many of these can be easily cured without causing further health complications. The majority of STD screenings are for chlamydia, gonorrhea, syphilis, and HIV.

Each dollar allocated
for STD screening
through ELPHS real-
ized \$2.50 in savings.

Chlamydia and gonorrhea are two of the most common bacterial STDs occurring today, with chlamydia the most frequently reported. Both chlamydia and gonorrhea can lead to a number of serious health problems for women, including pelvic inflammatory disease (PID). PID is an infection of the uterus that can lead to serious health consequences including infertility, ectopic pregnancy, abscess formation, and chronic pelvic pain. The CDC recommends annual chlamydia and gonorrhea screening for all sexually active women under the age of 25.

During FY 2008–09, local public health departments conducted 113,444 screenings for chlamydia for both men and women. Of those, 6,291 women received a positive diagnosis. The number of men and women screened for gonorrhea totaled 93,731. Of those, 1,302 women had a positive diagnosis.

From the total ELPHS funds for FY 2008–09, \$5.7 million was disbursed among local health departments for STD screening. It costs less than \$30 to conduct each test. The economic impact of screening for STDs has been thoroughly studied and the savings are

⁶ N. Khazeni, D. W. Hutton, A. M. Garber, N. Hupert, and D. K. Owens, Effectiveness and Cost-Effectiveness of Vaccination Against Pandemic Influenza (H1N1) 2009, *Annals of Internal Medicine* 151, no. 12 (December 12, 2009), available online at <http://www.annals.org/content/early/2009/10/05/0003-4819-151-12-200912150-00157.full> (accessed 3/31/10).

⁷ Michigan Department of Community Health, Bureau of Laboratory Testing Database, January 2009.

⁸ Centers for Disease Control and Prevention (CDC), Division of STD Prevention, *Sexually Transmitted Disease Surveillance 2007* (Atlanta, Ga.: CDC, Division of STD Prevention, December 2008).

significant. In 1998, researchers in Baltimore determined that up to 40 percent of untreated chlamydia cases progress to PID.⁹ A similar study in 2000 determined that up to 40 percent of untreated gonorrhea cases can progress to PID as well.¹⁰ Treatment costs for PID averaged \$3,600¹¹ in 1998; adjusted for inflation, each case would have cost about \$4,800 in 2009. If 40 percent of the chlamydia and gonorrhea cases identified and treated for women in Michigan in FY 2008–09 (3,037) had gone undetected and progressed to PID, the costs associated with these diseases alone would have been about \$14.5 million. Therefore, each dollar allocated for STD screening through ELPHS realized at least \$2.50 in savings.

Infectious Disease Control

Local public health departments are the only central tracking source in the state for infectious disease incidence; that is, all new cases of infectious disease are reported to local health departments for monitoring and investigation. This surveillance is instrumental in preventing serious disease epidemics. The State of Michigan maintains a list of reportable diseases, including influenza, meningitis, and measles. Many of these diseases are capable of affecting vast portions of the population if they spread uncontrollably, which would have an untold fiscal impact on the state in terms of medical expenses and economic loss. Local health departments enter new diagnoses into a statewide tracking system each week; this tracking system allows for real-time monitoring and response to outbreaks. Local public health departments in 2009 monitored more than 777,000 newly diagnosed cases of the more than 100 reportable diseases throughout the state.

Every dollar invested
in infectious disease
surveillance saved
at least \$2.00.

Tracking reportable disease at the local level ensures proper identification and follow-up of diseases. Local health departments ensure that those affected receive appropriate treatment; track other people with whom infected individuals may have had contact for vaccination, treatment, quarantine, and education; and investigate and stop outbreaks. This surveillance helps public health authorities monitor incidence of reportable diseases, measure trends, assess and develop prevention and control strategies, and target at-risk populations. While surveillance is vital in controlling the spread of disease, it is also important to detect sudden changes in disease occurrence and distribution and to understand why those changes occur.

The CDC defines a reportable disease as one for which regular, frequent, and timely information regarding individual cases is necessary for the prevention and control of disease.¹² While many diseases on the list are of relatively little concern to many today (leprosy, plague, and polio, for example), some are illnesses that continue to manifest and

⁹ R. M. Howell, T. Quinn, and C. Gaydos, Screening for Chlamydia Trachomatis in Asymptomatic Women Attending Family Planning Clinics: A Cost-Effectiveness Analysis of Three Strategies, *Annals of Internal Medicine* 128, no. 4 (February 15, 1998): 277–84.

¹⁰ H. W. Chesson, J. M. Blandford, T. L. Gift, G. Tao, and K. L. Irwin, The Estimated Direct Medical Cost of Sexually Transmitted Diseases Among American Youth, 2000, *Perspectives on Sexual and Reproductive Health* 36, no. 1 (Jan/Feb 2004): 11–19.

¹¹ Howell et al., Screening for Chlamydia Trachomatis in Asymptomatic Women.

¹² Centers for Disease Control and Prevention, *Morbidity and Mortality Weekly Report: Summary of Notifiable Diseases – United States, 2007*, 56, no. 53 (July 9, 2009): 2.

evolve. Meningococcal disease, commonly called meningitis, is one such illness. Meningitis is an inflammation of the tissue surrounding the spinal cord, and can be either viral or bacterial. Bacterial meningitis is more serious than viral meningitis, but neither can be definitively diagnosed without extracting tissue from the spinal column, which is a very costly procedure. Bacterial meningitis can be treated with antibiotics; viral meningitis, although less serious, cannot be treated with antibiotics. Due to the difficulty of determining what type of meningitis a person has contracted, however, antibiotics may be administered as a precaution until test results are available. If practitioners are aware of an increase in viral meningitis incidence, they can follow best practices for treating viral meningitis instead of immediately ordering more expensive testing and treatments.

A study of a 1991 meningitis outbreak in Rhode Island estimated direct medical costs for 408 persons diagnosed to be more than \$585,000.¹³ Because of the difficulty of diagnosing meningitis, at least 359 patients were admitted to a hospital, although better coordination and communication about symptoms and diagnosis between the providers, public health, and hospitals could have prevented hospitalization. Only ten of these cases were bacterial infections; the overwhelming majority of cases were viral. On average, cost estimates for treating a person with bacterial meningitis are \$8,145.¹⁴ The authors of this research conclude that “if the community response to the outbreak had been more focused, it might have cut costs considerably” because patients with viral meningitis do not benefit from expensive testing and treatment, like head CT or antibiotics.¹⁵

In 2009, 338 new cases of bacterial meningitis were reported in Michigan.¹⁶ Based on previous estimates for diagnosing and treating meningitis, each case would cost approximately \$11,500 today. Medical costs for those cases could have exceeded \$3.8 million. In FY 2008–09, Michigan’s local public health departments received almost \$6.6 million for infectious disease control. While it is impossible to guess how many other people would have contracted bacterial meningitis without the surveillance provided by health departments, if each of those persons had contact with even three other people who contracted meningitis (which is likely since many outbreaks of meningitis occur on college campuses, where young adults live in close quarters), medical costs would have been in excess of \$15 million, more than twice what the state invests in disease surveillance and investigation for *all* reportable diseases. Therefore, a very conservative estimate for the savings resulting from surveillance would be \$2 for every \$1 invested.

Hearing Screening

Hearing screening for school-age children is standard practice in the United States. The Individuals with Disabilities Education Act of 2004 requires states to identify children with disabilities, including hearing loss. Michigan requires that children be screened at

¹³ S. Rice, R. Heintz, L. Thornton, and S. Opal, Clinical Characteristics, Management Strategies, and Cost Implication of a Statewide Outbreak of Enterovirus Meningitis, *Clinical Infectious Diseases* 20, no. 4 (April 1995): 931–37.

¹⁴ L. Jackson, A. Schuchat, R. Gorsky, and J. Wenger, Should College Students be Vaccinated Against Meningococcal Disease? A Cost-Benefit Analysis, *American Journal of Public Health* 85, no. 6 (June 1995): 843–45.

¹⁵ Rice et al., Clinical Characteristics, Management, Strategies, and Cost Implications.

¹⁶ Michigan Department of Community Health, Michigan Disease Surveillance System, December 2009.

least once between the ages of three and five, and every other year up to the age of 12. Local public health departments fund the cost of the screenings in conjunction with the state. Some children pass an initial screening, but are still at risk for hearing loss that fluctuates, is progressive, or is acquired later in development. Hearing loss can affect a child's ability to succeed in school, and early intervention has been proven effective in minimizing any negative effects on learning. Hearing loss can also be an indicator for more serious disorders, including Hunter's syndrome, a neurodegenerative disorder.

**Every dollar invested
in hearing screening
saves \$112 in future
work productivity.**

In FY 2008–09, local public health departments received \$2.5 million to conduct 500,000 hearing screenings. Three percent of children screened were referred for follow-up. Early intervention for children with hearing loss has proven to significantly improve future development. Children with mild to moderate hearing loss, on average, achieve one to four grade levels lower than children with normal hearing.¹⁷ With appropriate management, the achievement gap can be bridged.

Untreated hearing loss costs about \$250,000 in a lifetime; 75 percent of that amount is attributable to lost work productivity.¹⁸ On average, 0.3 percent of children have hearing loss.¹⁹ This would translate into 1,500 of the children screened by local public health departments in Michigan in the 2008–09 school year. If these children receive assistance early, the overall cost of hearing loss could be significantly reduced and could result in future work productivity savings of \$280 million. Therefore, each dollar spent on hearing screening potentially saves \$112 in future work productivity, with appropriate intervention.

Vision Screening

Vision screening for school-age children is another program provided by local public health departments. Health departments fund the costs of vision screenings in conjunction with the state. Children must be screened at least once between the ages of three and five, and then every other year through the ninth grade. Vision screening is effective in early detection of eye problems that can largely be prevented with early treatment, such as amblyopia, or “lazy eye.”

Local health departments screened 682,000 children for vision problems in 2008; more than 67,000 children were referred for follow-up and treatment, or just under 10 percent of children screened. For FY 2008–09, local public health departments received \$2.6 million for the vision screening program.

**Every dollar invested
in vision screening
saves \$162.**

¹⁷ American Speech Language Association, *The Prevalence and Incidence of Hearing Loss, 2010*, available online at <http://www.asha.org/public/hearing/disorders/children.htm> (accessed 3/31/10).

¹⁸ P. E. Mohr, J. Feldman, and J. Dunbar, The Societal Cost of Severe to Profound Hearing Impairment in the United States, *Annual Meeting off the International Society of Technology Assessment in Health Care Meeting* 16, no. 4 (2000): 1120–35.

¹⁹ National Institutes on Deafness and Other Communication Disorders (NIDCD), *Outcomes Research in Children with Hearing Loss* (Bethesda, Md.: NIDCD, December 2006).

Vision screening has been shown to provide a cost savings. A study conducted in 2003 determined that all visual screening programs had a positive benefit-to-cost ratio, meaning that the benefits of screenings exceeded the costs of screenings. Every dollar spent on visual acuity screenings for preschool and school-age children realizes savings of up to \$162.²⁰ This means that the screening program in 2008 offered a benefit to the state of more than \$421 million with an investment of \$2.6 million.

Food Safety Inspection

Local health departments work in conjunction with the Michigan Department of Agriculture (MDA) to ensure the safety of food served in restaurants. The local health departments are responsible for planning reviews, conducting inspections, processing license applications, enforcing policies, and investigating complaints and foodborne illness outbreaks. The MDA provides evaluation, consultation, and training services to sanitarians in local health departments. In 2009, 194 full-time equivalent (FTE) inspectors conducted more than 94,000 inspections; 67 percent of those were routine inspections and the rest were follow-up or temporary food service activities. Each inspector conducts an average of 487 inspections annually.²¹

Local public health departments are responsible for investigation and follow-up when a suspected foodborne illness outbreak occurs. In Michigan, this is defined as an incident involving two or more cases, not in the same household, of people who have ingested a common food and have similar symptoms. In 2009, 150 potential foodborne illness outbreaks were identified. Of those, 20 were classified as probable foodborne illness outbreaks comprising 467 confirmed illnesses. Norovirus was confirmed as the cause of three outbreaks, clostridium perfringens caused two outbreaks, and salmonella was the confirmed cause of another three outbreaks, resulting in 187 cases of disease. The number of confirmed outbreaks and illnesses is low, however, due to indeterminate conclusions or lack of conclusions from investigations. The cost of these illnesses can range from the price of a simple medical visit to more severe cases that result in hospitalization and even death. Research on the cost of salmonella suggests that in 1999 a physician visit for salmonella infection cost \$315.²² Adjusted for inflation, that would be \$408 in 2009. For more severe cases, researchers estimate costs for salmonella at about \$5,460,²³ and for clostridium perfringens about \$6,400.²⁴ In 2009, that would be between \$7,000 and \$9,600 per case. These costs are for medical care only and do not take into account the cost to society due to lost productivity.

²⁰ V. Joish, D. C. Malone, and J. M. Miller, A Cost-Benefit Analysis of Vision Screening Methods for Pre-school-age Children, *Journal of American Association for Pediatric Ophthalmology and Strabismus*. 7, no. 4 (2003): 283–90.

²¹ Michigan Department of Agriculture (MDA), Food and Dairy Division, *Annual Report Fiscal Year 2009* (Lansing, Mich.: MDA, Food and Dairy Division, 2009).

²² P. Frenzen, L. Riggs, J. Buzby, T. Breuer, T. Roberts, D. Voetsch, and S. Reddy, Salmonella Cost Estimate Updated Using FoodNet Data, *FoodReview* 22, no. 2 (1999): 10–15.

²³ Ibid.

²⁴ United States Department of Agriculture (USDA), Food and Consumer Economics Division, *Bacterial Foodborne Disease: Medical Costs and Productivity Losses* (Washington, D.C.: USDA, Food and Consumer Economics Division, August 1996).

The food inspection program is funded jointly by the state and through local fees and taxes. In 2009, the state allocated \$8.25 million. Based on the number of illnesses identified and investigated with confirmed cause (187 norovirus, clostridium perfringens, and salmonella combined), medical costs due to foodborne illness outbreaks, using an average cost of \$8,300 per case, can be estimated at more than \$1.5 million. These costs likely would have been much greater in the absence of state inspections and investigations.

The investment by the state into ensuring food safety through local inspections and enforcement has provided incalculable savings by guaranteeing timely inspection and follow-up to prevent foodborne illness outbreaks and limit the impact when outbreaks occur. This service is not only vital for Michigan residents, but is also important for ensuring a safe and thriving tourist economy.

On-Site Sewage & Water Well Inspections

Protecting the state's groundwater is vital for the continued health of Michigan citizens. Effective systems for sewage disposal and vigilant testing of groundwater are two of the most important methods to protect Michigan's water. Properly disposing of sewage has proven throughout history to protect populations from serious infectious illness. Diseases such as cholera and typhoid that were capable of destroying entire cities are no longer an issue in the United States. Local health departments work with the Michigan Department of Natural Resources and Environment to survey and approve potential sewage systems within their communities, as well as approve new wells for drinking water. While quantifying the value of effective sewage disposal and clean drinking water is nearly impossible, the virtual eradication of diseases such as cholera and typhoid has clearly contributed to the economic success of developed nations.

Although industrialized nations have been successful in stemming outbreaks of deadly diseases such as cholera, health officials must still be vigilant against other infections, like *E. coli*. In Michigan, some bodies of water have been damaged due to lack of public health oversight.

Twenty years ago, the quality of Lake St. Clair, in Macomb County, had been severely compromised. In the late 1990s, a group of government officials came together to address the problems resulting from the water quality: compromised drinking water, depressed tourism resulting from beach closures and the safety of the lake for swimming, damage to the plants and animals of the Lake St. Clair watershed ecosystem, and the safety of using the lake for recreational sports.²⁵ Many recommendations for protecting the watershed focus on the responsibilities of the local health department to enhance and maintain ongoing water quality monitoring, establishing education programs for septic owners, and instituting preventive and corrective action steps for nonfunctional septic systems. Recognizing the importance of protecting water resources keeps citizens safe and is important for many sectors of our economy, including agriculture and tourism.

²⁵ Macomb County Blue Ribbon Commission on Lake St. Clair, *Report and Recommendations* (N.p.: Macomb County Blue Ribbon Commission on Lake St. Clair, September 5, 2008). Available online at <http://www.macombcountymi.gov/publichealth/EH/Documents/Blue%20Ribbon%20ReportII.pdf> (accessed 3/21/10).

A sobering example of the danger and expense of contaminated drinking water can be illustrated by an *E. coli* outbreak in the city of Walkerton, Ontario, located 200 miles northwest of Detroit. In May of 2000, a severe rainfall resulted in an influx of contaminants into one of the city's wells. Days later, 20 children were home from school and two children were admitted into the hospital with *E. coli*-like symptoms. The public works department had tested the well and found adverse results, but did not take the appropriate steps necessary to detoxify the water with chlorine, nor did they notify the health department of the risk posed by the tainted water. Within six days, seven people had died and 2,300 had become ill because of the *E. coli* in the drinking water. The economic effect on this town of 5,000 residents as a result of the contaminated drinking water was \$64.5 million in direct medical costs, or \$13,000 per resident, and \$90 million in indirect costs. Additionally, real estate values declined by a total of \$1.1 million and costs to local businesses were estimated at about \$651,000.²⁶ Michigan invests almost \$9.3 million annually to maintain clean drinking water and ensure appropriate sewage disposal. In 2008, local health departments issued almost 19,000 permits for new sewage disposal construction, in addition to conducting 20,000 inspections and performing over 16,500 land evaluations for future sewage systems. In 2009, 11,700 sites were evaluated for drilling and 12,000 new well permits were issued.²⁷ The costs avoided by preventing just one epidemic far exceed the costs of these activities.

Conclusion

The practice of modern public health has evolved over centuries. A solid public health framework is one of the characteristics that separate industrialized nations from the developing world. Our health departments' ability to administer vaccinations, monitor the spread of disease, identify hearing and vision deficiencies to assure educational success, protect against foodborne illness, and ensure the safety of drinking water undoubtedly contribute to the health and safety of our communities. Living in communities with a diminished risk of contracting life-threatening illnesses enables Michigan's residents to make important contributions to the economy of the state, the nation, and the world.

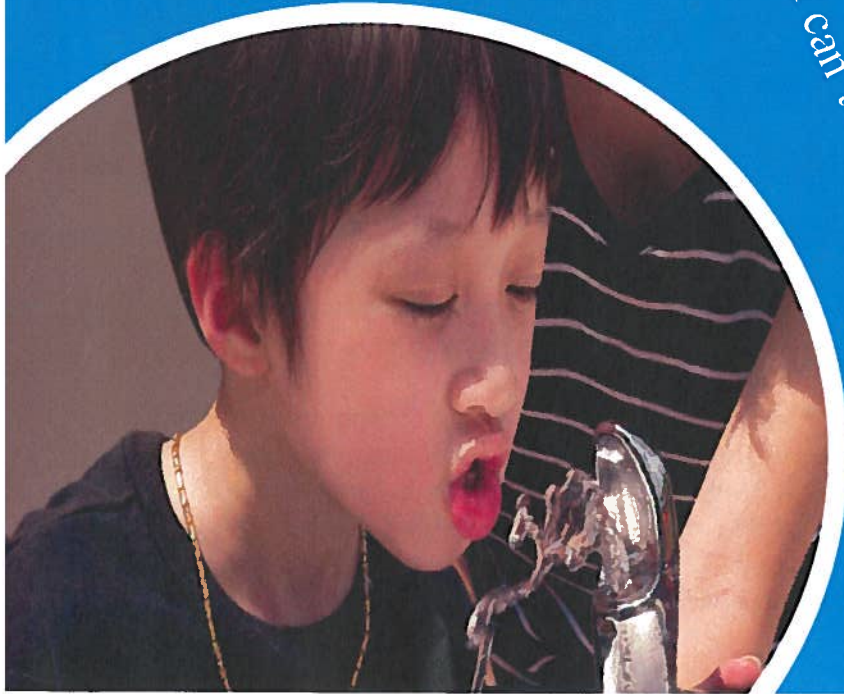
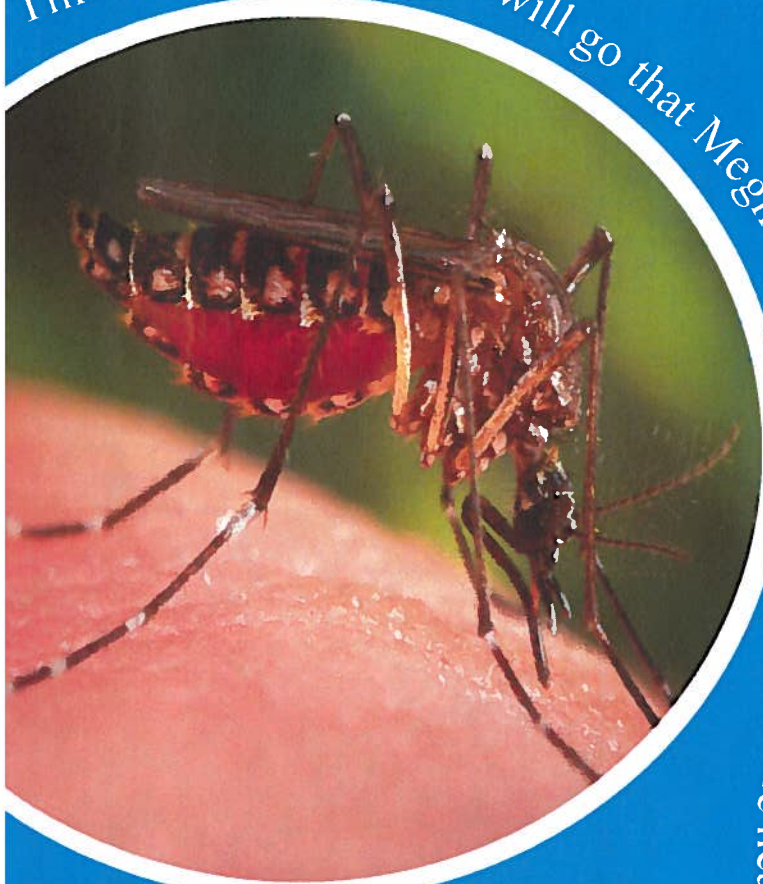
As demonstrated for each of the eight statutorily required program areas, the investment made by the state provides real economic value and saves money in terms of both direct medical expenses and indirect costs from lost productivity. Based on the examples in this report, one can safely estimate that overall, every dollar invested in local public health activities realizes a significant cost savings. And this says nothing of the lives that public health saves. These are investments—in lives and in dollars—that are well worth preserving and strengthening.

²⁶ Ontario Ministry of the Attorney General, *Part One: Report of the Walkerton Commission Inquiry* (Toronto, Ontario: Publications Ontario, 2002).

²⁷ Michigan Department of Natural Resources and Environment, Water and Sewage Database, March 2010.

Year In Review

This is where the quote will go that Meghan found that related to public health and I can't remember what it was at all so yup.

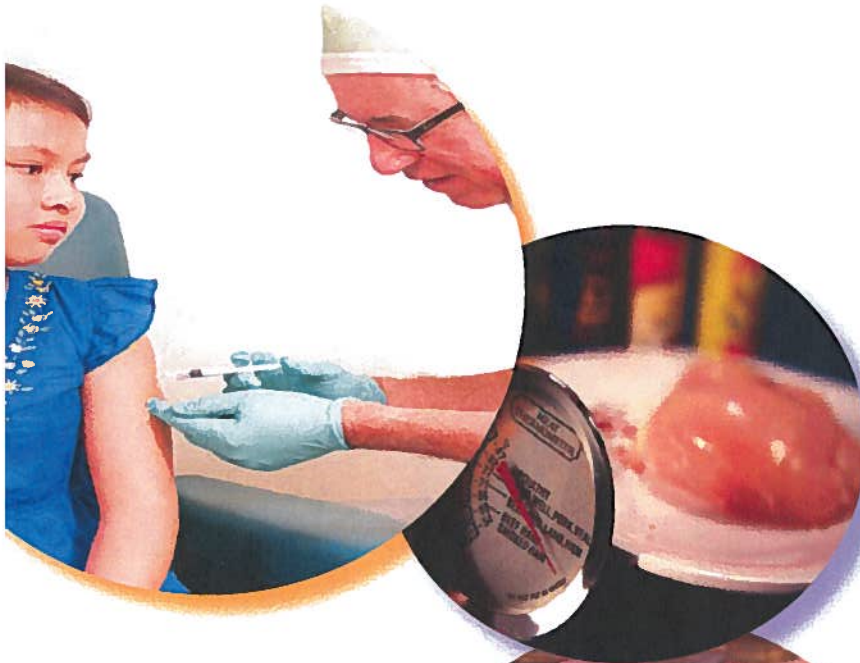


Year In Review

2010-2011



A summary of the 8 Essential Services



Food Service
Drinking Water
On-Site Sewage
Hearing
Vision
STD
Immunization
Communicable Disease



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Public Act 368 of 1978

Public Act 368 of 1978 mandates 8 Essential Local Public Health Services (ELPHS) including food service sanitation, drinking water and public water supply, on-site sewage disposal treatment, vision screenings, hearing screenings, sexually transmitted disease services, immunizations, and communicable disease services. The Public Health Code states these programs will be cost shared between the state and locals; however the present funding distribution is 67% local funds and 33% state funding. It is critical to understand Public Health touches the lives of every Michigan resident multiple times each day. While local health departments (LHD) share common goals of providing safe water, clean air, and protecting the public's health and environment, they individually specialize in implementing strategies that fit the needs of their jurisdiction.

From FY10 to FY11, LHDs took a funding cut of \$1.7 million from the ELPHS. The Executive Director from Michigan Association for Local Public Health, Meghan Swain stated, "Yes, challenging financial times require innovation and creativity, but food, water, environment, and health still need to be protected!" Public health reduces health care costs in often seamless and almost invisible ways. Assuring adequate funding to promote, prevent, and protect your food, water, health, and environment requires a strong and sustainable investment in public health.

Food Service Sanitation

One of the most fundamental responsibilities of public health is the surveillance and monitoring of the food supply from the farm to the table. Both the state and local health departments are responsible for protecting the public through education, licenses, routine inspection of all food service establishments, and the investigation of potential foodborne illnesses. Most of the consultation and field work is performed by the health department and reported to the Michigan Department of Agriculture and Rural Development (MDARD). In FY11, 85,865 food operation inspections were completed by local health departments and a total of 15,767 follow-up inspections were completed to ensure that unmet standards in the initial inspection were corrected.

Local health departments are the last line of defense to ensure that safe and wholesome food reaches the customer and are often the first entities to be contacted to investigate a foodborne outbreak. A total of 92 foodborne illnesses outbreaks were reported in FY11. Through education of food service operators and licensing, local health departments are able to help prevent foodborne illnesses.



	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,11)
Food Operation Inspections (includes temporary)	91,155	85,603
Follow-up Inspections (ALL)	18,106	15,234
Foodborne Illness Outbreaks	148	92



Drinking and Public Water Supply

Availability of a safe water supply is of paramount importance to public health. Water can have biological, chemical, and physical contaminants that can cause immediate or long-term effects following exposure. Local health departments are the principal authority responsible for individual water supplies in areas not served by community systems. Health department programs provide protections to local water supplies typically through inspection and sampling of water systems, specification or approval of well design and well location, well remediation and decontamination, and community and individual education.

If there is a water problem, or perception of a water problem, the local health department is often turned to for advice. As populations increase and more people use private systems, this role will increase in scope and importance.

Drinking Water Supply:

All water wells are governed by the Michigan Groundwater Quality Control Law, Part 127 of the 1978 Public Act 368. Health departments issue construction permits and final inspections that assure wells are constructed according to the permit in regards to location, construction standards, depth, and isolation distance. The Private and Type III Public Water Supply Program at the Michigan Department of Environmental Quality (DEQ), reported that on a compiled, statewide basis, LHDs achieved 52.7% “final inspection” rates in 2010 and 53.0% “final inspection” rates in 2011.



	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,11)
Permits	12,695	12,140
Finals	6,700	6,418

Public Bathing Beaches and Swimming Pools:

It is necessary to monitor Michigan surface waters that may contain for example, *E.coli* which is a potential human health risk from partial and total body contact. Local health departments voluntarily monitor the beaches in Michigan. The Public Health Code requires that if a local health department tests a public bathing beach that they are to notify the public, local officials, and the DEQ of the results. Owners of the public bathing beaches must post a sign that states whether or not the bathing beach has been tested, and if so where to find the results. The availability of funds increases the number of counties where beaches can be monitored. In 2010, only 59 out of the 83 counties monitored at least one beach within their county.

Public Bathing Beaches

	2010 (Calendar Year)	2011 (Calendar Year)
# of Beaches Monitored in MI	438	410
# of Beach Monitoring Inspections (including follow-up inspections)	5,316	5,844

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DEQ requires a permit when building a public swimming pool. DEQ records indicate that LHDs made 7,777 pool inspections in 2010 and 7,378 in 2011. Multiple inspections for a pool occur from follow-up inspections due to a violation.

Public Swimming Pools

	2010 (Calendar Year)	2011 (Calendar Year)
Licensed Pools Inspected	5,360	*5,461

*The Public Swimming Pool program runs on Calendar year. Not all inspection reports are received and entered as of Jan. 6, 2012 for the 2011 Calendar Year. This number is the projected total inspections that include pending inspection reports.



On-Site Sewage Treatment Management

To protect and enhance the quality of surface and groundwater resources and to prevent adverse impact upon the public health by reducing sources of water contamination, it is necessary to have management identify system defects and health hazards. Local health departments, through performing site evaluations and inspections, issue permits to both public and commercial facilities. The permits detail the construction of the septic tank to prevent damage to property and injury to plant or animal life and secure remedial actions. Once a septic system is installed, a final inspection is conducted to assure that the system is installed in compliance with the permit. In both FY10 and FY11, almost half of residential and non-residential permits issued resolved failures of existing systems.

	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,2011)
Residential Septic Permits	11,609	9,973
Residential Septic Failures Corrected	5,194	4,822
Non-Residential Septic Permits	540	640
Non-Residential Septic Failures Corrected	270	258



Hearing and Vision Screening

The Michigan Public Health Code requires screening during preschool for ages 3-5 and in schools during grades K, 2, and 4 (Hearing) and grades 1, 3, 5, 7, and 9 or in conjunction with driver's training (Vision). The Michigan Department of Community Health (MDCH) Hearing and Vision Program services are provided at no cost (FREE) by local health departments in collaboration with local schools and preschool centers, including Head Start. A total of \$5.125 million was allocated to the MDCH Hearing and Vision programs costing on average in FY11 \$5.58/child for a hearing screening and \$4.17/child for a vision screening.

Hearing

	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,11)
Preschool Screenings	93,104	91,616
Preschool Referrals	3,937	3,639
School Screenings	382,199	360,277
School Referrals	12,947	12,513

Vision

	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,11)
Preschool Screenings	93,119	135,757
Preschool Referrals	6,655	10,448
School Screenings	552,951	470,552
School Referrals	61,683	52,540



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Sexually Transmitted Disease (STD) and Human Immunodeficiency Virus (HIV)

Cases of STDs are required under the Public Health Code to be reported to local health departments to ensure appropriate care is provided and to execute a quick follow-up for priority cases. Patients and their sex partners treated early avoid the high costs associated with managing complications and preventing the spread of infection. All local health departments are mandated to provide STD services to persons presenting for care. Outreach and education are also provided by local health departments through schools and other community settings.

STD:

STDs, including chlamydia, gonorrhea, and syphilis result in excessive morbidity, mortality, and health related costs. In recent years, due to shrinking resources, there have been a decreasing number of STD clients seen in local health department clinics. Local health departments are forced to prioritize their services to those at highest risk from limited capacity which in turn demonstrates a high number of positive rates.

	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,11)
*# of Chlamydia Cases	47,416	48,870
*# of Gonorrhea Cases	13,409	12,830
*# of Early Syphilis Cases Reported	319	394
**# of Syphilis Tests (by LHD STD clinic)	40,169	37,552
**# of Gonorrhea and Chlamydia Tests (by LHD STD clinic)	41,780	50,967
Positive Rate for Gonorrhea and Chlamydia Tests (by LHD STD clinic)	19%	14.8%

*The number of cases represents the morbidity within each jurisdiction. This is based on the county of residence of the infected individual. 80% of cases from local health departments come from non-LHD providers (private docs, ERs, urgent care, etc.) Local health departments conduct follow-up on these cases for treatment, risk education, and partner elicitation.

** The number of tests, per jurisdiction, represents the number of clients that were tested in that jurisdiction's STD clinic. It is NOT based on the client's county of residence. It is a reflection of clinic activity.



HIV:

The Centers for Disease Control and Prevention (CDC) “core” funding is the primary source of funding supporting HIV testing in local health departments. CDC has issued a funding formula that cut Michigan HIV Prevention program by \$1.7 million (22%) for FY12. This formula has immediate and serious negative implications for Michigan. By 2014, when the CDC funding formula is fully implemented, Michigan losses will total up to \$2.1 million, which represents a reduction of 33% of our current funding level that covers HIV testing, prevention for positives, health education and risk reduction for high risk negative individuals, and community-level interventions.

Michigan will also lose up to \$883,000 (35%) of the award that supports HIV testing in health care settings in FY12. This award supports the implementation of standard of care HIV testing in health department STD clinics.

	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,11)
Positive HIV Tests conducted at LHD	231	229

Immunization

The Centers for Disease Control and Prevention (CDC) declared vaccinations one of the 10 great public health achievements of the twentieth century. Vaccines dramatically reduce infectious disease in Michigan by protecting both an individual and the community. LHDs play a critical role in protecting Michigan’s citizens against vaccine-preventable diseases. Provider education and consumer education about vaccines are important services of LHDs in Michigan. LHDs work with the state to assure that school and childcare settings are safe from vaccine-preventable diseases.

Michigan distributes over 1 million dollars of federally purchased vaccines to protect eligible populations. LHDs play a critical role in the implementation and quality assurance of all vaccine programs in Michigan. LHDs provide numerous vaccinations to Michigan’s citizens. The following Michigan Care Improvement Registry (MCIR) data provides the number of influenza vaccine doses administered by all providers in Michigan and doses administered specifically by LHD during the last two influenza seasons.



	2010-11 Seasonal Influenza Vaccine Doses (MCIR Data: July 1, 2010 to June 30, 2011)	2011-12 Seasonal Influenza Vaccine Doses (Preliminary MCIR Data: July 1, 2011 to Dec. 27, 2011)
Influenza Doses Given (all providers)	1,597,796	1,331,834
Influenza Doses Given (LHD)	165,999	103,382

Note: During the 2010-2011 flu season, 92% of the seasonal flu doses were entered into MCIR by the end of December.

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Communicable Disease

Reports of communicable diseases from local health departments, physicians, and laboratories are collected and aggregated at the county level to monitor the health of the population and to provide the basis for preventive actions. In fiscal year 2011, there were approximately 84,000 cases of individual reportable diseases and conditions which was slightly higher than the prior fiscal year. These numbers do not include the many non-reportable diseases and conditions such as head lice, strep throat, norovirus, or influenza-like illnesses which are also captured in the Michigan Disease Surveillance System. Notable decreases were seen in FY11 in the number of chickenpox and whooping cough (pertussis) cases reported; down 33% and 30% respectively.



Local health departments provide various communicable disease services such as childhood immunization clinics, animal bite consultations, and sexually transmitted disease treatments. In addition, local health departments serve on the frontline of communicable disease outbreak investigation, to minimize the local impact of disease transmission and to implement control measures to prevent future outbreaks. Although individual cases of norovirus were excluded from the yearly totals, the number of norovirus outbreaks reported each year continues to rise from 96 in FY10 to 228 outbreaks reported in FY11. These outbreaks require a significant investment of time by local health departments to investigate and mitigate.

For a complete list of reportable diseases in Michigan for 2011 as required by the Michigan Public Act 368, go to: http://www.michigan.gov/documents/Reportable_Disease_Chart_2005_122678_7.pdf

	FY10 (Oct.1,09-Sept.30,10)	FY11 (Oct.1,10-Sept.30,11)
Total cases of reportable disease	84,049	84,221



Tuberculosis (TB):

TB is a contagious bacterial infection that is spread through the air and attacks the lungs, but may spread to other organs. In 2010 (Calendar Year), 184 active TB disease cases were reported by Michigan health departments, and provisional data for 2011 indicates 158 total active cases. The standard of care for treating tuberculosis is directly-observed therapy which involves a LHD staff member meeting in-person with the patient to deliver each dose of medication and watch the patient consume each dose.

The average period of treatment for TB is 6 months, although complications such as other concurrent diseases or drug-resistant TB may extend this period up to 24 months. Some TB patients require intensive case management to assure completion of treatment. Examples include patients who are homeless or substance-addicted, where the health department may need to coordinate assistance for housing, food, or substance abuse rehabilitation in order to assure the patient’s compliance and completion of therapy.

Because TB is transferred through the air, the LHD must also track the number of “contacts” with whom the TB patient has been in close or frequent contact (e.g. family, friends or coworkers). These contacts require evaluation to determine if they were infected with TB. Identifying and properly managing contacts to TB patients is very time and resource intensive. Patients with active TB disease provide sputum specimens for microbiological testing. One such test is referred to as a “smear,” and patients who are sputum-smear positive are more likely to transmit disease than those who are sputum-smear negative. Therefore, contacts to sputum-smear positive patients are given the highest priority for evaluation and follow-up. 2010 preliminary data shows 1,071 people were in contact with a sputum-smear patient.

Types of TB Cases for Investigation 2010 (Calendar Year)

	Active Case: Sputum smear +
Cases for Investigation	59
Number of Contacts	1,071
Evaluated	870
TB Disease	6
Latent TB Infection	140
Started Treatment	103
Completed Treatment	56



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