

# CNSI and MDBio Take Innovation on the Road

Yesterday, CNSI joined the [MDBio Foundation](#) (MDBio) in unveiling the nation's most advanced mobile STEM laboratory. Joined by [Governor Larry Hogan](#), state officials and other partner executives, MDBio [cut the ribbon](#) on the [Mobile eXploration Lab](#) (MXLab). In the ABC news clip, Governor Hogan talks about the impressive program numbers, including:

- \* 10,000 students will be served starting in September 2017
- \* 1,000 square feet to accommodate STEM learning
- \* 40 students can be taught in one session
- \* 35 schools are already scheduled for next school year
- \* 1 million dollars were raised through private and public contributors to develop the MXLab



As one of the corporate partners, CNSI is more than excited to join this amazing group of individuals and educators in taking innovation on the road. Over the course of the next few months, CNSI will collaborate with MDBio to develop a STEM

learning experience for MXLab students. stay tuned for more updates from our future innovators!



*Photo Credits: Executive Office of the Governor. Photographer Joe Andrucyk. Middle Photo Includes: Jay Majumdar, CNSI; Meg Solomon, Northrop Grumman; Chrysta Ghent, MDBioLab Instructor; Honorable Larry Hogan, Maryland Governor; Steve Coats, PH.D., MedImmune; Brian Gaines MDBio Foundation, Inc. CEO; Rebecca Einhorn, MedImmune.*

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## Seen the Grim Reaper? In N.H., there's an app for that

If it sometimes feels like your whole life has moved to your smartphone, New Hampshire has an update: Your death is moving there, too.

As we speak, the New Hampshire Division of Vital Records is launching the country's first smartphone application that will let doctors, nurses and funeral directors file certificates of death without scribbling on paper or sitting at a desktop PC.

"Physicians wanted it to be more convenient, so we put it right on their hip," said Stephen Wurtz, who as the state registrar of vital records has control over four centuries' worth of Granite State births, marriages and divorces, as well as almost 12,000 deaths last year.

The immediate effect of going mobile with what's called eCoD – as in “electronic cause of death” – will be greater efficiency. But a bigger payoff for public health should follow because instantly putting causes of death into accessible databases can help us spot problems early.

Officials have long kept an eye out for, say, an uptick in deaths due to respiratory illness in the Lakes Region (Is this a new disease?) or a sudden rise in opioid overdoses along the Massachusetts border (Is this a new drug?). However, it now takes days or weeks for that information to percolate to the proper officials. With the eCoD app, that should speed up.

“In almost real time, we can share this cause-of-death information with New Hampshire's health department or the CDC, so if they're doing surveillance, looking for any (outbreak), they can say, ‘It looks like we've got a pocket of something’ . . . and do more,” Wurtz said.

This benefit is the main reason that the national Centers for Disease Control and Prevention paid New Hampshire to develop the app at a cost of roughly \$200,000, and is covering costs as we teach other states to adopt it, too.

The public tends to know the Division of Vital Records for its old-school genealogy room in its Fruit Street offices, where you can ponder written documents dating back to 1640 and indulge your library nostalgia by using a card catalog, it has been pushing the digital envelope for a long time.

“We've been registering events through some type of an automated system since back in 1988,” said Wurtz, who as a funeral director knows the hassles of filling out forms.

“New Hampshire was always on the leading edge of automation,” agreed Vijay Mishra, senior vice president of federal programs at CNSI, the company that made the app.

The company's goal was to duplicate what is already done on

paper – most of which is required in great detail by various laws – with digital improvement.

For example, if a physician clicks a box saying a death was accompanied by an injury of any kind, the software automatically reminds them that the certificate of death must then be filed by the medical examiner's office following an investigation. If a physician is unsure whether the medical examiner should get involved, they can get hot links to phone numbers to call and find out more.

"A physician who puts down 'died of lung cancer' will get prompts, which may be 'Where's the site, the lobe?' It helps drive down into the detail necessary to really understand what happened: 'Lung cancer' is just too generic," Wurt said.

Similarly, if a physician types DM as cause of death, using a long-accepted medical abbreviation, the software will double check that they mean "diabetes mellitus" and then expand the term. If they type COPD, the software will use pull-down menus to make them be more specific about what type of chronic obstructive pulmonary disease was involved.

"One of the things in medical certification is we don't want abbreviations, because abbreviations can be misinterpreted. But physicians liked the fact that they can still use abbreviations. Plus, they spell it right," Wurtz said.

Spelling is one bugaboo for medical staff and funeral directors, while another is handwriting.

"We're very good at deciphering handwriting," said Heather Bentley, who oversees death records. Bentley has been at the job for 33 years – edging out Wurtz's 32-year tenure – and says the current technology is a dream come true for keeping track of roughly 3½ million different documents.

She hopes that the app will help death certificates, which are a vital records laggard in terms of being electronic. Birth

certificates, for example, have been all-online since 2000, but roughly 75 percent of death certificates are still filed on paper and must be electronically re-filed by the state, partly because the forms tend to be filed by harried medical professionals. Making the process mobile should help cover that shortfall.

By the way, the fact that the eCoD app is available at the Apple and Android app stores doesn't mean you and I can report our brother in-law as having expired due to jealousy of our good looks. The app can only be used with accounts created by the Division of Vital Records, which first ensures that you're a real physician, medical official or funeral director.

Sorry, pranksters.

[Original article](#) was published by the [Concord Monitor](#) on Monday, January 23

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## **MdBio Foundation to Unveil Nation's Largest, Most Advanced Mobile STEM Lab**

Rockville, MD – January 23, 2017 – The [MdBio Foundation](#), a non-profit that provides STEM education and workforce development to underserved communities, will unveil its new mobile laboratory, the [Mobile eXploration Lab \(MXLab\)](#), in Annapolis, Md., on January 24. The event will include an open house and tour of the MXLab, as well as a ribbon cutting

ceremony featuring Gov. Larry Hogan, state officials and business leaders.

The MXLab is the largest mobile laboratory of its kind in the U.S. and will enable MdBio to expand its mission of giving students the opportunity to experience hands-on science, technology, engineering and math (STEM) education. The lab provides students with access to cutting-edge technologies and techniques not typically available at schools and experience with practical, real-world applications in use by today's scientific and tech communities.

"MdBio believes education can change lives. Through our mobile lab program, we strive to pique the interest of Maryland students in STEM and the rewarding, high-paying careers in the life sciences and technology fields throughout our state," said MdBio CEO Brian Gaines. "We are excited by the expanded possibilities being unlocked by the new MXLab, which enables us to broaden our curriculum beyond our traditional life sciences focus and invite even more students to participate at each location."

"MdBio is a tremendous asset for Marylanders, and the MXLab will allow this innovative organization to reach even more students and educators," said Gov. Hogan. "Together with Maryland businesses, our administration proudly supported and invested in development of the MXLab, because we know how important it is for students to gain in-demand skills that employers need in the 21st century workforce."

### **MXLab: Building on a Strong Foundation of Mobile Education**

Since launching its flagship mobile laboratory program in 2003, MdBio has served more than 150,000 Maryland students at more than 500 school visits in every school district across the state. Leveraging this experience and working with educational leaders, MdBio custom designed this first-of-its-kind multipurpose vehicle to expand availability of new

technology and laboratory science experiences for students who may not have access to these tools at their schools.

At 53-feet long, with double-expandable slide-out sides, MXLab is three times larger than MdBio's current mobile laboratory and features additional outside space to serve larger audiences. With 1,000 square feet of interior space, MXLab can comfortably accommodate more than 40 students, increasing class size by 20 percent. MXLab will serve approximately 10,000 students at 35 high schools each year, starting in September 2017.

Inside MXLab, MdBio's educators may introduce students to MdBio's long-standing curriculum focused in biology, chemistry and environmental science or engage them in new activities, including data set modeling, integrated computing, cyber security and game-based learning. The lab incorporates interactive, flat-screen video displays, computational equipment and fold-away workstations to convert the space for larger events, with mobile laboratory amenities, such as laboratory workstations, electricity and water. In addition to its high school visits, MdBio will leverage MXLab to promote the STEM industry at community events and provide professional development for educators.

The MXLab was built in collaboration with [Triune Specialty Trailers](#), a Madison Heights, Mich.-based specialty manufacturer of custom expandable trailer solutions.

### **Private/Public Commitment to Advance STEM Education and Workforce Development in Maryland**

MdBio raised almost \$1 million to develop the MXLab. Funding came from a combination of public and private contributions, including \$200,000 from the state and investments from businesses including AstraZeneca and its global biologics research and development arm, MedImmune; Emergent BioSolutions; CNSI; Northrop Grumman Corp.; The Harry and

Jeanette Weinberg Foundation; France-Merrick Foundation; WSSC; VWR International and Scheer Partners.

“Real-world, hands-on experience is one of the most important factors to encourage today’s students to pursue advanced degrees and explore STEM careers in the future,” said Matt Bell, chief operating officer at MedImmune. “We are proud to support MdBio’s mobile laboratory program, which is inspiring Maryland’s next generation workforce and building a strong foundation for tomorrow’s scientists and innovators.”

### **January 24 Event Schedule**

- Noon-1:30 p.m. – Legislative Open House and Lunch. The MXLab will be parked outside the House Office Building, at the intersection of St. John’s Street and College Avenue in Annapolis.
- 3:00 p.m. – Gov. Hogan and state officials tour MXLab
- 3:10 p.m. – Ribbon cutting ceremony, featuring remarks by Gov. Hogan, Secretary of Labor, Licensing, & Regulation Kelly Schulz, MdBio CEO Brian Gaines; Jennifer Cotteleer, chair of the MdBio Board of Directors and CEO of BioInformatics, LLC; and Matt Bell, COO of MedImmune

For more information on the MXLab, visit the [MdBio website](#).

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### **About MdBio Foundation**

MdBio Foundation is a non-profit organization that provides innovative, effective and experiential science, technology, engineering and mathematics (STEM) education and workforce development opportunities to underserved communities. MdBio’s interdisciplinary approach uses STEM to explore a real-world, problem-centric curriculum that bridges school, community, health and business. The foundation’s flagship program is a mobile laboratory for high schools that has provided quality educational experiences to more than 150,000 students throughout the state of Maryland since its launch in 2003.

MdBio also operates other celebrated STEM education programs, such as the Young Science Explorers Program for middle school students, the Maryland BioGENEius Award, and ATLAS: Advancing Tomorrow's Leaders in STEM college and career symposium. Visit [www.mdbiofoundation.org](http://www.mdbiofoundation.org) or follow on social media [@MdBioFoundation](https://twitter.com/MdBioFoundation).

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## CNSI Supports Long-Term Solutions To Flint Residents

Before the holidays, CNSI [talked about the top tech gifts](#). With 2017 now here, everyone is already looking for the [next big thing](#). According to [Forbes](#) writer [Sarwant Singh](#), 2017 will likely bring with it the changing nature of [Artificial Intelligence](#), the [Internet of Things](#), [Autonomous Vehicles](#) and even [Space Flight Accessibility](#). But is all this [technology really beneficial](#)?

Although the answer to that question might be [up for debate](#), we here at CNSI believe that technology can make the world a better place. Our work with the [Michigan Department of Health and Human Services](#) (MDHHS) is living proof.

Most people are aware of the [Flint, Michigan water crisis](#). For the past few years, residents have been fighting a massive health crisis caused by high lead levels, which are especially harmful to [children](#) and [pregnant women](#). In March of 2016, the [Centers for Medicare & Medicaid Services](#) (CMS) [approved the State's request to extend Medicaid coverage and services](#) to Flint residents. As a result, approximately 15,000 additional children and pregnant women became eligible for Medicaid coverage and 30,000 current Medicaid beneficiaries became

eligible for expanded services under this new waiver agreement.

CNSI worked with the MDHHS Medicaid Program, [CHAMPS](#), to build a solution that encompasses all the Flint waiver requirements. Leveraging our business, technical and operational knowledge of CHAMPS, the state now uses a newly created MAGI code that:

- Identifies Flint beneficiaries;
- Waives cost-sharing and premium expenses;
- Creates a new Targeted Case Management benefit plan; and
- Generates correspondence to all eligible beneficiaries.



In addition to deploying these system enhancements, CNSI also made a recent donation to the [Flint Child Health and Development Fund](#). This foundation is focused on mitigating the impact of the Flint water crisis on children. Our donation will support their long-term initiatives to address health needs, provide education, and increase family, social and emotional support.

Since the impacts of lead exposure are often long-term, so must the investments made to ensure that every Flint child is given the chance to be healthy and successful. We are

extremely proud to provide both lasting technological and philanthropic to support to those living in the communities in which we serve. So, when we say have a happy and healthy New Year, we mean it!

Photograph includes: Nick Lyon, Director of the Michigan Department of Health and Human Services (MDCH), Ann Marie Van Duyne, Vice President of Philanthropic Services, Community Foundation Greater Flint, and Sharif Hussein, Senior Vice President of the Midwest Region, CNSI

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## **CNSI Supports Long-Term Solutions To Flint Residents**

Since 2014, the residents of Flint, Michigan have been fighting a massive health crisis caused by high lead levels, which are especially harmful to children and pregnant women. President Obama and Michigan Governor Rick Snyder declared a state of emergency in Genesee County in January of 2016, which allowed FEMA to provide equipment and resources to the people affected. Shortly thereafter, the Centers for Medicare & Medicaid Services (CMS) approved the State of Michigan's request to extend Medicaid coverage and services to Flint residents. As a result, approximately 15,000 additional children and pregnant women became eligible for Medicaid coverage and 30,000 current Medicaid beneficiaries in the area became eligible for expanded services under this new waiver agreement.

To help support, code and track the influx of Medicaid

beneficiaries, CNSI worked with the Michigan Department of Health and Human Services (MDHHS) Medicaid Program, CHAMPS, to build a solution that encompasses all the Flint waiver requirements. Using business, technical and operational knowledge of CHAMPS, the state now uses a newly created MAGI code that:

- Identifies Flint beneficiaries;
- Waives cost-sharing and premium expenses;
- Creates a new Targeted Case Management benefit plan; and
- Generates correspondence to all eligible beneficiaries.

The new MAGI account codes also allow for better tracking of Medicaid waiver expenses, case management benefits and copay information and locations where beneficiaries attested to lead-tainted water exposure.

In addition to deploying these system enhancements, CNSI also made a recent donation to the [Flint Child Health and Development Fund](#). This foundation is focused on mitigating the impact of the Flint water crisis on children. Our donation of \$25,000 will support their long-term initiatives to address health needs, provide education, and increase family, social and emotional support.

This donation is so critical, because it goes beyond the immediate attention generated by the crisis. The work of the Fund is focused on ensuring that critical health and well-being services are provided after the national headlines fade. Since the impacts of lead exposure are often long-term, so must the investments made to ensure that every Flint child is given the chance to be healthy and successful.

The monies donated will go to support crisis response, access to pediatric in-home care, nutrition education, healthy food access, and many other integrated social services.

#### About the Flint Fund

The Flint Child Health and Development Fund is focused on mitigating the impact of the Flint water crisis on children.

This long term focus will provide immediate and long-term health needs, provide high quality education, and increase family, social and emotional support for the children of Flint and their families to ensure the children of Flint will thrive. CNSI has worked with the State of Michigan to develop a Flint Waiver Program to help track those in need. For more information, please visit [www.flintkids.org](http://www.flintkids.org).