Health

Projects Summary

($ in thousands)

Project Title	Rank	Fund	Project Requests for State Funds 2016	2018	2020	Gov's Rec 2016	Gov's Planning Estimates 2018	2020
Public Health Lab Capital Equipment	1	GF	2,335	0	0	2,335	0	0
Total Project Requests			2,335	0	0	2,335	0	0
General Fund Cash (GF) Total			2,335	0	0	2,335	0	0

http://www.health.state.mn.us/

AT A GLANCE

- MDH uses the best scientific data and methods available to guide policies and actions to promote healthy living in Minnesota and build a strong foundation to address health needs and concerns.
- In 2014, MDH received national public health accreditation after a rigorous site review by the Public Health Accreditation Board, meeting 98% of the National Public Health Accreditation Standards.
- In FY 2015, generated over $265 million in in federal funding to support public health activities in the state
- Administers $313 million outgoing grants from nearly 93 MDH grant programs, reaching 500 unique grantees.
- Has a workforce of approximately 1,425, including MDs, PHDs, nurses, health educators, biologists, chemists, epidemiologists and engineers.
- Direct appropriations account for 28% of the Department's budget in FY 2015.

PURPOSE

The mission of the Minnesota Department of Health (MDH) is to protect, maintain and improve the health of all Minnesotans. MDH is the state's lead public health agency, responsible for operating programs that prevent infectious and chronic diseases, and promotes clean water, safe food, quality health care and healthy living. The department also works to improve the equity of health outcomes in the state by incorporating health equity considerations into every decision or activity in which the department is engaged. MDH carries out its mission with close partnership with local public health departments, tribal governments, the federal government and many health-related organizations. In meeting its responsibilities, the department recognizes the strong relationship between population health and other government policies. As a result, MDH impacts many goals and outcomes for the state including:

- **All Minnesotans have optimal health**
- **Strong and stable families and communities**
- **People in Minnesota are safe**
- **A clean, healthy environment with sustainable uses of natural resources**
- **Minnesotans have the education and skills needed to achieve their goals**
- **Efficient and accountable government services**

STRATEGIES

Embedded in each strategy for improving the health of Minnesotans is the overarching goal of **advancing health equity.** A 2014 report issued by the department determined that, while Minnesota ranks as one of the healthiest states in the nation, there are significant and persistent disparities in health outcomes because the opportunity to be healthy is not equally available everywhere for everyone in the state. Eliminating inequities in health outcomes is a major priority for the department. Improving the health of those experiencing the greatest inequities will result in improved health outcomes for all.

MDH's Strategic Plan has six framework goals which focus on eliminating health problems before they occur.

- **Prevent the occurrence and spread of diseases:** to ensure that individuals and organizations in Minnesota understand how to prevent diseases and practice disease prevention and disease threats are swiftly detected and contained.

- **Prepare and respond to disasters and emergencies:** to ensure that emergencies are rapidly identified and evaluated, resources for emergency response are readily mobilized and Minnesota's emergency planning and response protects and restores health.
- **Make physical environments safe and healthy:** to ensure that Minnesotan's food and drinking water is safe, Minnesota's air, water and soils are safe and non-toxic, and the built environment in Minnesota supports safe and healthy living for all.
- **Help all people get quality health care services:** to ensure that health care in Minnesota is safe, family and patient-centered, effective and coordinated; that health care services are available throughout Minnesota and that all Minnesotans have affordable health coverage for the care they need.
- **Promote health throughout the lifespan:** to ensure that all Minnesotans are given a healthy start in life, Minnesotans make healthy choices and Minnesotans create social environments that support safe and healthy living at all ages.
- **Assure strong systems for health:** to ensure that Minnesota's infrastructure for health is strong, people-centered and continues to improve, that Minnesota's health systems are transparent, accountable and engage many diverse partners and that government policies and programs support health.

The Department of Health is governed by a number of Statutes. Most sections governing department activities are in Chapters 144, 145, 145A and 62J.

At A Glance

- Infrastructure. The mission of the Minnesota Department of Health (MDH) is to protect, maintain and improve the health of all Minnesotans. A critical strategy of fulfilling that mission is to maintain a strong, up-to-date and efficient public health lab (PHL). The PHL, built in 2005, plays a critical role in maintaining a strong public health system in the state and links to national laboratory activities.
- Maintain Testing Standard Levels. The work of MDH must be science-based and meet the required lab standards of the Centers for Disease Control. Since the PHL performs critical public health testing and screening related to environmental risks, infectious disease, and potential public health threats, having sophisticated and up-to-date facilities and capital equipment is essential.
- On-going National Accreditation Goal. In 2014, MDH received national public health accreditation after a rigorous site review by the Public Health Accreditation Board, meeting 98% of the National Public Health Accreditation Standards which will be reassessed in five years. This capitol bonding project complements our strategy of maintaining and meeting the standards for national accreditation.
- Reduce spread of disease and death. A key strategy of MDH is to prevent the occurrence and spread of disease so that disease threats are swiftly detected and contained. This request supports our strategy to prevent disease, and reduce disability and death from emerging health threats.
- Ready to Respond. Another key strategy of MDH is to prepare and respond to disasters and emergencies. Much of the lab equipment purchased at the time of construction is reaching the end of its service life and or is technologically obsolete. Updating the lab with more sensitive and reliable equipment is critical to the lab's ability to rapidly detect and respond to threats to public health.

Factors Impacting Facilities or Capital Programs

Agency Mission. MDH plans for current and future capital assets are driven by the department's mission to protect, improve and maintain the health of Minnesotans. Decisions about proposals for new investments in capital assets at the department are based on the imperative to maximize the effectiveness, efficiency and security of the public health system in the state.

Unique Testing Performed by MDH. The PHL is a unique public asset in that it performs testing that is not available in other labs in the region due to the sophistication of the facilities and equipment required. The PHL screens newborn babies for treatable heritable disorders and monitors for the emergence of new infectious disease organisms. It investigates infectious disease outbreaks, and tests for the presence of harmful chemicals in the environment, in humans, and occasionally in food and consumer products. It is also capable of detecting potential biological and chemical terrorism threats, such as anthrax and nerve agents. Each year the lab faces new challenges in terms of the types and complexity of the testing it performs.

Age and Design of Facility. The MDA/MDH Laboratory Building is ten years old and shared by the Department of Health and the Department of Agriculture. The PHL was completed in 2005 using $60 million in General Obligation bond proceeds approved by the Legislature in 2002 to build 83,238 square feet of space for MDH. In the original building plans, a portion of the PHL space was intentionally left as unfinished space for future expansion. Since 2005, the technology used for testing has changed dramatically, and the need for flexible space for laboratory instrumentation has greatly increased.

Obsolete Capital Equipment. The capital equipment used in the PHL has an estimated value of $10 million. In order to meet current and future demands for lab testing and for MDH to continue to use the best scientific data and methods available, the equipment used in the lab must be up-to-date with current

advances in science and technology. However, much of the equipment and instrumentation currently used by the lab dates back to when the lab was initially constructed, or is even older. It is becoming increasingly obsolete, and is at an age where it is no longer supported by the vendor. Some of the equipment that needs replacing is used for detection of infectious disease agents including Ebola and other bio-threats, influenza, foodborne illness, and emerging pathogens.

New Technologies. The technology used to identify disease-causing bacteria has been changing. Newer technologies that are being used include advanced molecular diagnostic methods, whole genome sequencing of bacteria and mass spectroscopy. These newer technologies are critical to keeping Minnesotans safe, but require new types of instrumentation. These newer instruments have specialized facility requirements, and MDH does not currently have enough space for the addition of the new instruments.

Lack of Funding Sources for Replacement. The PHL currently does not receive state or federal appropriations to maintain or update capital equipment for the lab. The Health Department has used other mechanisms for leasing equipment but those arrangements are expensive and not as cost-effective as purchasing the equipment. The department has received some equipment from the federal government for specific projects; however, that is not a reliable mechanism for obtaining critical equipment.

Additional Financial Challenges. There are a number of additional costs that must be supported within the lab's operational budget, including facility costs that are not covered by the existing lease because they are considered special building costs. There are also costs for performing tests for which the lab does not receive reimbursement

Increase in Demands for Testing. Over the last ten years, the volume and scope of testing at the lab have increased significantly. For example the number of air, water and soil samples analyzed by the Environmental Health Lab increased by 40 percent between FY 2012 and FY 2014, and the number of tests performed to identify infectious disease trends and outbreaks increased by 47 percent between FY 2013 and FY 2014. In addition, the PHL is planning to end a contract with a third party to perform some work related to newborn screening to do the work in-house, which will reduce costs but will nevertheless increase demand for lab space.

Self-Assessment of Agency Facilities and Assets

Time to Build Expansion Space. The PHL has reached its capacity in terms functional space, and will need to develop and make more efficient use of its underutilized space in order to meet future demands as well as to quickly ramp up operations during an emergency event like an influenza outbreak or for Ebola testing. Currently, the PHL has 978 square feet of unfinished space and 1,336 square feet of sample processing space that is not optimized for operating a modern lab. The PHL is currently conducting a predesign study to identify optimal uses of the extra lab space capacity. Since the expansion area is already included in the existing lease, no new space will need to be acquired. The need is, therefore, only for fitting out the laboratory space with required electrical and data wiring, plumbing, equipment, cabinets, fume hoods, piped gases, and emergency and code compliance.

Water Damage. There have been problems with the lab facility in recent years. In January 2014, a number of pipes burst which resulted in significant damage to the lab facility and equipment. Total cost of the damage to the building was $488,000. Estimated cost of damage to the equipment was $488,522. A portion of those costs have been covered by insurance. While the damage from the 2014 original water damage has been repaired, the lab continues to have problems with other water leakage.

Equipment at End of Useful Life. Much of the capital equipment in the lab is at least ten years old, which is beyond the useful life of the equipment. The capital equipment in the lab varies greatly in terms of cost and replacement value. The cost of replacing capital equipment in the lab varies, with some equipment such as mass spectrometers costing as much as $400,000 each.

Agency Process for Determining Capital Requests

Master Plan in Development. Last year, MDH Facilities Management wrote the first draft of a facilities Master Plan to look at cataloging and reviewing agency deferred maintenance and projects. This plan will be expanded this year in order to put an expanded planning and prioritization process in place to consider infrastructure, technology, laboratory, and other long-term building needs for the future.

Consideration of Special Lab Needs. A number of different factors went into determining the PHL capital equipment needs. Some equipment is too old to be upgraded to Windows 7 and pose an IT security risk. These computers must remain on a dedicated network that is maintained separately from the main computer network and requires additional IT staff (at least 1 FTE) to maintain the system. Other equipment required for operation of the laboratory has reached or exceeded its useful life cycle. Newer equipment is needed to enable the laboratory to implement the latest technology for disease detection and for identification of emerging chemical contaminants.

Preliminary Study. The PHL will conduct a preliminary scope review and cost estimate. If the cost is estimated to be more than $750,000, then a pre-design study will need to be completed. A bonding request for construction of the space will be submitted in 2018 following the completion of the design.

Major Capital Projects Authorized in 2014 & 2015

No major capital projects were authorized in 2014 or 2015.

($ in thousands)

Public Health Lab Capital Equipment

AT A GLANCE

2016 Request Amount:	$2,335
Priority Ranking:	1
Project Summary:	$2.335 million in state funds to purchase capital equipment necessary for the Public Health Laboratory to detect and investigate emerging infectious diseases, foodborne illness outbreaks, disorders of newborns, and chemical contaminants that pose a threat to human health.

Project Description

The Minnesota Department of Health Public Health Laboratory (MDH-PHL) performs critical laboratory testing to detect public health threats, including foodborne illnesses such as *Salmonella*, emerging infectious disease threats like *Ebola*, rare but treatable disorders in newborns, and hazardous chemicals in the environment. Much of the testing performed at MDH-PHL is not available in other laboratories and requires the use of sophisticated facilities and instrumentation.

This proposal provides capital equipment necessary to:

- Support faster and more accurate detection of health threats, to ensure MDH and its partners in other state agencies have the best scientific data and methods available to protect the health of Minnesotans.
- Replace equipment that is no longer supported by the vendor and undermines the security of the state's information technology infrastructure.
- Meet increased demand from MDH programs and state agency partners for specialized laboratory testing, which has grown significantly in recent years.

Funding would be used to purchase approximately 18 instruments, which range from a $40,000 alpha spectrometer that detects radiation from a nuclear power plant accident or "dirty bomb" to a $400,000 mass spectrometer for detecting contaminants in environmental samples or human specimens (e.g. biomonitoring for perfluorochemicals (PFCs) in the east metro).

Project Rationale

State-of-the art equipment enables the laboratory to detect extremely small amounts of chemical contaminants and more rapidly detect infectious diseases. Without advanced testing methods, we will be missing key pieces of data needed to respond to ever-changing chemical and biological threats. MDH must continuously update laboratory capital equipment to maintain our ability to detect harmful chemical compounds and radioactive substances, or novel biological threats, such as avian influenza or Ebola.

While the MDH-PHL has existing capital equipment valued at approximately $10 million, there is no other budget mechanism to substantially replace obsolete instruments or to expand laboratory

capability. Failure to replace aging equipment poses an unacceptable risk to lab capability and readiness to respond to outbreaks and emergencies that require laboratory services.

The laboratory facility shared by the departments of Health and Agriculture was completed in 2005. Analytical and support equipment purchased at the time of construction is nearing the end of its projected service life. Because of advances in technology, analytical instruments currently in use by the laboratory have become outdated and have either been replaced by newer technologies or are no longer supported by the vendor. Investment in newer, more sensitive and reliable technologies is needed to maintain or build capacity for critical testing in the areas of:

- **Foodborne illness outbreaks.** MDH-PHL was designated as a Genome Tracker site by the U.S. Food and Drug Administration (FDA) in 2013. FDA provided the equipment, reagents, and personnel to perform DNA sequencing on the important foodborne pathogen, Salmonella. MDH-PHL has recently used this technology to identify multiple outbreaks of foodborne illness related to frozen chicken products, which would not have been possible without the sophisticated equipment donated by FDA. The MDH-PHL now needs to expand capacity to do more testing and needs to supplement the FDA-donated instrument with one that can quickly process a large number of samples.
- **Emerging infectious diseases.** MDH-PHL was one of the laboratories selected by the Centers for Disease Control and Prevention as an Ebola testing site due to the availability of advanced technology, adequate facilities to protect staff and public safety, and experienced and willing laboratory staff. However, capital equipment used to perform this work is aging and needs to be replaced in order to be able to keep pace with new technologies and newly identified infectious diseases.
- **Rare but treatable disorders in newborns.** MDH-PHL screens newborns for more than 50 treatable disorders. Improvements to analytical methods have resulted in increased sensitivity and specificity of these tests, resulting in fewer false negative and false positive test results, which results in improved outcomes for newborns and their families. Early identification and treatment of a newborn's rare or hidden disorder can prevent a child's illness, physical disability, developmental delay, or death.
- **Chemicals in the environment.** MDH-PHL performs testing for chemicals of emerging concern, such as pharmaceutical compounds, hazardous chemicals, and radioactive substances, which are increasingly found in the environment. Biomonitoring studies have been conducted to detect chemical contaminants, for example perflurochemicals, in the blood of Minnesota residents. Data from these analyses are used to design interventions to protect public health. Testing for these compounds requires the use of extremely sophisticated, and expensive, analytical instruments, many of which are reaching the end of their service life.

In addition, the volume and scope of testing at the lab have increased significantly over the last ten years. The number of air, water and soil samples analyzed by the Environmental Health Lab increased by 40 percent between FY 2012 and FY 2014, and the number of tests performed to identify infectious disease trends and outbreaks increased by 47 percent between FY 2013 and FY 2014. Implementation of newer, more automated technologies enables the laboratory to better handle the increased testing volume.

Failing to replace old instruments whose software cannot be upgraded also poses an IT security risk. Currently, MDH must maintain a separate IT network for older instruments so their security risks do not threaten other state activities. Maintaining a separate network is inefficient and costly. It is not

sufficient to merely replace or upgrade the computer components of old instruments, because newer software cannot be used to run older instrumentation properly. It is necessary to replace the entire instrument including the computer.

Other Considerations

The MDH-PHL currently has no funding mechanism to fund the initial purchase of capital equipment and has only a limited budget (approximately $300,000/year) for replacement of existing laboratory equipment. MDH supplements this limited budget by using one-time federal or state funds when available. On occasion, federal partners have provided equipment for special projects, however this is not a reliable mechanism for obtaining critical instrumentation. Most often, federal agencies and other funders only pay for testing to be performed, not for building the capacity to do testing.

Investing in new equipment allows MDH-PHL to leverage additional federal funds that further enhance our ability to protect public health. For example, the laboratory's analytical chemistry ability to detect low levels of chemical contaminants in blood and urine have enabled the laboratory to obtain federal funding to conduct additional studies. Most recently, the MDH-PHL, in collaboration with the University of Minnesota, was awarded funding to act as an assessment hub for the Children's Health Exposure Assessment Resource (CHEAR) project. The project looks at chemical and non-chemical factors that may impact children's health and development.

MDH received national public health accreditation in 2014, after a rigorous site review by the Public Health Accreditation Board, meeting 98% of the National Public Health Accreditation Standards which will be reassessed in five years. These capital investments complement our strategy of maintaining and meeting the standards for national accreditation.

Impact on Agency Operating Budgets

The Department of Health is unable to replace depreciating laboratory assets on a scheduled basis. Operating budgets are currently stretched by efforts to manage these assets. Newly purchased instruments would be covered under a warranty for 1 to 2 years after purchase. After that time maintenance agreements, typically 10% of the purchase price of the instrument annually, will be required. The laboratory is currently paying for maintenance agreements out of existing operating budgets. It would continue to do so under this proposal.

Description of Previous Appropriations

The Health Department has received no state appropriation for the explicit purpose of purchasing capital equipment for the Public Health Lab. However, construction of the laboratory, which is jointly occupied by the Department of Health and the Department of Agriculture, was financed with $60 million in general obligation bonds. Legislation authorizing the use of bonds was enacted in 2002.

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Governor's Recommendation

The Governor recommends $2.335 million in general fund cash for this request.

($ in thousands)

Public Health Lab Capital Equipment

PROJECT FUNDING SOURCES

Funding Source	Prior Years	FY 2016	FY 2018	FY 2020
State Funds Requested				
General Fund Cash	$ 0	$ 2,335	$ 0	$ 0
Funds Already Committed				
Pending Contributions				
TOTAL	**$ 0**	**$ 2,335**	**$ 0**	**$ 0**

TOTAL PROJECT COSTS

Cost Category	Prior Years	FY 2016	FY 2018	FY 2020
Property Acquisition	$ 0	$ 2,335	$ 0	$ 0
Predesign Fees	$ 0	$ 0	$ 0	$ 0
Design Fees	$ 0	$ 0	$ 0	$ 0
Project Management	$ 0	$ 0	$ 0	$ 0
Construction	$ 0	$ 0	$ 0	$ 0
Relocation Expenses	$ 0	$ 0	$ 0	$ 0
One Percent for Art	$ 0	$ 0	$ 0	$ 0
Occupancy Costs	$ 0	$ 0	$ 0	$ 0
Inflationary Adjustment	$ 0	$ 0	$ 0	$ 0
TOTAL	**$ 0**	**$ 2,335**	**$ 0**	**$ 0**

IMPACT ON STATE OPERATING COSTS

Cost Category	FY 2016	FY 2018	FY 2020
IT Costs	$ 0	$ 0	$ 0
Operating Budget Impact ($)	$ 0	$ 0	$ 0
Operating Budget Impact (FTE)	0.0	0.0	0.0

SOURCE OF FUNDS FOR DEBT SERVICE PAYMENTS

	Amount	Percent of Total
General Fund	$ 0	
User Financing	$ 0	

STATUTORY REQUIREMENTS

The following requirements will apply to projects after adoption of the bonding bill.

M.S. 16B.335 (1a): Construction/Major Remodeling Review (by Legislature)	No
M.S. 16B.335(3): Predesign Review Required (by Dept. of Administration)	
Does this request include funding for predesign?	N/A
Has the predesign been submitted to the Department of Administration?	N/A
Has the predesign been approved by the Department of Administration?	N/A
M.S. 16B.325(1): Sustainable Building Guidelines Met	N/A
M.S. 16B.325(2) and M.S. 16B.335(4): Energy Conservation Guidelines	
Do the project designs meet the guidelines?	N/A
Does the project demonstrate compliance with the standards?	N/A
M.S. 16B.335(5 & 6): Information Technology Review (by MN.IT)	N/A
M.S. 16A.695: Public Ownership Required	Yes
M.S. 16A.695(2): Use Agreement Required	No
M.S. 16A.695(5): Program Funding Review Required (by granting agency)	N/A
M.S. 16A.86 (4b): Matching Funds Required	N/A
M.S. 16A. 642: Project Cancellation in 2021	Yes
M.S. 16A.502 and M.S. 16B.31 (2): Full Funding Required	Yes
M.S. 174.93: Guideway Project	
Is this a Guideway Project?	No
Is the required information included in this request?	N/A