

GOVERNMENT TECHNOLOGY[®]

SOLUTIONS FOR STATE AND LOCAL GOVERNMENT

VOL26 ISSUE10 | OCTOBER 2013

INSIDE:

Building Better:

Design thinking powers Oregon HIX

Survey Says:

Best of the Web winners are in

Cloud Bound:

New York state adopts Office 365

PLUS:

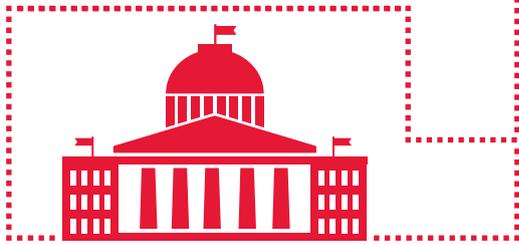
Tulsa CIO
T.L. Cox

ART + SCIENCE

INFORMATION
ARTIST HEATHER
DEWEY-HAGBORG

3-D MODELS SHAPED BY DNA ANALYSIS
MAY HELP GIVE NAMES TO THE MISSING.

GOVERNMENT



An ever-increasing amount of your staff is using mobile devices for work. But without a complete mobile solution in place, your infrastructure can be overtaxed and sensitive data may be at risk.

ON THE GO. ▶▶

MOBILITY IS THE NEW MAJORITY >>

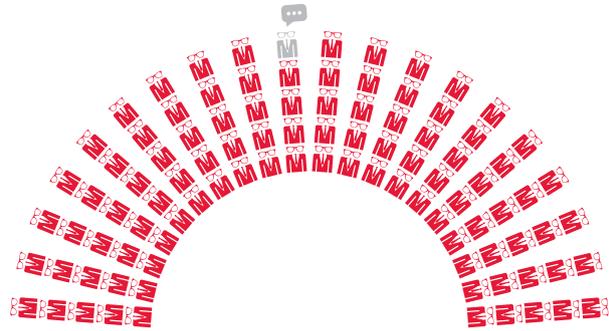
AND IT'S CHANGING THE WAY YOUR AGENCY WORKS. >>



89%

of Federal Workers

who use a mobile device for work say it makes them more productive.¹



99% of federal IT professionals report they have deployed mobile devices to their agency workforce.²

BUT WITHOUT A PLAN TO SUPPORT MOBILITY, YOUR NETWORK CAN BE LEFT EXPOSED.

33% of federal organizations with a BYOD policy are not completely confident they are effectively managing risks.¹



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¹Federal Mobility Report: Security Edition, February 2012 ²Center for Digital Government, "Mobility and Security Research" September, 2012
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BRUCE FOSTER PHOTOGRAPHY

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With the launch of Cover Oregon, state officials expect their commitment to design thinking to pay off.

By Adam Stone



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Security Makeover
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More Than Hot Air
How balloons could aid emergency communications.

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The only thing growing faster than citizen data is the need to secure it.

Understanding why government agencies need to secure big data is the easy part; cyber security attacks are escalating every year – putting citizen data at an increased risk. What's not always clear is whom government agencies can trust to help make securing and monitoring big data simple and efficient. At AT&T, we have over 1,500 security experts dedicated to helping government agencies increase big data security without exhausting resources. The experience we've gained while protecting over 19 PetaBytes of our own network data every business day is what makes us uniquely qualified to help government agencies secure more – with less.

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A Tradition of Web Excellence

Since 1996, *Government Technology* and e.Republic's Center for Digital Government have released an annual list of the best websites in state and local government. Over the years, our Best of the Web survey has become a widely watched barometer for government Web design excellence and trending technology features.

Plenty has changed since we reported on the first Best of the Web results in our November 1996 issue. In that initial survey, we lauded the Florida Department of Management Services for posting state contract information on its top-ranked Florida Communities Network website. And we congratulated local government winner San Carlos, Calif., for offering downloadable forms that could be completed and faxed to the city.

This year's winners coped with challenges that weren't even on the radar 17 years ago. For instance, Tennessee's tn.gov and Austin's austintexas.gov incorporate responsive design, allowing them to automatically adapt to smartphones and tablets carried by a rapidly growing number of citizens. In fact, Tennessee officials say nearly 20 percent of traffic to the state portal now comes from mobile devices, which also explains why they adopted a mobile-friendly panel-based design earlier this year.

Another top-ranked site, Alameda County, Calif.'s acgov.org concentrated

on connecting with citizens through social networks and engaging developer communities through hackathons. County officials add that they've integrated some apps produced by the hackathons into the county website. (You can read more about this year's Best of the Web winners on p. 32.)

On the other hand, some of the key issues haven't changed all that much.

Winning sites this year paid close attention to clarity of design and ease of navigation, just like our top finishers did 17 years ago. John Child, webmaster for Utah's second-ranked state portal in 1996, told us the state focused on getting users from the home page to the information they sought within three mouse clicks. Pioneering sites also were planting the seeds for interactive online services. San Carlos Assistant City Manager Brian Moura, for instance, was already planning a regional smart permitting system for local businesses, and the Virginia Department of Transportation website was offering live traffic camera feeds for commuters.

Ultimately one thing comes through loud and clear in our coverage of that first Best of the Web survey: The winners had a passion for using the Web to improve government service. That quality has remained a constant throughout the years — and it's reflected once again in this year's winners. 

RAISE YOUR VOICE



Your opinions matter to us. Send comments about this issue to the editors at editorial@govtech.com. Publication is solely at the discretion of the editors. *Government Technology* reserves the right to edit submissions for length.

AN AWARD-WINNING PUBLICATION



Google Glass for Public Safety

Robocop may not be real, but his efficiency is something worth aspiring to. Through the use of Google Glass, communications vendors may soon give police officers a chance to capture some of the half-robot, half-man's technological capabilities. In August, **Mutualink** showed how Google Glass could serve real-time information, hands-free, to public safety officials using the company's interoperable communications platform. During the demonstration, hundreds of fusion centers, schools, hospitals, utility plants and operation centers were connected, able to share video, voice and data ad-hoc.

Google Glass, about to enter the consumer market, will provide a new avenue for delivery of communications services. In many ways, it's just another computer, but one that frees up the user's hands.

\$4.7m

The amount the **Georgia Technology Authority** says it will save the state over the next five years by using Drupal, an open source website content management system, and hosting data in the cloud.

“ This initiative only duplicates what exists in neighborhoods around Miami-Dade County: the public schools. Why aren't the various government entities coordinating public access to the tens of thousands of computers that sit idle after the school day ends and during the numerous breaks? It's pointless to create more of something that's already underutilized.

Brent Javanovich in response to Technology Centers to Open at 11 Miami-Dade County Parks

“ Network and systems administrators can reduce the risk associated with internal and external cybercriminals. The tricky part is knowing the standard baseline of activity, connectivity and traffic flow. A fair amount of pre-work is necessary to position a system or network administrator to provide risk reduction. Then the organizations they work for must provide the data review and analysis time.

Phdad in response to Black Hat 2013: Can Administrators Catch Up with Cybercriminals?

“ Social media isn't the wave of the future; it's procedure for the present when it comes to crisis communications. Often, local jurisdictions can't afford or simply don't invest in qualified public information staff so the local emergency management directors are saddled with it when they have county and municipal response to coordinate. As a PIO in a disaster-prone state, I can tell you that places an unfair burden on a county director when a little time, investment and open-mindedness can [help] build a quality, modern public information program.

Woah_a_PIO in response to Social Media and Emergency Management to Collide

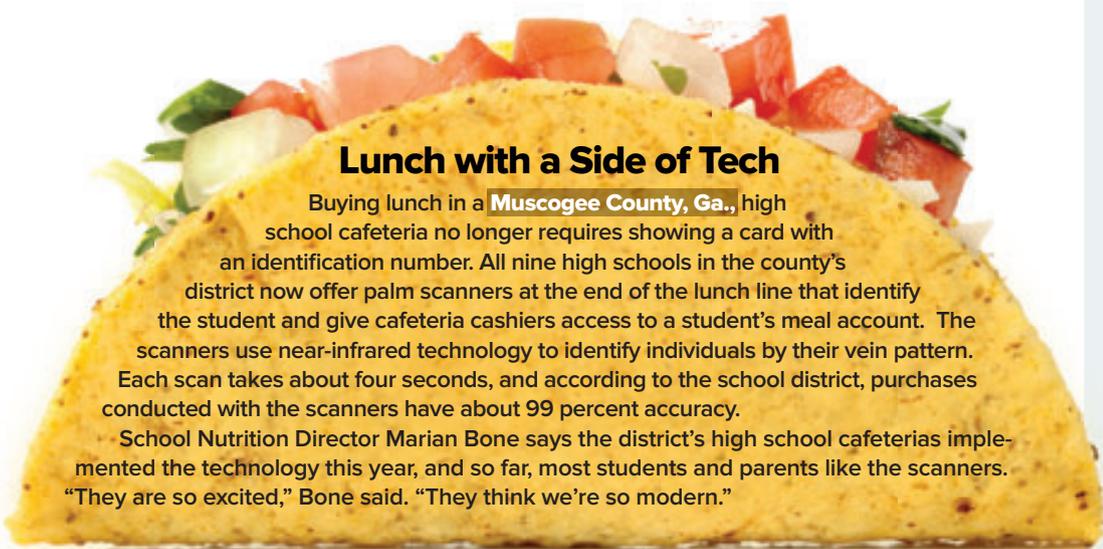
“ A worthy position and I'm glad schools are embracing the concept. I'm also sure these are all great people. But what does it say about our ability to truly innovate if we only hire folks who are already in and from the education space? I wonder if our hires could be well ... more innovative.

Chris Martinez in response to Chief Innovation Officers Make Their Way Into Schools

WHO SAYS?

“Bad guys always like to take pictures of their drugs, their guns and their girlfriends. If you want to brag to your buddies about what you've just done, [sharing photos] is one way to do it.”

www.govtech.com/data/Madison-Police-Extract-Forensic-Evidence-from-Cellphones.html



Lunch with a Side of Tech

Buying lunch in a **Muscogee County, Ga.**, high school cafeteria no longer requires showing a card with an identification number. All nine high schools in the county's district now offer palm scanners at the end of the lunch line that identify the student and give cafeteria cashiers access to a student's meal account. The scanners use near-infrared technology to identify individuals by their vein pattern. Each scan takes about four seconds, and according to the school district, purchases conducted with the scanners have about 99 percent accuracy. School Nutrition Director Marian Bone says the district's high school cafeterias implemented the technology this year, and so far, most students and parents like the scanners. “They are so excited,” Bone said. “They think we're so modern.”

MOST SHARED STORIES

2013 Best of the Web Award Winners Announced **472 SHARES**

Social Media and Emergency Management to Collide **240 SHARES**

App Helps Victims Report Sexual Assault Anonymously in D.C. **115 SHARES**

Twitter, Facebook, LinkedIn, and Google+ icons

HOT OR NOT?

Most read stories online:
New York State Ready for Quick Move into Cloud Email **2,129 VIEWS**
2013 Best of California Awards Celebrate Top IT Projects and Leaders **1,959 VIEWS**
Social Media and Emergency Management to Collide **1,735 VIEWS**

Least read stories online:
Greenville County, S.C., Recovers Revenue on Homestead Filings **199 VIEWS**
Digital Cemetery Preserves Legacy of City Residents **196 VIEWS**
iGuardian Portal Shares Cyberattack Data with the FBI **195 VIEWS**



Open Data's Road to Better Transit

Utilizing public transit's mass amount of data can benefit government and citizens alike.

Data is everywhere. It now costs less to capture, store and process data than ever before, thanks to better technology and economies of scale. And more than ever, the public expects government to use data to improve its services. Increasingly, government's problem is not capturing the data, but having sufficient resources to clean and analyze the information in order to address issues, improve performance and make informed decisions.

In particular, public transit not only produces an immense volume of data, but it also stands to benefit from good analysis in the form of streamlined operations and a better rider experience. More than 200 transit agencies worldwide — from Buffalo to Budapest — are well on their way. They are publishing their schedules, fares and station locations to Google's TransitDataFeed in a common format and for free. Such information is called open data, which is any data that's publicly shared.

Open data allows anyone to download and use the information for his or her purposes, particularly software develop-

ers who can use it to create mobile and Web-based applications. Google, for example, incorporates the information into its Maps application to help riders plan trips and learn about service updates across bus, rail and bike systems. Other third parties have built successful apps on top of open transit data.

Stephen Goldsmith is the Daniel Paul Professor of the Practice of Government at Harvard Kennedy School and directs the Innovations in Government Program and Data-Smart City Solutions. He previously served as mayor of Indianapolis and deputy mayor of New York City.



DAVID KIDD

Innovations like these allow transit agencies to leverage external expertise and resources, and have also reduced customer service costs and increased ridership levels. In fact, some members of the American Public Transportation Association believe that open data initiatives have catalyzed more innovation throughout the industry than any other factor in the last three decades.

“Open data is providing a road map for improving public transit and engaging an increasingly tech-savvy citizenry.

Some cities are using data and the technology that enables it to improve transportation planning. For example, transit agencies in about a dozen cities, including New York City and Portland, Ore., are investing in sophisticated vehicle tracking technology to produce real-time schedules for riders.

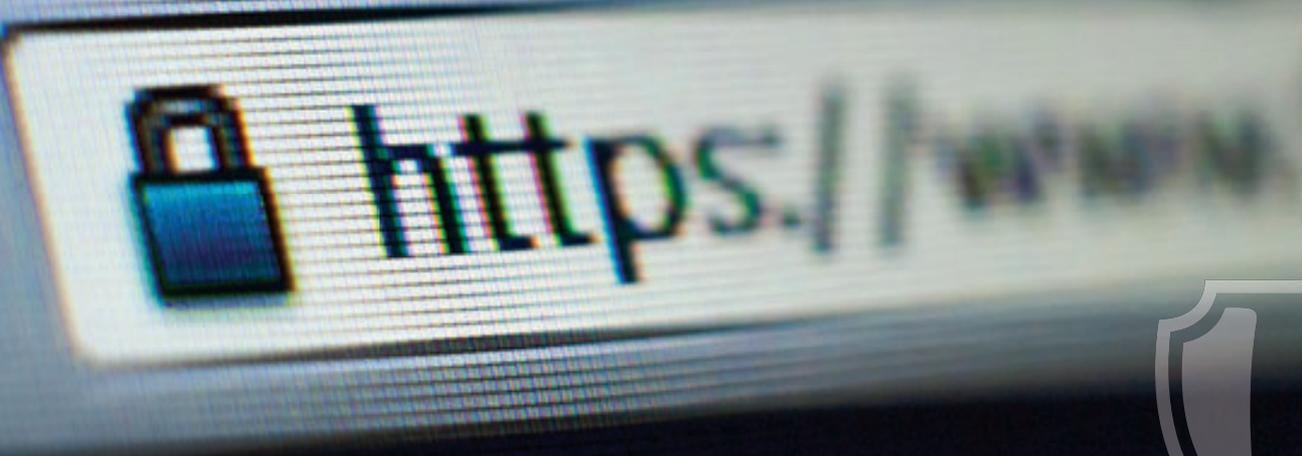
In Philadelphia, the City Planning Commission is using text message sur-

veying to capture the opinions of transit riders across the demographic spectrum to determine the usefulness of a proposed rapid transit line into downtown. Philadelphia uses the transit information to inform its comprehensive city plan, but this digital citizen survey mechanism, created by a company called Textizen, is a platform that can be used by any government that wants to solicit feedback or begin a dialog with its citizens.

In 2012, Dubuque, Iowa, collaborated with IBM to run a Smarter Travel pilot study. The pilot used a mobile app and RFIDs to collect anonymous

travel data from volunteer transit riders. The city has already used the data to open a new late-night bus line for third-shift workers and college students, and by next year will incorporate data into more route planning decisions.

Amid nationwide public-sector budget cuts, open data is providing a road map for improving public transit and engaging an increasingly tech-savvy citizenry. **CT**



Expert Security, Smooth Access



Dell Software Identity and Access Management solutions give organizations the best of both worlds

CYBERCRIMES, CYBER THIEVERY AND CYBER WARFARE have become everyday realities in the 21st century. Organizations need to protect themselves from these threats while continuing to benefit from the advantages that modern communications and data technology bring to the table. Robust security systems can keep the wrongdoers out — but they also must ensure that authorized personnel can access the information they need.

Dell Software identity and access management solutions can help you meet requirements for access governance, privileged account management, identity administration and user activity monitoring in a unified manner while simplifying key functions.

Access governance: Improve the efficiency of business processes and reduce the administrative burdens for IT by empowering your users with key access governance functions. Help managers understand what employee entitlements

actually mean and enable them to certify access accordingly. Establish a continuous process to prevent malicious activity, and ensure that every individual employee has the right access to do his or her job while maintaining regulatory compliance.

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Dell solutions for privileged account management help control and audit administrator access. Automate, control and track the entire process of granting administrative credentials. Capabilities for access control and separation of duties plus comprehensive activity monitoring and audit functionality help you achieve and maintain compliance. Solutions specifically designed for Microsoft® Windows®, Linux® and UNIX® or sudo environments provide the appropriate level of access for administrators to do their jobs — no more, no less.

Identity administration: Gain a better grasp of day-to-day management of

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User activity monitoring: With Dell solutions for monitoring user activity and system access, you can ensure tight control while simplifying compliance and auditing. Discover potential vulnerabilities, prevent unauthorized access, address policy violations, and immediately and effectively respond to crises. Capitalize on automated functions and consolidated reporting to demonstrate compliance easily.





T.L. Cox
CIO, Tulsa, Okla.

*Last year, Tulsa, Okla., CIO Tom Golliver resigned after a bungled test of the city's IT security operations. A private security firm was tasked last fall with testing the city's cybersecurity capabilities. During the operation, city IT staff mistakenly thought the website had been hacked, according to local media. The city intentionally shut down the website for two weeks to investigate the incident. During that time, 90,000 letters were sent to people unnecessarily, telling them their sensitive data may have been accessed. The incident led to Golliver's departure. **T.L. Cox** became interim CIO in May, and on Aug. 1, he officially took over the role. According to Cox, incidents like Tulsa's offer opportunities for city IT staff to review operations to prevent similar events in the future. Government Technology spoke with Cox on his plans in the wake of last year's*

1 Discuss your prior experience and what you bring to your new role as CIO.

Before I came to work for Tulsa, I worked for a management consulting firm in Dallas. We were primarily human resources, human capital. But a significant part of my responsibility was overseeing our e-solutions division, which was a suite of SaaS [software as a service] that we offered to public entities across the U.S.

2 What challenges did Tulsa face before you became CIO, and how do you hope to rectify some of the problems that occurred?

I'd say the incident you're referring to was a reflection of the IT department's lack of collaboration and communication in response to that effort. One thing we've done is establish an IT security board to identify, evaluate and mitigate risk to the city's information security structure.

We've also instituted incident response teams from different parts of IT to evaluate any perceived threats. Specifically related to information security, we've just instituted more formalized processes to deal with those situations should they happen again.

3 Is there anything else that you want to do to change how day-to-day IT operations are carried out? We want to do a better job of IT governance, so we'll be exploring an IT governance structure, formalizing and empowering an IT steering committee. We're also looking at how we can better serve departments through defined service-level agreements. So really just overall more formalizing the relationships that we have with departments.

4 What are your long-term goals for the city? Some of the things I want to do are driven by departments. IT is unique in that we are a service provider for every department throughout the city. And an IT department within a municipality is unique when compared to private-sector counterparts because some of our customers are police officers, firefighters, folks that are employed by public works groups.

That adds a lot of nuances that make it difficult to run a municipal IT shop like a private entity because, again, of the uniqueness of the challenges. Much of the direction I want to take Tulsa's IT department is in line with the direction that our customers are going.

The major projects we're working on are with the customer care center. [We're] looking into the development and installation of a customer relationship management (CRM) solution. That would provide an opportunity for citizens to interact with the city, using the channel that they're most comfortable with, meaning over the phone; via social media; through the Web.

The CRM is a large initiative we're working on. We have a capital improvement vote in November. That would provide money to purchase an enterprise resource planning system for the city. That would enable us to go out and competitively bid and select a vendor to replace our existing financial system. **GT**

— Sarah Rich, Writer

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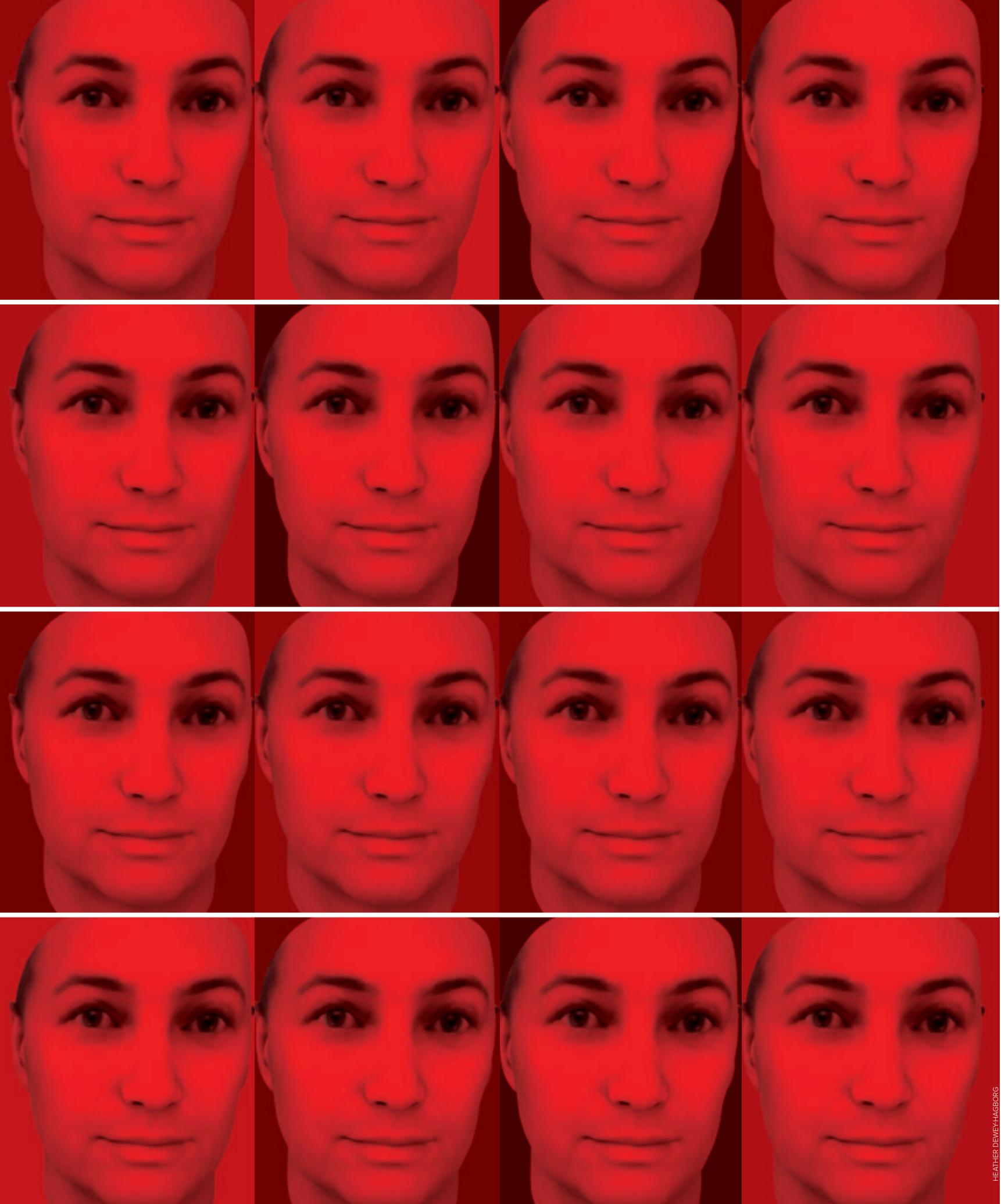






Time for a Refill

For decades, energy companies have generated electricity from bubbling hot springs near the Northern California city of Santa Rosa. But the underground reservoirs are slowly being depleted. Only 20 percent of the steam captured and sent through geothermal generators can be returned to the ground as water. Now highly treated city wastewater is being injected into the steam fields at the rate of 12 million gallons daily. The **Santa Rosa Geysers Recharge Project** — a \$200 million engineering feat that took three years to complete — launched in 2003, helping to refill the steam reservoir and rid the city of excess wastewater.



BY COLIN WOOD
CONTRIBUTING WRITER

ABOUT FACE

AN INFORMATION
ARTIST USES
DNA ANALYSIS
TO CREATE A 3-D
PORTRAIT OF WHAT
AN INDIVIDUAL
LOOKS LIKE. COULD
THIS BE THE FUTURE
OF FORENSIC
IDENTIFICATION?



ON THANKSGIVING MORNING IN 1993, A GROUP OF HUNTERS STRODE THROUGH TALL TREES AND DENSE UNDERGROWTH NEAR ODESSA, DEL. IN A CLEARING, JUST 150 FEET OFF ROUTE 9, THEY STUMBLED UPON A SMALL HUMAN SKELETON WITH GRASS GROWING THROUGH IT.

TWENTY YEARS LATER, THE SKELETON REMAINS A MYSTERY. SHE WAS FEMALE, JUST A HAIR ABOVE FIVE FEET TALL, WHITE, BETWEEN 20 AND 45 YEARS OLD, AND APPARENTLY WITHOUT ANYONE LOOKING FOR HER. POLICE SURMISED THAT THE WOMAN HAD BEEN KILLED, STRIPPED AND DUMPED IN THAT FIELD SOME THREE MONTHS PRIOR. WITH NO CLOTHING, JEWELRY OR OBVIOUS REPORT OF A MISSING PERSON TO GO BY, WHO SHE WAS OR WHERE SHE CAME FROM WERE BEYOND SIMPLE RECKONING.

That was the end of a woman's story and the beginning of the story of Unidentified Person (UP) #2212 of the National Missing and Unidentified Persons System. She is among 40,000 others whose identity is unknown.

Now, an innovative marriage of art and technology offers new hope for giving names back to these individuals — but it also raises important questions around science versus interpretation.

An information artist named Heather Dewey-Hagborg has in her lab a DNA sample of UP #2212. She's going to use it to make a bust of what the deceased woman may have looked like. There are already sketches and clay models of UP #2212 that were rendered by artists and anthropologists who made scientific guesses based on the victim's bones. But a 3-D model informed by genetic

traits could be the extra piece of data that finally reveals the woman's identity.

Dewey-Hagborg doesn't usually work with the Delaware Office of the Chief Medical Examiner, but Deputy Director Hal Brown saw her art and asked her to apply it to his field as an experiment. Brown had read about a project called Stranger Visions, in which Dewey-Hagborg explored the concept of how much information could be obtained from a single strand of hair or other objects, such as a piece of discarded chewing gum or a cigarette butt, that contain DNA. Dewey-Hagborg collected these samples — or as some would call them “forensic evidence” — from around New York City, used DNA analysis to identify the physical traits of each person to whom the objects belonged, and used 3-D modeling software to create her vision of what those people may have looked like. Finally, she used a 3-D printer to create physical models of the heads she had created to go alongside the evidence.

“It's similar to me being a sketch artist except instead of being a sketch artist, I work with code and create models and physical models,” Dewey-Hagborg said.

With unlimited funding, Dewey-Hagborg said she would have access to about 50 identifying traits taken from DNA analysis, which could lead to a fairly distinct portrait. As it is, she has access to eye color, gender, size of the nose, tendency toward obesity, ethnicity and maternal ancestry. When combined, these traits give her the ability to create a face that bears a “family resemblance” to the real individual. The final detail: She paints the eyes by hand.

Exactly what this technology means and where it's headed are questions Dewey-Hagborg has put much thought into but hasn't yet reached any definite conclusions about. “I'm mainly just hoping to point to that and start a conversation about it. There is no regulation about the use of this technology in law enforcement, and there is a whole slew of potential problems with it.”

The portraits she creates are artistic interpretations based on data that was found scientifically, but often, she said, people hear “DNA” and assume that what they're looking at is the end-all, be-all. “It has this added aura of objectivity because



INFORMATION ARTIST HEATHER DEWEY-HAGBORG USES DNA ANALYSIS TO IDENTIFY PHYSICAL TRAITS.

MATT GREENSLADE PHOTOGRAPHY

HEATHER DEWEY-HAGBORG

THE IDEA

ARTIST HEATHER DEWEY-HAGBORG'S "STRANGER VISION" PROJECT BEGAN AS AN ATTEMPT TO SEE HOW MUCH SHE COULD LEARN ABOUT A PERSON FROM A SINGLE STRAND OF HAIR.

THE PROCESS

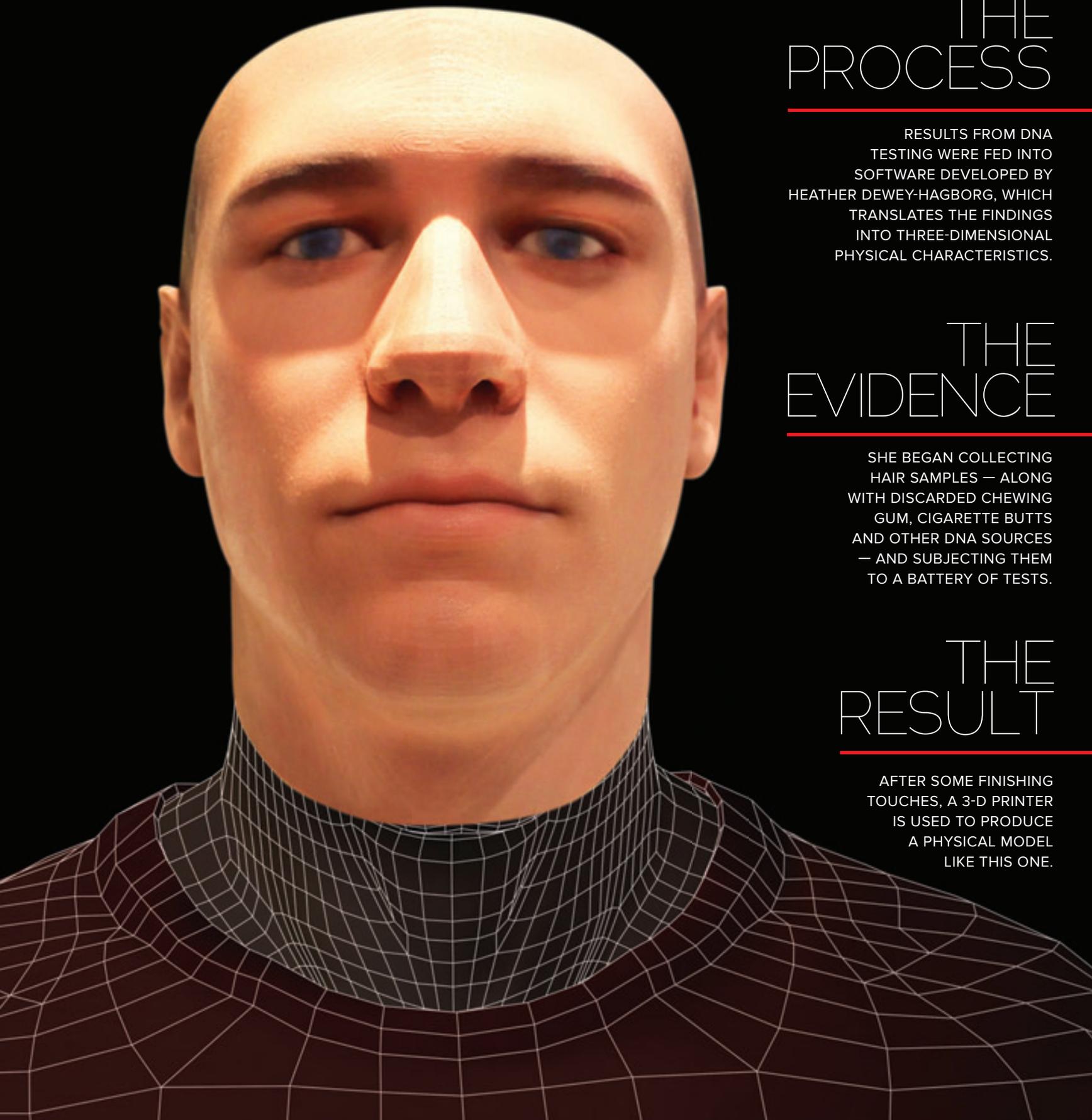
RESULTS FROM DNA TESTING WERE FED INTO SOFTWARE DEVELOPED BY HEATHER DEWEY-HAGBORG, WHICH TRANSLATES THE FINDINGS INTO THREE-DIMENSIONAL PHYSICAL CHARACTERISTICS.

THE EVIDENCE

SHE BEGAN COLLECTING HAIR SAMPLES — ALONG WITH DISCARDED CHEWING GUM, CIGARETTE BUTTS AND OTHER DNA SOURCES — AND SUBJECTING THEM TO A BATTERY OF TESTS.

THE RESULT

AFTER SOME FINISHING TOUCHES, A 3-D PRINTER IS USED TO PRODUCE A PHYSICAL MODEL LIKE THIS ONE.



it comes from science,” she said. And that could be abused.

Misconceptions about science and mathematical probability, along with public belief in the infallible integrity of DNA evidence has led to the conviction of innocent people. The FBI announced in July that it will review more than 2,000 cases in which DNA testing of hair samples led to convictions, on death row and elsewhere. The FBI didn’t report that any scientist had used flawed techniques, but rather the bureau will examine whether the reports and testimony connected to DNA testing accurately reflected the science.

With direct-to-consumer genetic testing becoming available for relatively low prices through companies like 23andMe, there is a trend toward genetic information becoming more accessible. What was just decades ago a relative mystery is now becoming a matter of public record. It’s possible that within 100 years, DNA scanners will be just another smartphone feature.

As the Human Genome Project proceeds and advances are made in forensic DNA technology, more information can be obtained from smaller samples and the scientific community’s general understanding of DNA is improving, said John Butler, a fellow with the National Institute of Standards and Technology. However, some areas of knowledge are growing faster than others.

“The weak link right now is the genetic-to-phenotype information,” Butler said. “You can get the DNA from the sample, but interpreting that data and making sense of that data is something that’s very much in the infancy of the abilities of what we can do right now.”

Butler agreed with Dewey-Hagborg’s assessment that DNA technology isn’t the 100 percent accurate science that it’s often portrayed as in TV shows and movies. “There’s a test called ‘iris flex’ right now that will do six different points in the genome, and it can tell you brown eyes versus blue eyes accurately about 90

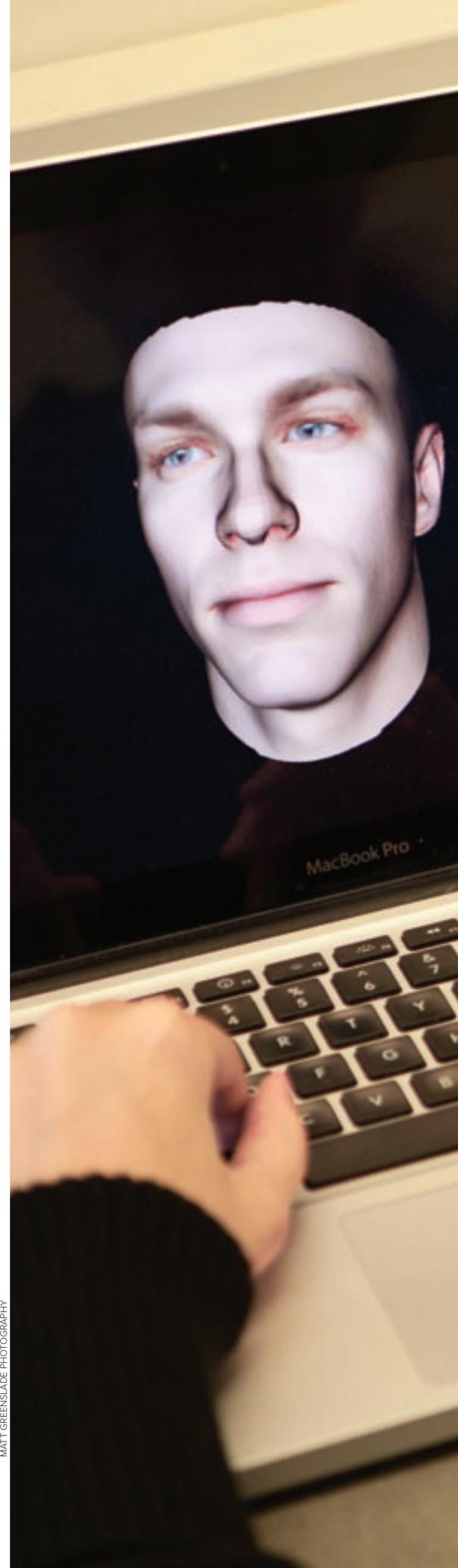
percent of the time,” he said. “Still, that’s not even close to what you would want to do if you’re going to spend all this time making a 3-D model of somebody.”

A company called DNAPrint Genomics, which went out of business in 2009, offered a service for law enforcement called DNAWitness. The company used DNA ancestry markers to inform customers of a suspect’s skin color, based on the sample it received.

Famously, Louisiana law enforcement used the service while searching for the person who murdered Pamela Kinamore in 2002, along with a string of other victims. Initially police believed the serial killer was white, based on eyewitness accounts and the tendency of serial killers to kill within their own ethnic groups (Kinamore was white). But DNAPrint Genomics revealed that the person police were looking for was black, and that information eventually tied the murder of Kinamore to Derrick Todd Lee, who is now known as the Baton Rouge Serial Killer.

Although the limited information offered by DNAPrint Genomics was useful in this case, Butler said the technology didn’t have enough specificity to warrant widespread use in law enforcement. A suspect’s skin color is often already known anyway, and even if it’s not, many areas are too racially diverse for information about skin color to be very useful, he said. For phenotyping, or using DNA analysis to determine someone’s physical traits, to be useful, the profile provided by DNA analysis needs to be more comprehensive, specific and accurate than what science has access to today.

If a law enforcement agency uses DNA technology today, it’s almost always for matching samples against known DNA or fingerprints in a national database, not phenotyping, Butler said. “Right now, there’s not a single police lab in the United States, to my knowledge, that’s doing anything with this type of technology,” he said. But if what Dewey-Hagborg is doing were to be developed further and a close-to-real portrait of someone could be made from DNA alone, he said there isn’t a law enforcement agency in the country that wouldn’t want to use it.



MATT GREENSLADE PHOTOGRAPHY



3-D MODELS HAVE A “FAMILY RESEMBLANCE” TO THE REAL INDIVIDUAL.

DEWEY-HAGBORG DESCRIBES HERSELF AS A HIGH-TECH SKETCH ARTIST.



Forensic artists at the National Center for Missing and Exploited Children (NCMEC) use their own techniques to chip away at today's 40,000 missing and unidentified people. Using software developed by SensAble Technologies, called FreeForm, forensic artists and anthropologists try to re-create the faces of the deceased by taking cues from the CT scans of skeletal remains.

Joe Mullins, a forensic artist with NCMEC, along with anthropologist David Hunt, used the software to generate faces for two 2,000-year-old mummies: an 8-year-old boy and a 3-year-old boy. 3-D busts of the faces were displayed as part of the External Life in Ancient Egypt exhibit at the Smithsonian's National Museum of Natural History. The facial models taught

historians that the mummies were of West Asian or Middle Eastern origin, and that the mummified children's facial features were more refined than they originally thought, a historical breakthrough.

Computer modeling uses many of the same techniques as clay modeling, Mullins said. Artists place tissue depth markers and layers of muscle and skin to build a likeness, but using computers eliminates the need to put a fragile old skull in the mail or risk breaking a skull while molding clay on top of it.

But unlike Dewey-Hagborg's work, Mullins said forensic portraits should leave no room for artistic interpretation — that's why their models are in black and white. "If you see a facial reconstruction from skeletal remains and it

is in bright vivid color with blue eyes, olive skin and beautiful blond hair, that person is psychic or has some fancy DNA testing that nobody else has," Mullins said, adding that as an artist himself, he finds it a constant struggle to not take artistic license while creating a model and reminds his students to not fall into that trap.

The work of Mullins and NCMEC has led to the identification of children and adults, including one victim of Gary Ridgway, the so-called Green River Killer, who is estimated to have killed more than 90 people. NCMEC used clay models until about 2007, but now uses digital modeling exclusively.

Mullins and his team of forensic anthropologists can get a lot of information just by looking at a skull. They can discern what the person's smile may have looked like by looking at the teeth, identify whether the victim's ear lobes were attached or hanging, and identify facial characteristics such as nose width, lip thickness and eye shape. Mullins would be grateful if DNA forensics could add enough information to identify all the skulls and put him out of a job.

"That would be awesome," he said. "Having that extra information for us takes the ambiguity out of the equation. That narrows the field of when we're putting a face together and it's going to be more accurate. That would be an incredible resource for us to use."

NCMEC publishes images of the facial models, hoping they will spur recognition with the public. If someone comes forward with a lead, NCMEC can use DNA matching to see if the lead is correct, but beyond that, DNA isn't used in its modeling process, Mullins said.

"With the facial reconstructions, it's already a horrible, tragic story by the time it gets here because you open up a box and it's an 11-year-old little girl, or what's left of her," Mullins said. They don't call it "closure," he said — being able to finally solve a case just gives them the opportunity to provide a family with answers. "We have these coined expressions that we say during media interviews," Mullins said, "but there are no words to explain how rewarding it is." 

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COVER OREGON CIO AARON KARJALA USED DESIGN THINKING TO BUILD THE STATE'S HEALTH INSURANCE EXCHANGE QUICKLY, WITH USERS' FEEDBACK DRIVING DEVELOPMENT AND FUNCTIONALITY.



A BETTER WAY TO

With the launch of Cover Oregon, state officials expect their commitment to design



PHOTOS BY BRUCE FOSTER PHOTOGRAPHY

As states launch their federally mandated health insurance exchanges, officials in Oregon say they are poised to set a high bar for just how smoothly such a system can operate.

Challenges facing the states are considerable. In simplest terms: Exchanges must serve a vast and varied population, many of whom are unfamiliar with the machinations of health care, many of whom loathe the notion of free-market insurance and many of whom simply don't want to confront the process.

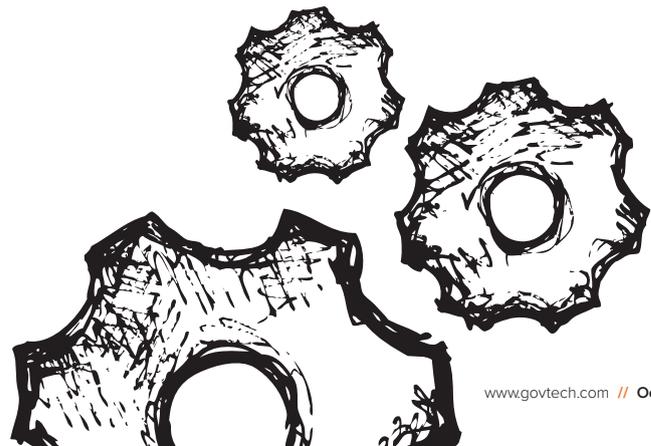
Oregon's answer was to approach the construction of its \$300 million system using a methodology known as design thinking. Oregon joined 10 other states and the federal government to participate in Enroll UX 2014, a program that used design thinking to create a reference model for state and federal health insurance exchanges.

Design thinking is generating buzz in engineering and design as a better way to solve business problems. It's a process that attempts to combine empathy for the context of a problem, creative insights and rational analysis to arrive at a solution. UX 2014 was led by IDEO, a Palo Alto, Calif.-based innovation and design firm that lists big companies among its clients, including Wells Fargo, Samsung and AT&T.

Leaders of Cover Oregon, which operates the state exchange, say that design thinking helped them to put together a working system under extraordinary time constraints. "We will have been barely 2 years old by the time we go live, and we are coming into a completely new marketplace, trying to capture and maintain a whole new class of consumers," said Cover Oregon CIO Aaron Karjala.

BUILD?

thinking to pay off. **By Adam Stone**





CUSTOMERS FIRST

Design thinking is one of those notions that, while potentially game-changing, can also be somewhat fuzzily defined.

IDEO says it “brings together what is desirable from a human point of view with what is technologically feasible and economically viable. It also allows people who aren’t trained as designers to use creative tools to address a vast range of challenges.”

Traditionally, “developers approach these projects as ‘IT deployments,’ focusing closely on technical specifications but not fully taking into account the needs of real users,” said Natalie Foley, vice president and COO of design thinking and strategy firm Peer Insight. “The entire notion of creating a service for an end-user is often lost on development teams, resulting in the creation of user experiences that are underwhelming and subsequently fail to capture the results — financial or otherwise — that were projected.”

Not everyone is ready to tout design thinking as the solution to such problems. Some suggest that the notion already has achieved buzzword status, becoming less meaningful as it becomes more ubiquitous. Others worry that while this approach may be effective at serving user needs, it may not always take into account the business case driving a project.

Despite such concerns, Oregon designers say design thinking has served them well.

MANY VOICES

The design effort began with an IDEO-inspired separation of potential users into four basic groups: the “engineers” who want to know everything in all its glorious detail; some who want hand-holding from the outset; others who want to take a high-level view of the situation before they dive in; and those who wish to find their own path but want to be guided along the way.

With each step of the design process, engineers kept in mind the need to serve all these groups simultaneously. This was made possible thanks to a broad range of input from potential users. Rather than work in a vacuum, developers sought direction from workgroups and advisory councils representing small business, individuals and tribal entities, as well as technical personnel. In order to manage the input of literally hundreds of advisers, Cover Oregon opted to work from the 10,000-foot level.

“We made the decision not to make the process overly formal. We wouldn’t say, ‘Yes, we will put this in or not put



State officials expect more than 200,000 people to sign up for health insurance through Cover Oregon. Enrollment starts this month, and coverage begins in January.



USER-CENTRIC DESIGN

The exact definition of design thinking varies depending upon who you ask. In general, however, the technique attempts to understand problems from a user’s perspective and then come up with better solutions through an idea generation process that includes multiple perspectives. Although some sources break the design thinking process into seven or eight steps, here is a broad look at the activities involved:

1 / DEFINE THE PROBLEM.

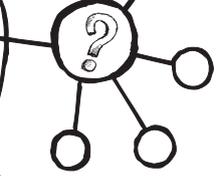
Perhaps the most important step in design thinking, this phase involves intense observation and exploration of the problem to be solved. A multidiscipline team is assembled to look at the problem from numerous angles. Members of the problem-solving team immerse themselves in the process they’re studying in order to gain a user-level understanding of the issues involved. This step is sometimes labeled “empathize” because the goal is to deeply understand the needs of users.



2 / GENERATE IDEAS.

The goal here is to come up with as many potential solutions to the problem as possible. Again, multiple perspectives are crucial, and all ideas are considered and judged equally. Great care is taken to encourage creativity and eliminate preconceived restrictions.





that in,” Karjala said. “Everyone knew they were informing a design that we would be responsible for, so we wouldn’t get caught in the loop of trying to satisfy 1,000 people in terms of seeing their feedback implemented.”

Informed by these volumes of input, Cover Oregon went into heavy testing mode. That’s a fundamental precept of design thinking: Rather than build it once and then test drive, design thinking encourages engineers to take incremental steps, creating components that can be tested and modified on the fly.

“For example, we built a plan selection page for small employers, and it was set up in a series of tiles, with as much information above the fold as we could get,” Karjala said. “We also had a series of filters across the top. When somebody came to that page, they saw every plan we could offer, which could be hundreds of plans, and we thought that would be really helpful. What we found is that it overwhelmed everybody visually.” The team went back and broke the tiles into columns, pushing filters off to the side.

(The actual prototypes were shopped out to Deloitte Digital with Oracle developers eventually building the finished product onto the Oracle Health and Human Services Framework.)

One major move was to break up the entranceway into a series of discrete dashboards. “The dashboard will have the same basic layout, and depending on who you are, that layout will display different things,” Karjala said. “So an agent registers as an agent, or someone may register as an individual or as an employer, and they each will get a different view.”

At an even more granular level, an employee who identifies as working with a particular company will see only the health plans that company has selected, and will then comparison shop from there.

User testing likewise showed a consumer need that a more traditional development process might have missed. “They need context for where they are in the process. They want to know in general how much time they have remaining in the process, and they need a place where they can leave the site and then come back to it,” Karjala said.

These unique needs — some particular to the special circumstance that is the health insurance exchange — help to explain why Oregon found design thinking such a useful approach.

SPECIAL CHALLENGES

While most states already have some consumer-facing presence for delivery

of state services, the health exchanges demand a new and very different hybrid.

“The biggest factor is that this effort has to integrate two separate worlds: state health and state systems that have operated under a traditional paradigm, and the commercial world, the commercial suppliers with their channels of sales and support. So this is something that really hasn’t been out there before,” said Brian Patt, head of Health Care Exchanges and HHS Platforms for Infosys Public Services.

In addition, the states are addressing a relatively new audience, some 100 million uninsured or underinsured individuals who may have little or no understanding of the health insurance milieu. Systems also must be geared up to perform elaborate eligibility checks against federal systems. “There is clearly a lot of iteration that has gone back and forth with the federal side,” said Patt.

Add to this a certain lack of subject-matter expertise. States have long had offices and departments to deal with the delivery of public services, but the health insurance exchange changes everything. “In this case, there is no one person, no smart individual who can do that, because you are creating something that has never been there before. So you need to gather all the user experience and preference as part of the discovery process,” Patt said.

All of these factors make the traditional Design, Develop and Implement (DDI) approach a poor fit for creating health insurance exchanges. “DDI models work very well if you have a very defined problem domain. In this case, we know what the objectives are, but the constituents aren’t defined, the regulations are in flux and the technologies behind it, especially on the federal side, aren’t in place,” said Patt. “DDI assumes that all those parts are in place. In this space, too much is undefined for DDI to really be a sustainable model.”

In addition, the new exchanges will need to meet a high standard for service and usability.

“What’s new and different in this marketplace is this idea of ‘Travelocity for health insurance,’ the ability to view options, sort them and categorize them. That is something states have never done before,” said Phil

3 / CREATE PROTOTYPES.
The best ideas are refined and then tested with a diverse group of users. Feedback is used to test and improve the concepts. Multiple ideas may be combined. This step may be repeated several times until winning solutions emerge.

4 / IMPLEMENT THE SOLUTION.
At this point, resources are committed, final testing is performed and the solution is deployed. User feedback is collected and improvements can be made based on that input. Data is collected to measure success of the solution.



CONSTANT TESTING OF OREGON'S EXCHANGE SHOWED KARJALA USER NEEDS THAT A TRADITIONAL DEVELOPMENT PROCESS MAY HAVE MISSED.



Poley, managing director of health and public service for North America at Accenture and former chief operating officer of Medicaid in Massachusetts.

"There has been a true intent that this should be a much more customer-friendly, first-class experience, designed to attract a broader mix of consumers that would never go to a state benefits website," he said. "If you don't make it easy for people who are already reluctant buyers, they will simply abandon the effort."

HYBRID PLAN

While Oregon fully embraced design thinking, others opted to combine traditional development with a heightened sensitivity to the user experience. Arizona, for instance, implemented key elements of the Enroll UX 2014 model, layering these ideas over the state's existing one-stop public services portal.

"They are much more mindful of the design thinking now than they were in our initial building for them, but they didn't go full tilt, just because of the time constraints," said Bobbie Wilbur, co-director at nonprofit technology solu-

tions provider Social Interest Solutions. She helped to craft some of the final language of the Affordable Care Act and is the system integrator for the Arizona exchange.

Even with the basics in place, "you still have to listen to the community-based assistors that are actually using it and ask what they are running into, what is working, where do we need to make changes? Your ears have to be enormous. You need to know what is working and what is not and be ready to move to what will work," Wilbur said.

That kind of thing takes time, but the combination of an existing structure along with this design thinking approach allowed Arizona to keep on track. "Arizona probably gave itself six to nine months in acceleration because of the reuse," Wilbur said.

FITTING THE PIECES

Back to Oregon, where more than 200,000 people initially are expected to sign up through Cover Oregon.

As Cover Oregon raced to the finish line earlier this year, organizers reflected on a process that sometimes came down to the most rudimentary approaches. For instance,

designers plastered a conference room wall with paper versions of their early user interface. As focus groups walked through, designers marked off the spots where they got stuck, needed help or took a wrong turn.

At the same time, higher-level cooperation between Cover Oregon and the Centers for Medicare and Medicaid Services and other federal partners ensured that security would be solid without interrupting the user experience, and that eligibility could be authenticated without interrupting the flow of registration.

"Before you can access any sensitive information, you have to have the user of the system prove who they are. You have to ask for forms of identification: Where did you live on this date, or how much is in your bank account? So we worked with our federal partners to push that further back in the process, to get users engaged in the process first before we started asking for all that additional information," Karjala said.

"A lot of people make the assumption that the users know what they want. We could have gone ahead and just designed to what we thought the user needed," Karjala said. Thanks to design thinking, though, the Oregon team says it feels a lot more confident of hitting that mark on the first try. 

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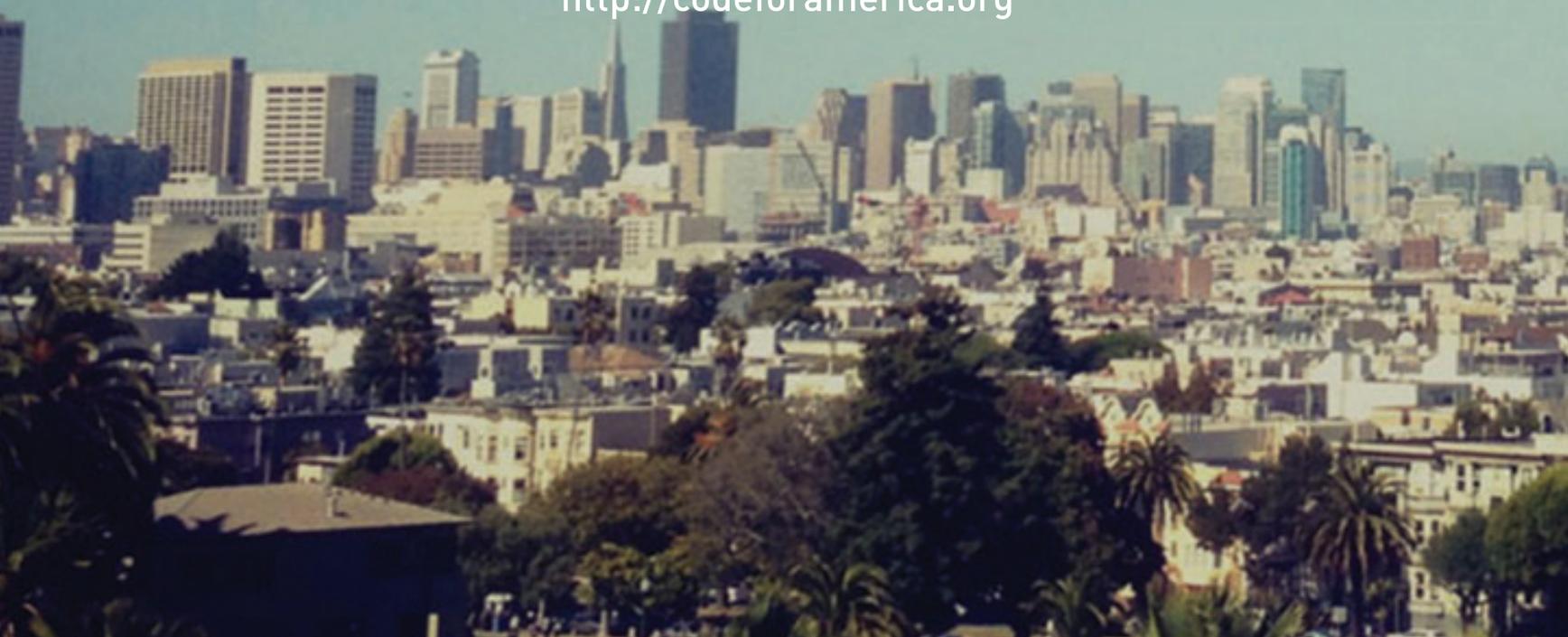
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Quick Change

New York state launches a rapid move into cloud email.

SHUTTERSTOCK.COM

By Matt Williams / Contributing Writer

New York state government is poised to move quickly to a single cloud-based system for email and office tools, with the target date for the completed migration less than three months away.

Officials are confident that it won't take long to transition onto Microsoft Office 365, partly because about 70,000 of the state's 120,000 employees already use NYSeMail, the state's centralized on-premises email system built on Microsoft Exchange.

Twenty-six agencies use NYSeMail, and 50 agencies manage stand-alone email systems. Some state agencies still have thousands of users on GroupWise or Lotus Notes, and use inconsistent versions or patches. State CIO Brian Digman said agencies also use several different versions of Office.

The state plans to save at least \$3 million annually by moving to cloud email, which is part of a larger IT transformation project spurred by Gov. Andrew Cuomo. Consolidating email was one recommendation of the Spending and Government Efficiency Commission, which Cuomo formed two years ago to identify where government could become more efficient.

With Office 365, each state employee gets a 25 GB mailbox, a fiftyfold increase to the current 500 MB limit. They'll also be able to securely access

their email and Microsoft's other offerings, including Office and SharePoint, on a variety of Internet-connected devices.

Digman said that having a common platform should improve efficiency and interagency collaboration. The state's agency-level CIOs are discussing how the new platform could be integrated as they're writing shared apps, and how Office 365 can be used to better communicate with citizens and to support new initiatives in the state.

"We're in a much better position to respond quickly because it's in the cloud," Digman said.

Moving to cloud email also will let the state get out of email administration. As part of the IT transformation, the state is consolidating multiple data centers into

one Tier 3 facility and creating a separate disaster recovery site.

"People who had been at least part time [administering] email servers — we'll need their help consolidating the servers that are left over and in administering the new data center," Digman said.

The time frame for the Office 365 migration is aggressive, but Digman said confidence has been boosted by an earlier pilot in the state Department of Health. More than 600 users there recently were moved from Lotus Notes to Office 365.

John Norton, CIO of the health cluster with the state Office of Information Technology Services, said those users were put on Office 365 more quickly by migrating only the last 180 days of email to start with (only a fraction of workers regularly access email older than that), and focusing in the beginning on calendaring, word processing and training.

"The technology isn't too hard," Norton said. "It's the training. We put a lot of time into that." The state gave pilot users one-on-one training, computer-based options, online books and several other choices, he said.

Norton's eager to have his agencies on the same version of SharePoint to improve collaboration. He anticipates that health agencies will save money. Twenty-four hospitals that had 24 separate GroupWise email systems will soon be consolidated on Microsoft.

"All hands [will] be on deck. ... Our goal is to meet [the end-of-year time frame] the governor has put out," Norton said, saying the exact timing likely will depend on how much email is migrated and other management decisions.

New York opened its Office 365 contract to all localities in the state that want to participate. Digman said cities and counties have expressed interest since the agreement's announcement in August.

"I'd envision a day where they jump on board for the same reasons the state did," he said.

More than 1 million federal workers have been moved or are being moved to Office 365, according to Microsoft. Its clients also include Chicago and San Francisco, as well as California and Texas state agencies. **CT**

By The Numbers: New York State's Move to Office 365

 **120,000** USERS

 **50** STAND-ALONE SYSTEMS WILL BE REPLACED

 **500MB** EMPLOYEE EMAIL BOXES WILL GROW TO **25GB**

 **\$3 MILLION** WILL BE SAVED ANNUALLY

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A Tablet for Emergencies

Students create an iPad app designed to speed fire response.

By Colin Wood / Contributing Writer

Three Princeton University students have created an iPad app that quickly delivers building layouts, fire hydrant locations, hazardous material warnings and other critical information to firefighters during an emergency.

Princeton sophomore Charlie Jacobson, developer on the project and a volunteer firefighter, said the goal was to deliver decision-making information to firefighters quickly and intuitively. The app, called FireStop, draws information from common fire department databases and other sources and displays it in an easy-to-read format, making the data useful during active calls.

“It’s about the interface,” Jacobson said. “You click the button and it’s right there.” Firefighters already have a lot of training to keep up on, he said, so they don’t need to learn how to use new software too.

The app also addresses another challenge firefighters often face when trying to use technology in emergency environments — lost connectivity. FireStop establishes a secure connection between agency databases and user devices, and maintains access to data even in the event of a lost connection.

The app attempts to encrypt and store as much information as possible in the user’s device and on FireStop’s cloud servers while there is an active connection, Jacobson said via email. “That way, if a firefighter does lose connection while en route, he or she will still have access to all the most recent data pulled down from the cloud before leaving the fire-house,” he said.

The FireStop team, composed of Jacobson and fellow Princeton sophomores Eddie Zhou and James Siderius, has partnered with fire departments in central and northern New Jersey, including the Princeton Fire Department and Princeton University’s Department of Public Safety.



Princeton sophomores Eddie Zhou, Charlie Jacobson and James Siderius.

The app initially was developed as part of eLab, a summer business accelerator at the university’s Keller Center at the School of Engineering and Applied Science. They currently are piloting the application to establish that its interface is easy to use and that data can easily be collected from outside agencies, such as the town building inspector’s office.

According to the FireStop website, the team hopes using the app will save departments 90 seconds of firefighting operations.

One challenge facing FireStop is its funding model. Because fire departments often have tight budgets, the team realized that it can’t charge each department an hourly fee to develop a custom application. The team has explored grant funding and is now working to develop the app as generic software for universal deployment.

“We are fine-tuning our data migration tools to minimize both the amount of work required by new fire departments to sign up and additional work needed by us to incorporate each unique, pre-existing database,” Jacobson said. FireStop is scheduled for a public release in the next six months.

A similar iPad app was developed by the city of Longboat Key, Fla. In addition to providing firefighters with building information during fires, the app includes a module to simplify the inspection process and an electronic logging system that streamlines recordkeeping. Longboat Key also is looking to branch out with its app and make the technology available to other interested jurisdictions. **GT**

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TOM MCKEITH

Securing the Digital Home Front

New Jersey fights online threats with a dedicated cybersecurity unit.

By **Brian Heaton** / Senior Writer

Online security breaches continue to be a serious and growing problem for public agencies. In April, the U.S. Department of Labor website was hacked, while just a couple of years ago, Anonymous wreaked havoc on San Francisco's Bay Area Rapid Transit online portal, leaking contact information for various site subscribers.

In response to these types of attacks and more sophisticated threats, states and municipalities have sought to employ the latest cybersecurity software to protect their interests. But quite a few have gone a step

beyond that, creating dedicated cybersecurity operations centers and task forces to respond to and prepare for digital threats.

New Jersey is one of the most recent examples. The state launched the Cyber Fusion Cell as a part of its Regional Operation Intelligence Center in January. The intelligence center interfaces with the state's law enforcement community by being a primary point of contact for collection, analysis and dissemination of intelligence data.

The Cyber Fusion Cell takes those efforts further by improving New Jersey's ability to share information on cyberthreats by collaborating with key public- and private-sector entities.

The unit is made up of two parts. The first half consists of New Jersey staff members who monitor the state's network infrastructure, computer systems and firewalls. The other element is a workgroup of high-level executives that meets to discuss intelligence and strategies to handle the latest cyberthreats.

New Jersey's Cyber Fusion Cell isn't unique, however. Similar entities exist in Washington state, Washington, D.C., and other large urban centers nationwide. For example, in the Pacific Northwest, regional jurisdictions have combined to launch the Public Regional Information Security Event Management System. Local governments there send security logs to the group, which watches for threats against the region's digital landscape.

Back in New Jersey, officials are still ironing out the operational component of the Cyber Fusion Cell. Although trained specialists are available to handle a cyberevent if one occurs, state CIO Steve Emanuel says the state is adjusting its processes in the wake of two cyber-attack drills conducted last year.

First, a one-day, state-run exercise enabled cybersecurity analysts to fine-tune their response capabilities. The second event was the FEMA 2012 National Level Exercise that focused on the nation's response to a series of cyberevents. New Jersey is studying the experiences to devise more effective strategies to address digital attacks with the Cyber Fusion Cell.

"We were able to test when a simulated attack occurred and what steps were to be taken to address the threat and respond," said John Essner, New Jersey's chief information security officer. "And that allowed us to run procedures, identify gaps and hopefully correct those gaps over a period of time."

Work in Progress

Emanuel and Essner declined to name how many cybersecurity analysts are dedicated to the Cyber Fusion Cell, but New Jersey isn't relying solely on state staff to protect its digital landscape. Emanuel added that he's looking to use every resource possible, including the New Jersey State Police, additional government agencies and other groups.

If a cyberincident does occur, New Jersey usually receives information from its own systems or a third-party source, such as the U.S. Department of Homeland Security or the Multi-State Information Sharing and Analysis Center. Essner said that depending on the severity of the threat, the team immediately tries to respond to

tended bag in public places. But the state also has adopted the system for cybersecurity.

By using the same reporting process, both the New Jersey Office of Information Technology and law enforcement can be alerted to a cybersecurity concern.

“They can look at it from a response standpoint and be able to bring their

“We are able to work with our partners in the federal agencies to hopefully correlate this information [in case] certain entities might be attempting to cripple or directly impact big business.”

it while also implementing mitigation strategies and notifying key state government management personnel.

In addition, the state uses a tool called the Suspicious Activity Reporting System to bolster its effectiveness. The system protocols were initially set up so that citizens can alert the New Jersey Office of Homeland Security and Preparedness when they witness suspicious activity or items like an unat-

analysts to try to collect as much detail about the incident so we can hopefully identify the source of the attack,” Essner said. “We are able to work with our partners in the federal agencies to hopefully correlate this information [in case] certain entities might be attempting to cripple or directly impact big business.”

The workgroup portion of the Cyber Fusion Cell spends its time coordinating

business processes and designing response plans with local, state and federal law enforcement partners. Emanuel said high-level executives meet monthly to talk about and tackle cyberthreats they see now or expect to encounter in the future.

Funding is provided by a mix of sources. Although nothing is formalized yet, contributions to keep the fusion cell active come from the Office of Information Technology as well as other state departments and federal agencies. According to Emanuel, a long-term sustainability plan is on the group’s agenda and the members are aware they need to get to it soon.

For now, the program aims to stay flexible to address cyber-related issues as they arise.

“Cybersecurity has been more of a responsive activity, and in order to truly provide the long-term plan for cyberissues, we must find a way to cross that line to become more proactive,” Emanuel said. **GT**

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Austin, Texas; Alameda County, Calif.; and Tennessee are first-place winners in annual rankings released in September that identify state and local government's top websites.

The 2013 Best of the Web awards program showcases governments whose websites demonstrate innovation, usability and functionality for users. Best of the Web honorees have sites that display effective governmental efficiency and service delivery. Submissions from U.S. cities, counties and states were judged by executives from the Center for Digital Government, along with a panel of past Best of the Web winners. (A complete list of winners is on page 34.)

The Center for Digital Government is owned by e.Republic, the parent company of *Government Technology*.

Austin, Texas

Not long after the birth of the Internet, Austin became one of the first cities in the U.S. to launch its own website. Over the years, though, the website became obsolete and outdated, due in part to a series of false starts and ineffective RFPs that would've brought upgrades. The old website languished unchanged since 2002.

Austin, though, has proven that progress can move quickly. In 2011, after garnering design input from the public and a vendor, the city's IT staff rebuilt the

website in-house from the ground up using Drupal, an open source content management system. The redesign earned Austin a fifth-place finish in the 2012 Best of the Web awards. A year later, the community with a burgeoning reputation as a hub for the tech industry now has a first-class government website to match — and a No. 1 ranking.

"I don't think we'll ever rest again," said CIO Stephen Elkins about the city's focus on agile development. Austin is continuing to tweak and modify its award-winning website upon the core tenets of being search-centric, data rich and open source. Elkins envisions that Austin's website could soon become a true one-stop shop for the information a citizen needs while living in the city.

The website features a search field in the middle of the page, and results are returned via Solr, an enterprise, open source search platform. The website's design is minimalist, with color-coded tabs and categories helping the user easily navigate to different pages without confusion — and without needing to know how city departments are organized. It's designed to be intuitive, not hierarchical. The city's mobile website, which like the main website, is built to be responsive to a variety of touchscreen sizes and devices, echoes the same categories.

The website puts many essential city services on the main page, while calling out Austin's transparency website, electronic bill pay, 311 and other main features with simple, easy-to-read links.

2013 Best of the Web Award Winners

Austin, Texas; Alameda County, Calif.; and Tennessee take home top honors. **By Matt Williams** / Contributing Writer



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State Portal Winners:	County Portal Winners:	City Portal Winners:
1 / Tennessee	1 / Alameda County, Calif.	1 / Austin, Texas
2 / Utah	2 / Maui County, Hawaii	2 / Riverside, Calif.
3 / California	3 / Orange County, Calif.	3 / Raleigh, N.C.
4 / South Carolina	4 / Sacramento County, Calif.	4 / Tampa, Fla.
5 / Maine	5 / Stearns County, Minn.	5 / Denver
State Portal Finalists:	County Portal Finalists:	City Portal Finalists:
1 / Hawaii	1 / Baltimore County, Md.	1 / Chesapeake, Va.
2 / Mississippi	2 / Chesterfield County, Va.	2 / Los Angeles
3 / Nebraska	3 / Martin County, Fla.	3 / Palo Alto, Calif.
4 / Rhode Island	4 / Monroe County, N.Y.	4 / Santa Monica, Calif.
5 / Texas	5 / Pinellas County, Fla.	5 / District of Columbia
	6 / Wake County, N.C.	6 / Virginia Beach, Va.

➔ See more Best of the Web winners online at www.govtech.com.

Staff also worked hard to improve the website's back end, evidenced by search results that are aggregated from the city's various websites as well as accessibility features for disabled users. Austin's IT department hopes to soon contribute ready-to-use Web modules back to the open source community, and has begun discussions that could lead to the inclusion and integration of more data from Texas state government and other localities on Austin's open government portal.

Tennessee

It's no accident that Tennessee's new website bears a strong resemblance to the distinctive panel design in the Windows 8 operating system. Web traffic to TN.gov from mobile devices increased to 19 percent of the overall total at the beginning of 2013, so Gov. Bill Haslam's office and NIC — the e-government services company that manages the website in partnership with the state — decided to focus the website's redesign on mobile usability.

"But we didn't want the high-tech, modern use of panels taking over the feel of the site," said David Dahle, the general manager of NIC's Tennessee business unit. "We tried to lay the modern look on top of a vintage feel."

The panel design is a natural fit for responsive design, and it has a cool factor that is unusual for a government website. Dahle is quick to point out that the panels also are functional, allowing the user to quickly access a wealth of content in just one or two clicks. Videos, maps, social channels and other media also can be displayed directly inside the panels, as can links to related pages.

Tennessee's design, which the Center for Digital Government said is innovative and "cutting edge," has been extended into agency websites and applications, such as systems for foster parent verification and handgun applications. Dahle said the consistent look across pages builds trust when citizens need to enter their personal information online.

The panels aren't the only feature Tennessee has worked on. The website uses geolocation to display press releases

and announcements that are most pertinent to the user's city or county. The website's search field includes a drop-down menu of auto-completed results, and a quick menu adjusts the website's font size. Citizens can access the state's open data portal from the home page.

"The work to create a sitewide design was pretty significant, but it is an important part of a consistent user experience," said Mark Cate, the governor's chief of staff. "We designed a template that harmonized with the new design and customized it to meet agencies' needs in terms of content and structure. Then, all the agencies went digging into their pages, reorganizing and rearranging to put their content into the template. It took several months, but the result is great, and sitewide redesigns will be easier in the future because all of the templates use the same core files."

Alameda County, Calif.

Alameda County's website is a good example of how a significant amount of information can be presented cleanly and intuitively within a main website, mobile website and mobile apps.

A big part of the county's strategy leans on social media; buttons for the city's Facebook, YouTube, Twitter and Pinterest accounts are prominently

displayed across the middle of the home page. There are also podcasts, RSS feeds and a sign-up button for email notifications. Navigation on the main website is clean, logical and simplified, and menus don't intrude into content areas. Meanwhile, the mobile website boils down the content into just seven categories, which streamlines the experience even further.

There's also a forms center with an easy way to search and filter forms, as well as organization charts for every department in the county. One of the website's tabs features the top 10 documents, Web search terms and most popular Web pages. In addition, Alameda County hosted two hackathons in recent months, and some of those apps have been integrated into the website.

"We've focused a lot on our citizen engagement with our open data initiative — I think that's very fresh and current," said Tim Dupuis, the interim director of the Alameda County Information Technology Department and the county's interim registrar of voters. "Coupled with social media and how aggressively we're going after the mobile apps space and self-service — all of these things combine to make something that really engages our public." 

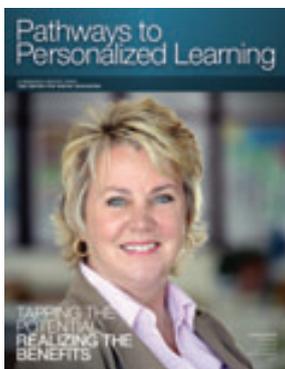
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Produced by: **CENTER FOR DIGITAL EDUCATION**



The Long Beach, Calif., Public Safety Dive Team recently acquired technology to find victims sooner.

Underwater Eyes

Sonar device gives rescue divers a faster way to find victims. **By Jessica Hughes** / Contributing Writer

In Long Beach, Calif., rescue divers searching for submerged victims once swam patterns nearly blind through murky waters. But they now have the gift of “sight” thanks to a new handheld sonar device.

The Long Beach Fire Department recently acquired the technology, called the Shark Marine Navigator, so that the city’s Public Safety Dive Team can conduct quicker rescues — helping them locate victims while they still have a chance of survival.

“For us it’s just night and day; clearly, it’s the ability to see where you couldn’t

see before,” said Gonzalo Medina, operations captain of the Long Beach Fire Department’s Marine Safety Division.

During rescue missions, divers steer the heavy-duty device and its laptop-size screen through the water using its metal handles. The device illuminates up to 250 meters underwater in zero visibility, and also can take video and photographs. All the information is stored, and can be managed and shared using the device’s software, according to Shark Marine’s website.

The device’s display is similar to an ultrasound — the 2D version, that

is, with some depth. Medina said the diver can see green tones, where bright green indicates something is there. And it is easy to see objects that are out of the ordinary, he said, such as a body.

Federal Funds

The city’s fire department purchased its Shark Marine Navigator for \$200,000, using federal Port Security Grant Program funds, Medina said. The city’s police department, which also has divers on the city dive team, has two of the devices for its underwater investigative efforts.

Medina said the dive team, which also conducts salvage efforts in the busy Port of Long Beach, has focused on conducting quicker rescues — and is deploying new technology and equipment toward that aim. For instance, divers are now available 24/7 to respond either by boat or truck. In fact, the new device is stationed on the team's Marine Safety Rescue Boat, ready to deploy at a moment's notice.

"This technology allows us to make those rescues much quicker and get patients care, which greatly increases their chance of survival," said Medina, who is also the team's dive officer.

Although the sonar device has not been used in a search and rescue yet, all 15 fire department divers are learning to use it during lifelike scenarios, Medina said, adding that he is in awe of how much easier the diver's job looks using the technology.

Still, there's a learning curve.

For instance, divers need to float several feet above the bottom so that the device can identify more of its surroundings — much like how a flashlight casts a wider

glow when it is held away from a surface as opposed to close to it, he said.

Once the target is found, the technology can be used like Google Maps, with the diver dropping a target on the device's screen and then kicking toward that target.

Developed for Military

Though the device was originally developed for military divers to navigate the water unnoticed, Long Beach — home to the second busiest seaport in the country as well as many bridges and waterways — will use the device in cases where vehicles are submerged or swimmers are lost. Several of these cases are reported per year, Medina said. Many times, he added, they happen after hours or during Long Beach's off season when no life guard is on duty.

Although the incidents don't happen too often, they can be costly in time, money and manpower. The new technology reduces personnel costs because it makes for "a more efficient and lean operation," Medina said. Also, a modular design allows the

device to evolve with new technologies, according to Shark Marine.

The use of sonar is not new, but the dive team's old sonar device was only suitable for recovering bodies, not rescuing drowning or accident victims. The old device required rescuers on land to watch a laptop connected to a remotely directed sonar tripod in the water. Information from the device typically wasn't available until an hour after the mission began — too late to help a victim submerged in the water.

The new device is in the water with the divers, providing information to them immediately. "It's the difference between an iPad and a huge desktop," Medina said. "You can do everything with the desktop, but you can't move with it." And that difference, he said, is a game changer.

Marine Safety Chief Randy Foster echoed how important the new technology is for the city's divers, saying, "This new technology is the most significant advancement in the arena of public safety diving in the past 15 years." **GT**

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30%

of state and local IT officials think that tablets will eventually replace desktops and laptops.

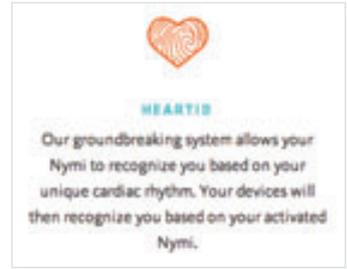
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Logitech's Ultrathin Keyboard Folio for Samsung Galaxy Tab 3 is made from water-repellent materials and features a built-in keyboard for fast, fluid and comfortable typing. It has a Bluetooth QWERTY keyboard, and its SecureLock system keeps the corners of the Galaxy Tab firmly fastened to the frame with lightweight, low-profile clips, while powerful magnets keep the case securely closed when the tablet is not in use. This system works in tandem with the dual-view stand, which holds the tablet in two ideal positions: upright with the keyboard exposed for a perfect typing angle, and lying flat with the keyboard hidden for easy browsing. www.logitech.com



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Goodbye Passwords ▲

The Nymi wristband from Bionym promises to unlock devices using the wearer's heartbeat. Once placed on the wrist, sensors in the wristband take the person's electrocardiogram. Connecting the wristband to devices lets users customize program notifications for email, text and social updates. The Nymi also has motion sensing and proximity detection that allows users to perform remote, gesture-specific commands, such as unlocking a car door and more. Nymi uses Bluetooth low energy to transmit data while maximizing battery life. The device isn't for sale yet, but the company is taking preorders. www.getnyimi.com

Contact Screen ▶

The Dell 27 Touch Monitor offers two-handed control and recognizes 10 touch-points simultaneously. It includes clarity of 1920 x 1080 full HD resolution and clean, fluid motion from the fast 8ms response time. Users can naturally slide the monitor closer and tilt it up to 60 degrees to touch and type, or adapt to the requirements of their work space by choosing to wall mount the monitor or affix it to the Dell Single Monitor Arm for greater panel adjustability. MHL connectivity lets users easily display content from smartphones and tablets directly onscreen. *Photo courtesy of Dell Inc.* www.dell.com



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“Bitcoin cannot survive as a mainstream concept unless it has governments’ approval.”

BRADLEY JANSEN, CENTER FOR FINANCIAL PRIVACY AND HUMAN RIGHTS

Running Hot:

A Dutch startup wants to heat your house with a server. **Nerdalize** is seeking investors for a plan that would place high-powered servers in private homes, essentially using the devices as electric furnaces. The servers would be connected to a grid, performing computing tasks for businesses and other customers. A portion of the revenue from those customers would be returned to homeowners to pay for electricity consumed by the servers.

SOURCE: THE NEXT WEB



NO POWER? NO PROBLEM

University of Washington researchers have found a way to use existing radio waves — from cellular, TV or Wi-Fi networks — to bounce messages from one device to another without requiring a power source. The discovery could be the key to building the Internet of Things, eliminating the need for batteries to power vast sensor webs used in smart infrastructure.

SOURCE: GIGAOM



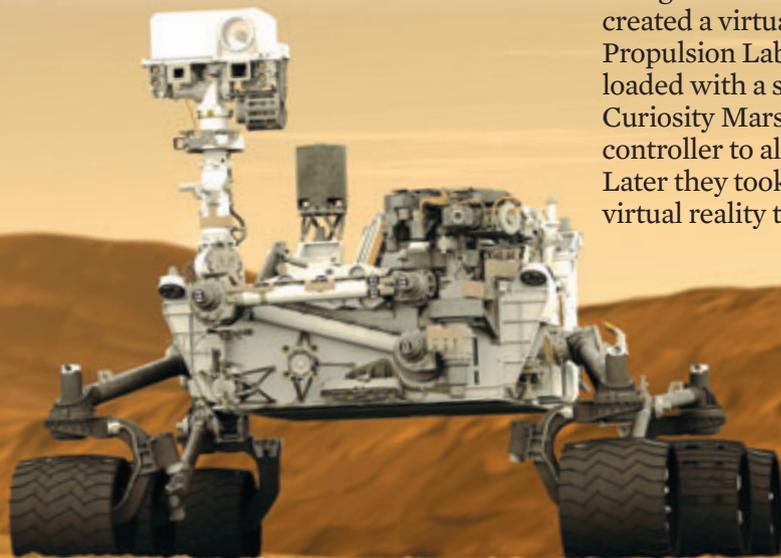
BITCOINS UNDER A MICROSCOPE:

The Senate Homeland Security and Government Affairs Committee is investigating whether to regulate Bitcoins and other virtual currencies.

The currencies aren't backed by any government and are an online alternative to money. Some say virtual currencies, which can be used anonymously, are widely used for purchasing contraband items. The New York Department of Financial Services recently subpoenaed Bitcoin businesses, asking questions about how they prevent money laundering and protect consumers. SOURCE: USA TODAY

Virtual Visit to Mars:

Using a handful of consumer-oriented devices, NASA scientists have created a virtual reality tour of Mars. Researchers at NASA's Jet Propulsion Laboratory used an Oculus Rift virtual reality headset loaded with a stereoscopic 360-degree panorama obtained from the Curiosity Mars rover. Then they added terrain imagery and an Xbox controller to allow users to “walk” the surface of the Red Planet. Later they took the experience up a notch by adding a Virtuix Omni virtual reality treadmill. SOURCE: ENGADGET



Send Spectrum ideas to Managing Editor Noelle Knell, nknell@govtech.com, [twitter@GovTechNoelle](https://twitter.com/GovTechNoelle)

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The Power of Peers

What government can leverage and learn from the peer economy.

I'm finishing up my last slice of pizza as I pull out my smartphone and request that a car picks me up. Four minutes later, I get an alert that my car is on the way and I walk outside to see a Honda Civic sporting a big pink mustache. I get into the front seat and fist bump with my driver, who happens to be an off-duty Washington, D.C., fireman. He takes me to my hotel, another fist bump is given and I walk out with my credit card charged 20 to 30 percent less than a normal taxi.

What is going on? Welcome to the sharing economy.

This example is one of my recent uses of Lyft, a ride-sharing company based in San Francisco that employs average people to use their own vehicles to drive people around. In one week in D.C., I had drivers who are restaurant managers, a firefighter and government contractors who outside their day job drive other people around for money (and for a little fun).

Lyft is just one example of a trend governments need to pay attention to: the peer-to-peer sharing economy. The peer economy is based on the concept of leveraging underutilized resources — many people have capacities sitting unused (talents, hours in a day, cars, etc.) that now can be quickly matched to demand to help others.

For instance, Airbnb helps users rent out extra rooms (or their whole apartments) to visitors. BetterLesson.com lets teachers share lesson plans with one another. On DogVacay.com, regular people sign

up to take care of others' pets. TaskRabbit is a service where people run errands for one another, and Kaggle allows problems to be solved by data scientists across the globe. There's even a new organization called Peers that's helping to advocate and empower the peer economy.

So what can government leverage and learn from the peer economy?

Assist but Don't Overregulate — Many peer economy companies operate in a gray zone. It's easy for cities to quickly react to complaints from large industries with vested interests (e.g., hotel lobbies have caused problems for Airbnb in New York City). The first motto of cities is "do no harm." Try to think of ways you can help the peer economy.

Leverage with Citizens — Think of ways you can solve government problems with a peer economy approach. Perhaps you need a piece of land surveyed. Instead of a full bid or contract, could you put the opportunity out in a verified peer economy approach? Need housing after an emergency? In the wake of Hurricane Sandy, Airbnb offered its services for free and helped connect impacted citizens with places to stay.

Use Internally — Major cities and counties have tens of thousands of employees. What if you could utilize that peer power? Can you encourage employees to post their

best practices and example documents on sites like BetterLessons.com? What if, like Clarity.fm, you could set up an expert exchange where staff members could meet with internal experts to solve problems?

Test the Services — Until you try these services, they sound a little weird. So a simple way to start is to test the services to understand them. NASA used Kaggle for the Mapping Dark Matter contest in which it received new data algorithms from 73 teams worldwide. Going to a meeting across town? Have your staff take Lyft instead of a cab. Next work trip? Use Airbnb. If you need documents carried to another office, try using TaskRabbit. By using these services, you'll be in a better position when regulation discussions occur, and you'll devise new approaches to citizen services.

At GovLoop, we see the power of people connecting and sharing to solve problems.

Our members have come together on everything from renaming an intranet to providing peer mentorship to helping one another navigate large project issues.

The beauty of living today is that the technologies — from always-on Internet capability to mobile phones, GPS and social log-ins — make it even easier to facilitate deep connections and sharing to solve huge problems. That's something cities and counties should care about — and help make happen. **CT**



Steve Ressler is the founder and president of GovLoop, a social networking site for government officials to connect and exchange information.



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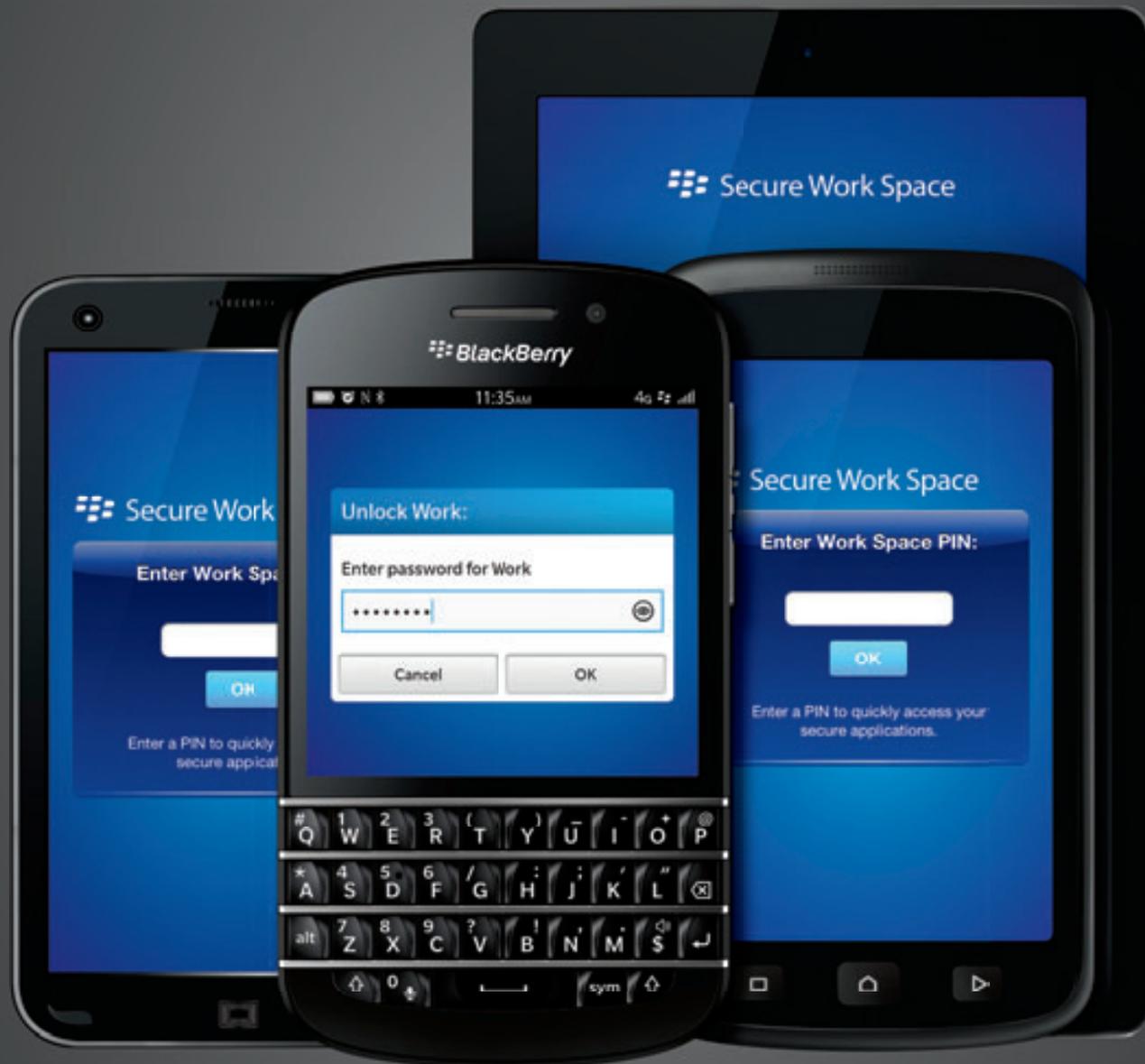
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Health+Human Services Special Report

A RESEARCH REPORT FROM THE GOVERNING INSTITUTE
AND CENTER FOR DIGITAL GOVERNMENT

DR. WILLIAM HAZEL,
VIRGINIA SECRETARY
OF HEALTH AND
HUMAN RESOURCES

Health Care
Policies and
Practices
that Work



Innovative Identity Solutions Help Prevent Fraud and Protect Public Funds

Reducing the risk of benefits theft

In a time when social service agencies across the country must operate with tighter budgets and staff reductions, investigating claims by false applicants adds a needless layer of complexity in helping those who truly qualify — and no state in the U.S. has more identity theft than Florida.

Nearly 90 percent of the five million benefits applications received annually by Florida's Department of Children and Families (DCF) are now administered online. Web-based usage for programs such as SNAP or Medicaid saves time and effort for customers and DCF alike — but increased anonymity also heightens the organization's vulnerability to fraud.

Fighting fraud through the power of connections

To stop cheating at the “front door,” DCF is piloting next-generation identity analytics from LexisNexis® Risk Solutions that gives the agency access to 10,000 data sources and 34 billion data records.

The solution's comprehensive logic utilizes LexisNexis' vast database records, meaningful case filters and knowledge-based questions to validate identity and benefits eligibility — or expose hidden assets or relationships that may rule them out, such as property and vehicle ownership, business affiliations and other identifiable records.

The technology assimilates seamlessly into agencies' existing work systems, summarizes results in an easily interpreted score, and enables swift, secure

admittance to products, services and information to verified customers.

With an initial deployment in Florida's central region that resulted in triple the projected cost savings, a full-state rollout was completed in August 2013. In changing its fraud-fighting model, DCF hopes to save \$60 million per year in preventable payouts.

Best-in-class solutions

Government agencies that incorporate big data and state-of-the-art identity analytics can be more successful in exposing costly benefits abuse. Best-in-class LexisNexis predictive analytics, fraud detection and identity management solutions can help keep critical public funds out of the hands of criminals — and into the hands of those who need them.

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DAVID KIDD

22

Code Blue: The Heart of the Matter

It was an “Oh my god!” moment. That’s how one of the more than two dozen people interviewed for this report described waking up on Nov. 7, 2012. The U.S. Supreme Court had upheld the Patient Protection and Affordable Care Act (ACA) the previous June, and now, with Barack Obama re-elected president, there was no way to avoid it any longer. The ACA was here to stay.

“Timelines became real, and people who had been sitting on their thumbs were faced with getting off their thumbs,” that insider said. For many of those working in the health and human services (HHS) space, that was, in hospital terminology, like calling Code Blue: We’ve got an emergency on our hands.

With demand for services — already high due to fallout from the economic challenges of the past few years — now set to explode even more, and with both staff and budgets cut and stretched to near-breaking points, state and local HHS departments needed to implement all the requirements of the ACA in an aggressively short timeframe. There

was “a sense of panic” throughout the space, both public and private sector interview subjects said. The ACA became everyone’s top priority and consumed most departments’ time and energy — especially those building their own health insurance exchanges — and often pushing other important initiatives not just to the back burner, but off the stove entirely. “We spend all day, every day preparing for the ACA,” one HHS employee said.

With challenge, though, comes opportunity. The ACA has forced everyone to re-think what is possible in every corner of HHS operations. This confluence of increasing demand, scarcity of supply, unsustainable financial models and the sleep-depriving deadlines of ACA rollout has prompted a collaborative, innovative response that has often brought unlikely partners together to find new solutions, create new technologies and lay the groundwork for a better future.

Collaboration is often the key. By working together, whether it’s among states and localities themselves or formerly disparate agencies within



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a single community, HHS leaders have crafted creative ways to address Medicaid reform; data sharing; eligibility integration; and fraud, waste and abuse reform. They have found ways to tackle the worrisome provider shortages the nation faces and implement prevention strategies to keep constituents healthier and lower the demand on services.

And they continue to update or replace outdated and outmoded technology with powerful new systems to meet the operational demands of the 21st century. It starts, of course, with the mandated health



Protesters and supporters react to the Supreme Court's decision to uphold the Patient Protection and Affordable Care Act.

“Timelines became real, and people who had been sitting on their thumbs were faced with getting off their thumbs.”

insurance exchanges, but has also branched out into data warehousing solutions, big data analytics, mobile adaptability and other solutions designed to help everyone work smarter and more efficiently.

This Special Report highlights some of the best practices and most noteworthy solutions currently

on the ground in the HHS sphere. The work is far from done, of course. Jan. 1, 2014, the date the ACA officially comes online, is right around the corner, and it will reveal kinks and glitches that will demand immediate and careful attention. Initiatives that were pushed aside in 2013 will insist on focus as well.

But those who work in HHS will soon find themselves in a new world, one in which the “Code Blue” has been mitigated and where the “patient” – public service – is recovering and on the road to an exciting future. +

Forward, Together: Collaboration for Health Care Solutions

Our health care challenges are the same. It's time we came together for solutions.



Arkansas Gov. Mike Beebe and the state legislature have devised a plan to use Medicaid dollars to pay for private coverage sold on the insurance marketplaces that are mandated by the ACA.

DAVID KIDD

Politics, the old saw goes, makes strange bedfellows. So does governance — especially now. Institutional silos are slowly but surely opening up, and leaders are reaching out and collaborating with one another to leverage resources — financial, technological, workforce and, perhaps most important, mind power — to address many of the biggest challenges in the HHS space.

Medicaid Reform

Medicaid spending accounted for an estimated 24 percent of state spending in fiscal year 2011, and increased by 20 percent in fiscal year 2012 (following a 23 percent increase in fiscal year 2011), according to the National Governors Association and the National Association of State Budget Officers.¹ That number will only continue to rise with Medicaid expansion, which makes reforming Medicaid arguably the most pressing issue that every state now faces.

The most innovative and daring approach to this challenge is seen in Arkansas. Gov. Mike Beebe and the state legislature devised a plan to use Medicaid dollars to pay for private coverage sold on the insurance marketplaces that are mandated by the ACA. This public-private partnership is being watched and copied in various forms, especially in Republican-led states

that rejected expansion politically but see the value in it fiscally.

This idea was surprising even to the state's own Medicaid director, Andrew Allison. "I did not see this solution coming," he admits. "It was a pretty quick marriage between previously independent worlds: private insurance and Medicaid. This option brings those two together. We have long worked side by side, but now we are working together on a daily if not hourly basis to flush out the details. All of us here in Arkansas are walking through the process of discovery together, like a scientist discovering a new element or compound."²

Among the novel approaches his state is taking is an initiative in which providers monitor "episodes of care"³ for common and chronic conditions, including upper respiratory infections (URI), total hip and knee replacements, congestive heart failure (CHF) and attention deficit/hyperactivity disorder (ADHD). Providers share in the savings or excess costs of an episode depending on their performance for each episode. For each episode, all treating providers will continue to file claims as they have previously and will be reimbursed according to each payer's established fee schedule.

"I am incredibly excited about our innovation," Allison says, "and the profound impact it will have on the marketplace."

Integrating Eligibility

The State Innovation Models Initiative, under the aegis of the Centers for Medicare and Medicaid

Services (CMS), funded a \$300 million war chest to support the development and testing of state-based models for multi-payer payment and health care delivery system transformation.⁴ CMS is serious about transforming and improving health system performance. So are many states.

Louisiana, for example, was an early adopter of express lane eligibility (ELE). Created by the Children's Health Insurance Program

(CHIP) Reauthorization Act of 2009, ELE allows Louisiana Medicaid staff to collaborate with the Department of Children and Family Services to automatically enroll children who are eligible for one program, like the Supplemental Nutrition Assistance Program (SNAP), into another program like Medicaid or CHIP. This reduces the need for applicants to submit enrollment paperwork twice for each program.

COLLABORATION, NEW ENGLAND STYLE

THE NEW ENGLAND STATES CONSORTIUM SYSTEMS ORGANIZATION

(NESCSO)⁵ is a nonprofit corporation organized by the six New England Health and Human services agencies and the University of Massachusetts Medical School. Its mission is to foster communication and collaboration among members by providing a framework for knowledge exchange in order to maximize policy, program and cost effectiveness.

The consortium began 12 years ago, says Executive Director Brenda Harvey, to address two goals: data sharing and multistate purchasing, mostly in Medicaid but with hopes of addressing other social services like SNAP and the Women, Infants and Children (WIC) program. Its greatest success so far, she says, is in allowing state commissioners "to



get to know each other in an informal way. It is pretty overwhelming work, and to be able to sit around a table and pick the brains of colleagues and follow up with a phone call is helpful."

But Harvey hopes that, as ACA implementation requirements abate and "it's not always the crisis of the day, maybe we can take a breath and take a better look at collaboration."

Multistate purchasing is high on her agenda. "There is nothing in the law that says we can't do it," she says. "But to get past that we need the purchasers to come to the table with an HHS cabinet member and

sell the idea that a little flexibility is good and this is how we can be creative. If we can make them champions of this — I would like to see that as a reality in the next year or two — I think that is a model for the rest of the country."⁶

As the first state to adopt ELE, Louisiana enrolled more than 10,000 children into Medicaid in February 2010 based on SNAP data matches, an Urban Institute report reveals.⁷ And when that first group of ELE children came up for renewal, 92 percent of those who had used their cards retained Medicaid based on their continuing receipt of SNAP, the report says.

ELE not only saves clients headaches, it also saves the government time and money. ELE-processed applications cost just \$12 to \$16, compared to \$116 for traditional applications, the state says.⁸ While the program had a \$600,000 price tag, it cost the state nothing as it was established with a grant from the Robert Wood Johnson Foundation's MaxEnroll project. That investment cut costs by an estimated \$8 million to \$12 million the very first year, the Urban Institute report states, a return on investment of between 15 and 22 to 1.



\$116
TRADITIONAL
APPLICATIONS

\$12
EXPRESS LANE
ELIGIBILITY
APPLICATIONS

A 2012 survey for the state's Department of Health and Hospitals conducted by LSU's Public Policy Research Laboratory found that the rate of uninsured children dropped from 5 percent to 3.5 percent during the past two years, a record low in the state and a big drop from the 11.1 percent rate just eight years earlier.

"It pretty much runs itself," Penny Chapman, Louisiana Medicaid program supervisor, says of the ELE program.⁹

Sharing Data

Sharing data across state departments has long been a goal of HHS agencies, but one of the unintended consequences of the ACA has been the fostering of numerous, extensive state-federal data-sharing partnerships.

With just 16 states and the District of Columbia running their own health insurance exchanges, fully two-thirds of the country is either partnering with the federal exchange (7 states) or relying on it entirely (27 states).¹⁰

Fed-state data sharing is also coming into play in an effort to get control over those individuals who are eligible for both Medicare and Medicaid and are the highest-need, highest-cost patients in the health care system. Under CMS's *State Demonstrations to Integrate Care for Dual Eligible Individuals*, 15 states have been awarded up to \$1 million each to design new approaches to better coordinate care for these patients.¹¹

"We spend about \$350 billion on the 10 million people who are eligible for both programs," says Tim

Engelhardt, director of the Demonstration Models and Analytics Group at CMS. He says these demos are working to overcome "barriers in the health care world," among them poor physician communication and collaboration, limited access to services and what he calls "financing misalignment."

"Medicaid takes on care coordination and management and tries to keep people out of the hospital and emergency room, but the benefits of those efforts often accrue to the Medicare program and the feds, not the states," Engelhardt says.

The first demonstration project to go live was in Washington state in July. CMS is providing Medicare data to use in a state-developed predictive modeling system to help identify the patients at highest risk for adverse outcomes and target "high-touch, high-intensity" interventions to prevent more costly hospitalizations. "This is one of our poster children for intelligent, innovative use of data [sharing]," he says.

Massachusetts, the first state to execute a demo agreement with CMS, has created a capitated, managed care model for dual-eligible individuals. This program, to roll out in October, "is a great test case," Engelhardt says.

These and other demos will be closely watched, of course. "Over time, we will build metrics and evidence of their effectiveness," Engelhardt says. "If they are, we'll keep them; if not, we'll stop them. A year from now, my biggest hope is that we have started to make changes on the ground in the way the providers work with Medicare-Medicaid enrollees, and with good outcomes to follow."¹²

“It’s complicated. We need intensive collaboration between the state and federal government. We have 50 states with totally different orientations in this world. Blending Medicare, which is standard and consistent across the country, with the different states is inherently complex. We’ve known this since 1965, and it hasn’t been solved since then.”

– **Tim Engelhardt**, Director, Demonstration Models and Analytics Group at CMS

Patient-First Collaboration

South Carolina has also implemented policies that reflect and foster an integrated philosophy of technology and goal-oriented delivery among agencies and stakeholders.

The state has used the ELE program to streamline and simplify Medicaid renewals and applications for children.¹³ Prior to 2011, the state saw 140,000 children “churn out” of Medicaid and CHIP on average annually, and 90,000 were re-enrolled within the next year. Using ELE, South Carolina utilized data from SNAP and Temporary Assistance for Needy Families (TANF) to determine eligibility for children. Further efforts to reduce the amount of paperwork for renewal and increased online access have been undertaken, and the state approved 65,000 children for coverage within the first eight months. Over half of those children have received services or are enrolled in a managed care plan. For its efforts, South Carolina was one of seven new states to earn a performance bonus from CMS, which rewards states for successfully enrolling eligible children in Medicaid.

South Carolina is also a demonstration state for dual-eligible (Medicaid and Medicare) coordination. “We’re about a year away from

launching our duals program,” says John Supra, CIO and deputy director for eligibility and beneficiary services at the South Carolina Department of Health and Human Services.

Both initiatives reflect the idea of integrated delivery of services. “We need to think about what is the right set of care for people in these circumstances,” he says. “We need to shift away from funding-stream-driven thinking toward holistic, citizen-driven thinking. It is a better investment, and makes more sense for the citizens we serve.”

Like others in HHS, he is at times confused, confounded and overwhelmed by the ACA. “In the near term, I see a lot of uncertainty with ACA,” he says. “It is difficult to predict exactly what is going to happen and how it will impact us and our citizens.” But he also sees beyond the short-term deadlines. “Our team is so focused on Oct. 1 and Jan. 1,” he says. “I try to get them to think about our efforts as laying the groundwork for delivering services better in the future.”¹⁴

Fraud, Waste and Abuse

In February 2013, Dr. Naveed Ahmad of New York City was charged with billing Medicaid for more than \$455,000 in unnecessary procedures

and prescriptions and Medicare more than \$10,000 in unnecessary procedures and prescriptions. Dr. Ahmad, who may also have fraudulently billed Medicare for an additional \$2 million and Medicaid an additional \$716,000 for procedures and \$7 million for prescriptions, was caught by a collaborative team of local prosecutors, New York City agencies, the federal Health and Human Services Office of the Inspector General and the United States Attorney’s Office.¹⁵

This state-federal collaboration, the first of its kind according to the Kings County District Attorney’s office in Brooklyn, combined that office with Loretta E. Lynch, U.S. Attorney for the Eastern District of New York; Kathleen Sebelius, U.S. secretary for Health and Human Services; Daniel Levinson, inspector general for HHS; Robert Doar, commissioner of the New York City Human Resources Administration; and James Sheehan, HRA’s chief integrity officer. Kings County District Attorney Charles J. Hynes also announced the creation of a new Healthcare Fraud Division within his office to handle the cases generated by the collaboration.

Health care fraud costs the government an estimated \$80 billion



“We need to shift away from funding-stream-driven thinking toward holistic, citizen-driven thinking. It is a better investment, and makes more sense for the citizens we serve.”

– **John Supra**, CIO and Deputy Director, Eligibility and Beneficiary Services, South Carolina Department of Health and Human Services

a year.¹⁶ With Medicaid expansion, that number has the potential to expand along with it. That makes fraud, waste and abuse prevention a critical component of HHS work. Collaboration on the back end is one solution. “Teaming up federal and local law enforcement agencies amplifies our impact in the fight against Medicare and Medicaid fraud,” says Levinson.¹⁷

Collaboration on the front end — preventing fraud before it happens, rather than the traditional pay-and-charge model of fraud recovery — is also important, and Florida, the state with the highest per capita identity theft complaints, is experimenting with a new way to weed out potential fraudsters in its public assistance programs.¹⁸ Florida is working with a

private vendor to pilot an automatic online identity authentication system for three types of public assistance: Medicaid, TANF and SNAP.

The Florida Department of Children and Families (DCF) currently receives 90 percent of public assistance applications online, which entails a manual review of applicants’ self-reported information across multiple databases and a follow-up phone call. This analytics model functions more like online financial services in the private sector, where software verifies a person’s identity based on a few items of personal information.

Last year, Florida recorded nearly 70,000 identity theft complaints, equal to 361.3 complaints per 100,000 state residents, according

to a February report from the Federal Trade Commission.¹⁹ About 1.6 percent of nationwide identity theft complaints, the report said, involved government benefits applications. So far, the Florida pilot program is on pace to save the state close to \$80 million, which is \$50 million more than originally projected.

“What we’re trying to determine is that the person does exist, that it’s not a made-up identity and that they are who they say they are,” says Susan Vitale, deputy secretary for DCF. Rather than recouping money from someone already exploiting the system, this would stop it “upfront, at the door and not [let] them in,” Vitale says. “That is a very big paradigm shift.” +

FIGHTING FRAUD WITH ELIGIBILITY VERIFICATION

ACCORDING TO A GOVERNING INSTITUTE SURVEY which queried nearly 130 state and local government leaders:



80% of respondents indicated that eligibility verification is either very important or one of the most important initiatives to **achieve their overall agency mission.**



said that once a recipient is in the program, they re-verify their data to make sure it meets eligibility requirements once every six months. Thirty-three percent of respondents do this once a year.

53% said that the issue of **eligibility fraud will increase in importance** over the next two years.



37% said it was not possible for a beneficiary to establish an **identity in multiple jurisdictions.**



62% said that insufficient resources (**budget and/or personnel**) is one of their organization's biggest challenges to eligibility fraud prevention.

69% said **accuracy of determinations** was the most important area of the eligibility determination process that needs improvement.



ACA: From the Wild Card to the Trump Card

Inversion and the changing role of the states and localities

The Affordable Care Act is, at the most basic, boots-on-the-ground level, an enormous burden for state and local HHS employees already collapsing under the weight of increasing service demands, shrinking budgets and disappearing staff. It has required nearly every minute of time and energy that these staffers have expended over the past 12 months. The moment President Obama was re-elected and the act was finally recognized as permanent, the ACA went from political wild card to policy trump card. “We spend all day, every day, preparing for the ACA,” says Edward Fowler, Medicaid program manager of the Louisiana Department of Health

View the video on “Leveraging Health Care Reform and Other Federal Efforts to Build and Sustain Interoperability within Human Services” with David Hansell.

www.youtube.com/watch?v=KWWKEAz6gxw

and Hospitals. “I can’t imagine how anyone does anything else.”²⁰

But look deeper and you’ll see something much greater than long workdays and frustrating red tape. In a 2011 panel discussion called “Leveraging Health Care Reform and Other Federal Efforts to Build and Sustain Interoperability within Human Services,” David Hansell, acting assistant secretary with the Administration for Children and Families at HHS, said that the ACA has presented states with an opportunity for “a peaceful revolution in the way we think and do business in health and human services.” He continued: “The conditions are uniquely right for states and the federal government to band together and storm the barricades of old-think.” Of the ACA, he said, “If ever there were an action-forcing event, this is it.”²¹

It certainly has forced action. And then, it forced reaction, as subsequent phases of ACA implementation brought with them new mandates and rules. For one, HHS has said that states can move from using the federal health insurance exchange to a partnership or state-run exchange in 2015 and beyond. Because the states, which regulate their own insurance industries, are better positioned to oversee the market-places, many expect them to do so.²²

Those that already have their exchange running will be able to add other HHS programs into the architecture, moving toward a more seamless integrated eligibility platform and ever closer to realizing the dream of “no wrong door” to enter social services. (Indeed, some states are already there.)

The most profound policy implication will be ACA’s test of how much diversity the country can tolerate and how much uniformity it will demand.

Delaying the employer mandate until 2015 also changed the rules mid game. This has implications both in the private sector and within state and local governments themselves, which also have to comply with the law.

These and other changes imply that today, the ACA is version 1.0, with 2.0, 3.0 and beyond promising improvements both predicted and unforeseen. The ACA’s broader, longer-term impacts will be seen in levels of access and enforcement across the 50 states, shifting cost burdens and control, which bring with them both budget and operational changes — many of them quite positive.



For instance, some state and local entities have discovered that the ACA offers a possible solution to the growing burden of retiree health benefits. The exchanges could give state and local retirees an alternative way of receiving health coverage until they qualify for Medicare, relieving their former employers of the need to provide post-employment benefits. The online marketplaces would allow retirees — many of whom would likely be eligible — to shop for affordable plans and access

federal tax subsidies to pay for them. The city of Chicago is doing it now, and Detroit is looking at it closely.²³

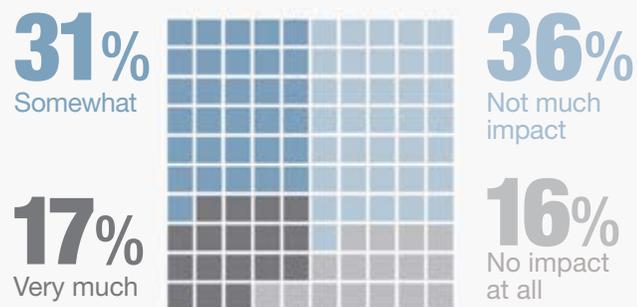
Indeed, studies are revealing that, across HHS departments as a whole, the ACA will end up saving states more money than it will cost, writes Carolyn Bordeaux, associate director for research at the Georgia State Fiscal Research Center.²⁴ “While it is wise to be cautious about such claims, when assessing the impact of health care reform, state and local governments

should look beyond the health care sector. The possibility that health care reform will transform services across state budgets is quite real,” she says.

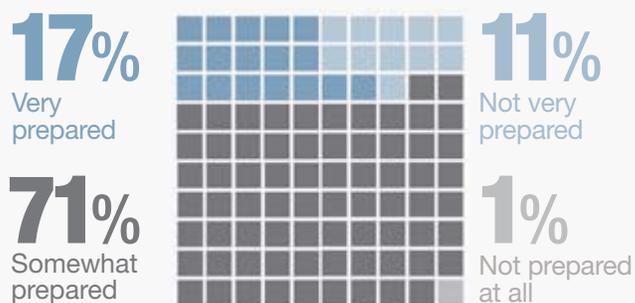
Taking this long view, then, reveals that the ACA trump card is truly “a valuable resource that may be used, especially as a surprise, in order to gain an advantage.”²⁵ It’s a card that state and local governments would be wise to play. “We have a front seat at the revolution,” Hansell concluded in 2011. “Let’s not waste our moment.”²⁶ +

The GOVERNING Institute surveyed 150 state and local government leaders regarding the ACA:

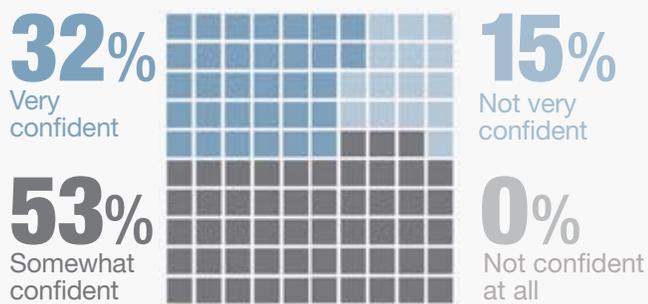
The election results’ impact on organization’s health care benefit decisions:



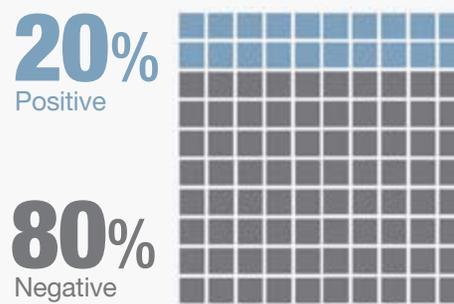
Level of organization’s preparedness in preparing for future ACA provisions:



Organization’s confidence in moving beyond a “wait and see” approach with the ACA:



ACA provisions’ effect on organization’s business practices:



Source: GOVERNING Institute Survey, 2013, underwritten by Kronos.

Outpacing, Outsmarting, Outmaneuvering

So you have a looming health care crisis on your hands. Get ahead of it.

The numbers don't lie. Americans, especially those who tend to be enrolled in social services programs, are more overweight or obese than ever. They have more chronic health conditions, such as diabetes, asthma and heart disease. With the expansion of Medicaid, millions of these people will suddenly be able to access health care for which they previously weren't eligible.

At the same time, America is aging. The nation's fastest growing population is age 85 and over, and this population, currently numbering about 4 million people, could top 19 million by 2050.²⁷ They will need more health care too.

But there are not enough primary care doctors and nurses to treat all of these people. By some estimates, the United States will require nearly 52,000 additional primary care physicians²⁸ and 260,000 nurses²⁹ by 2025.

Simple economics teaches us that when demand rises, supply should increase to meet it. However, our health care system never studied Economics 101, so government needs to step in. And throughout the country, it is doing just that. On the federal, state and local levels, public and private sector agencies are creating exciting, innovative and sometimes radical solutions to address both supply-side shortages and demand-side expectations. In the process, they are transforming how Americans deliver and receive health care.



A doctor consults with a patient who is more than 400 miles away using telehealth technology.

INTELFREEPRESS

Supply Side: Governments Help Meet Demands

“We are very concerned that we’re going to hand insurance cards to 30 million people and we won’t have the doctors to treat them,” Dr. Atul Grover, the chief public policy officer at the Association of American Medical Colleges (AAMC), told NBC News in May. His group estimates even higher doctor shortages, expecting the deficit to grow to 100,000 physicians in the next decade.³⁰

Getting more doctors through medical school and into underserved areas is the long-term goal of the AAMC and other medical organizations, but in the interim, other initiatives are underway to help today’s physicians meet the needs of their growing patient base.

Telehealth initiatives

One-on-one Web-based video chats and other electronic consultations between doctors and patients have been in use throughout the U.S. for several years now, but with the supply of doctors low, telehealth is poised to become a more common and widespread practice.

Improved fiber-optic lines and faster broadband connectivity now allow doctors to practice online before and after normal working hours, ultimately serving more people. The California Telehealth Network, for example, is providing service in California, particularly in underserved rural and urban areas. The network works with stakeholders to establish broadband connectivity for communities and has

already helped establish more than 350 telehealth sites in the state.³¹

Colorado, for another example, has taken telehealth into the prison population.³² The Colorado Department of Corrections and Denver Health Medical Center launched a pilot program in June 2013 for incarcerated patients that need consultations in the areas of rheumatology, infectious disease, orthopedics and general surgery. Instead of office visits, inmates and doctors meet using high-definition video conferencing. The state hopes the program will reduce the risk of prisoner escape and save money by avoiding costly offsite trips to the medical center. Nineteen corrections facilities in Colorado will take part in the telemedicine effort.

If it proves successful, this program may expand to include other specialties and hospitals in the future. It may also be updated from simple video conferencing between the inmate and doctor to the transmission of images and other medical data as appropriate. “I want to be able to show that the technology these days is not the issue,” Chris Wells, director of healthcare information technology architecture in the Colorado Governor’s Office of Information Technology, told *Government Technology* magazine. “You can do this over the Internet. E-commerce, online retailers [and others] have been able to transmit sensitive data for years. So expanding this out to health care is the next level.”³³

Other states are also embracing telehealth. In July, Missouri became the 19th state to enact a statewide

parity law for private insurance coverage of telehealth.³⁴ The law requires private insurers to reimburse health care providers for telehealth-provided services on the same basis as they would for in-person services and prohibits private insurers from denying coverage of telehealth-provided services. There are no restrictions on the type of technology that can be used, and the law uses a very broad definition for telehealth: the use of medical information exchanged from one site to another via electronic communications to improve the health status of a patient. The law goes into effect Jan. 1, 2014.

The New Mexico Medical Board will issue a telemedicine license to any health care provider outside the state who is licensed in any other state or territory in the United States.³⁵ About a dozen other state boards have modified their licensing requirements to allow some kind of telehealth practices across state lines as well.

But for telehealth to really take off, the remaining state governments need to update their rules and regulations for 21st-century medicine. Along with cross-state practice licenses, another hurdle is the requirement that doctors establish a physician-patient relationship in order to prescribe medications. Only 12 states allow an electronic examination to meet the requirements of a face-to-face examination.

Payment for telehealth services is yet another roadblock to telehealth expansion. Only 15 states, including Michigan, Maryland and California, have legislation requiring health insurance providers to



IN FEBRUARY 2013, Sens. John Thune (left) (R-S.D.) and Tom Udall (D-N.M.) introduced legislation to improve access to emergency services in rural and medically underserved areas through telehealth technology. The Strengthening Rural Access to Emergency Services Act would amend the Emergency Medical Treatment and Labor Act (EMTALA) to allow eligible hospitals in rural and medically underserved areas to use interactive telehealth programs to satisfy the federal emergency room staffing requirement for an “on call” physician when an associate provider is already on site at the rural emergency room.³⁶ GovTrack gives it a zero percent chance of passing out of committee, however.³⁷



New Mexico Gov. Susana Martinez signed a bill that allows certified midwives and nurse practitioners to perform certain ultrasound procedures.

FLICKR/SUSANA MARTINEZ

recognize claims for services rendered through telehealth. In those 15 states, if an insurance policy covers an in-person medical visit and the physician feels they can treat the policyholder using telehealth, then an insurance company can't deny payment of that electronic visit.

Scope of practice laws

States can't just mint new M.D. degrees, but they can address the shortage of doctors and nurses with "scope-of-practice" legislation, which sets standards for what medical services health care professionals can perform. As of April 1, 2013, there were 178 scope-of-practice-related bills proposed in 38 states and Washington, D.C., according to the National Conference of State Legislatures (NCSL).³⁸

A common strategy among the states is to allow nurse practitioners to perform more basic primary care and even open their own clinics. At least 50 bills related to nurse practices have been introduced in 22 states. According to the NCSL

database of scope-of-practice legislation, states are trying several other unique ideas as well. Among them:

NEW YORK has introduced a bill that would allow doctors with out-of-state licenses to practice within its borders. The bill would require these doctors to be sponsored by an in-state organization and to work voluntarily.

MAINE enacted legislation that allows pharmacists, who can now give shots to adults, to also be able to vaccinate children ages 9 and older with a doctor's prescription.

NEW MEXICO Gov. Susana Martinez signed a bill that revised the state code to allow certified midwives and nurse practitioners to perform certain ultrasound procedures.

INDIANA legislation created a state midwifery board to set qualifications for certified midwives, develop standards for education and training, and establish penalties for practicing without a license.

NEW JERSEY is considering letting nurse practitioners determine the cause of death and sign a death certificate if a doctor isn't available. New

York has proposed allowing physician assistants, under the supervision of a doctor, to issue a death certificate.

Demand Side: Governments Encourage Healthy Behaviors

Given: An ounce of prevention is worth a pound of cure. Therefore, it follows that to reduce demand on services (the cure), it pays to help people stay healthy (prevention).

Western medicine has been slow to embrace this concept, but as costs for care continue to skyrocket, prevention becomes more critical. Exhibit A: The nonprofit organization Trust for America's Health (TFAH) produced a report called "F as in Fat: How Obesity Threatens America's Future 2012,"³⁹ which projected that by 2030, every state could have an obesity rate above 44 percent and the country as a whole would be spending an additional \$48 billion every year on related diseases. That same report also estimated that a 5 percent drop in Americans' average body mass index would save tens of billions of dollars.

A national prevention strategy to provide incentives for healthy behavior among Medicaid recipients has been a non-starter to date,⁴⁰ but many states and localities are finding ways to encourage good health and improve both waistlines and bottom lines. Common solutions include construction of multi-generational playgrounds, creation of "fitness zones," giving tax breaks to grocery stores to move into so-called "food deserts" and similar healthful initiatives. Some communities are going even further.

Creating communities that promote healthy choices and healthy living

Maryland: Health Enterprise Zones

The Maryland state legislature has allocated \$16 million for a four-year pilot program that aims to reduce health disparities among racial and ethnic minority populations and among geographic areas; improve health care access and health outcomes in underserved communities; and reduce health care costs and hospital admissions and re-admissions.⁴¹

In January 2013, the first five Health Enterprise Zones (HEZ) were chosen.⁴² Community coalitions in each area will receive a range of incentives, benefits and grant funding to address unacceptable

and persistent health disparities.

The proposals include:

- Building a new community health care center and hiring five new primary care practitioners, one psychiatrist and two licensed social workers; and developing a “health care transportation route” to address barriers to accessing health care in an HEZ in a rural area of the state.
- Adding 18 new providers and creating a new mobile mental health crisis team to target individuals who visit hospital emergency departments for behavioral health conditions.
- Creating five new patient-centered medical homes and adding 25 new providers to serve a minimum of 10,000 residents in a neighborhood that leads Prince George’s County in poor health outcomes, including low birth weight, late/no prenatal care and teen births, and whose population is 95 percent racial/ethnic minorities.
- Establishing a new patient-centered medical home inside of a senior housing complex by adding one full-time physician, two full-time medical assistants and one full-time case manager in an area with high rates of emergency room utilization, hospital admissions and re-admissions and a large volume of medical 911 calls.
- Recruiting 18 new primary care professionals, deploying 11 community health workers and improving access to community health resources such as healthy food retailers and exercise facilities in a community with some of the highest disease burden rates and worst social determinants of health care in the state.



FLICKR/MIDGOVPICS



Fresh produce from the New Light Missionary Baptist Church vegetable garden, located north of Baton Rouge.

FACEBOOK/ SOUTHERN UNIVERSITY AGRICULTURAL RESEARCH AND EXTENSION CENTER

Baton Rouge: The Mayor's Healthy City Initiative

In 2010, the National League of Cities (NLC) created the Healthy Southern Cities Grant to advance local efforts to combat childhood obesity. The grant funded community wellness plans to expand access to fresh, healthy foods and opportunities for recreation. The NLC's Institute for Youth, Education, and Families (YEF Institute) selected three cities to participate in the first phase of its Municipal Leadership for Healthy Southern Cities technical assistance project: Little Rock, Ark., Baton Rouge, La., and Tupelo, Miss. Each city received customized technical assistance from the YEF Institute and other national experts.

Baton Rouge created the Mayor's Healthy City Initiative (MHCI)⁴³ "to identify and coordinate efforts aimed at healthy eating and an active lifestyle into a unifying community commitment to better health." A collaboration of government, private sector and nonprofit organizations, the MHCI is subdivided into three parts.

1. "Healthy BR" focuses on preventing negative health

outcomes by encouraging healthier eating and more active lifestyles.

2. "Med BR" addresses access to care and health outcomes.
3. The "Innovation Center" conducts research and data analysis to help understand current levels of community health and set goals for the future.

The mayor's initiative exists to:

- Raise awareness within the community of the problem and the services available.
- Motivate community members to make healthy choices and to join the movement to make Baton Rouge a healthier community.
- Increase the number of visitors to health-related resources on any city website.
- Increase media outreach through community events and the website Healthybr.com.
- Increase awareness of HealthyBR.com and the partnering organizations.
- Increase utilization of available resources to promote healthy eating and active living in Baton Rouge.

Promoting health by discouraging unhealthy food choices

Studies show that low-income Americans – the population that receives food stamps through SNAP – are more likely to have a nutrition-poor diet⁴⁴ and therefore are at a bigger risk for obesity and its associated medical conditions. Wisconsin and South Carolina are hoping to limit what kinds of food people can purchase with food stamps to encourage beneficiaries to buy more nutritious groceries.

The U.S. Department of Agriculture (USDA), which jointly administers SNAP with the states, has to approve waivers to make changes to food stamp programs, and the USDA has so far denied every waiver that sought to do what these states are proposing.⁴⁵ Wisconsin hopes to gain approval by creating guidelines rather than by banning certain foods. South Carolina wants to start a pilot program using the state's approved food list for the WIC food assistance program, a state-federal venture that does place restrictions on what foods can and can't be purchased with taxpayer dollars. +

Health Impact Assessments:

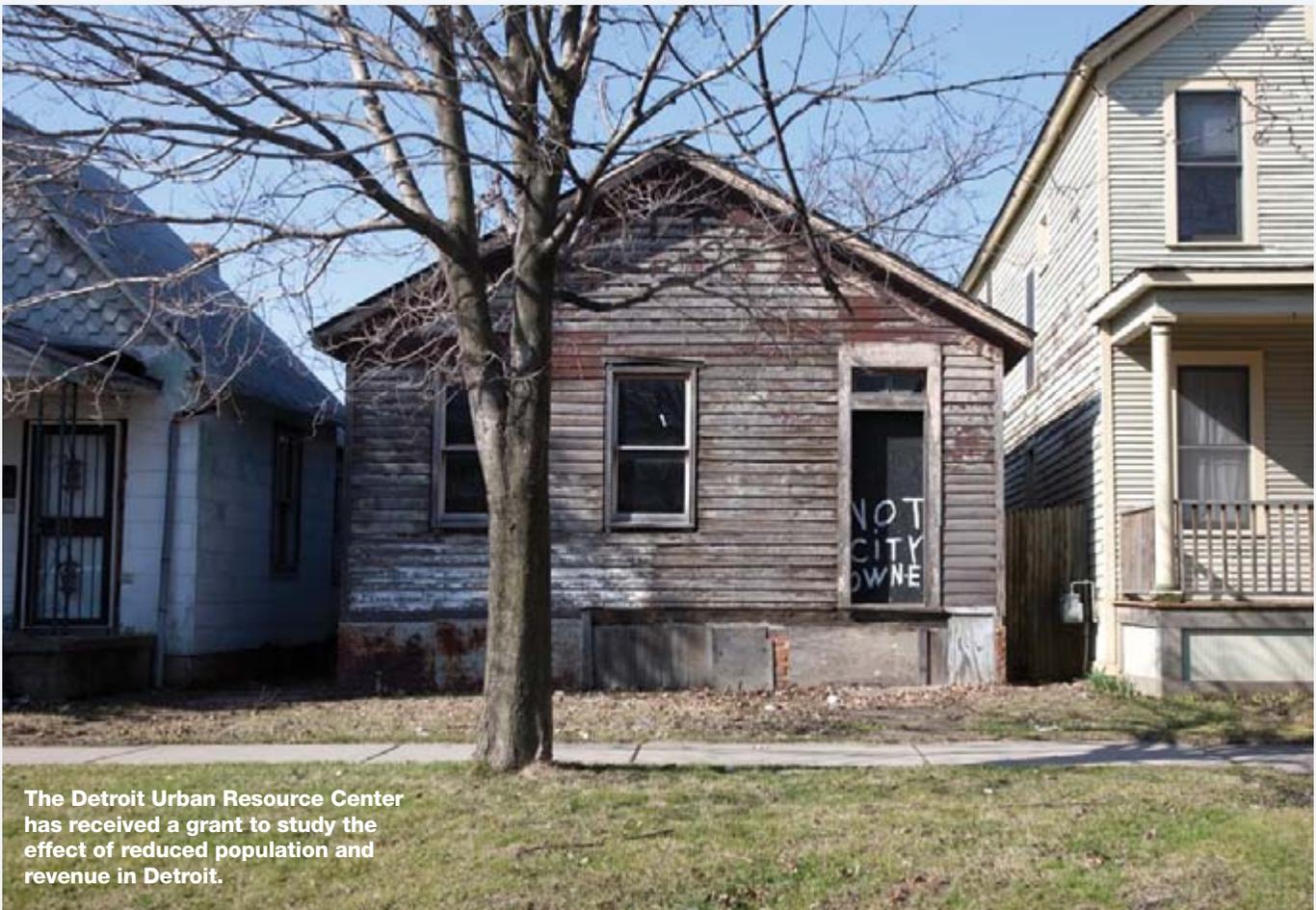
Considering Health in all Policies

All policy is health policy. That axiom is supported by a growing number of public policy advocates, including the National Association of County and City Health Officials (NACCHO) and its “health in all policies” initiative.⁴⁶ It is common sense, applied. For instance, there is a positive correlation between reducing childhood obesity and how close kids live to a park.

The idea is to determine how decisions like building new roads, changing industry regulations or developing neighborhoods impact the health of the community’s citizens. One approach that communities are using more commonly to do that is to conduct a health impact assessment (HIA). The Health Impact Project,⁴⁷ a collaboration of the Robert Wood Johnson Foundation and the Pew

Charitable Trusts, is a national initiative designed to promote the use of HIAs as a decision-making tool for policymakers.

HIAs use “a flexible, data-driven approach that identifies the health consequences of new policies and develops practical strategies to enhance their health benefits and minimize adverse effects.” According to the organization,⁴⁸



The Detroit Urban Resource Center has received a grant to study the effect of reduced population and revenue in Detroit.

DAVID KIDD

a health impact assessment does a number of important things:

- Looks at health from a broad perspective that considers social, economic and environmental influences.
- Brings community members, business interests and other stakeholders together, which can help build consensus.
- Acknowledges the trade-offs of choices under consideration and offers decision-makers comprehensive information and practical recommendations to maximize health gains and minimize adverse effects.
- Puts health concerns in the context of other important factors when making a decision.
- Considers whether certain impacts may affect vulnerable groups of people in different ways.

Although HIAs aren't yet a routine practice (only 4 of 36 federal, state, local and Indian Tribe jurisdictions surveyed by Health Impact Project require an HIA by law),⁴⁹ the use of HIAs nationwide "is definitely taking off," says Dr. Aaron Wernham, director of the Health Impact Project. He says more than 275 HIAs have been completed or are being conducted currently for various state and local projects, up from just 27 through 2007 — a majority of which are conducted collaboratively, without any legal requirement.

One state that has legally required HIAs is Massachusetts, which created the Healthy Transportation Compact⁵⁰ as part of its transportation reform legislation of 2009. The inter-agency

initiative is "designed to facilitate transportation decisions that balance the needs of all transportation users, expand mobility, improve public health, support a cleaner environment and create stronger communities."

HIAs are also being used to:

- Explore the possibility of retrofitting or retiring the Shawnee coal plant in Paducah, Ky.
- Assess the health impacts on Native Americans if a new solar plant is built in the Mojave Desert.
- Analyze different proposals for overhauling the sanitation infrastructure in San Juan, Puerto Rico.
- Review impacts related to the proposed Wishbone Hill Mine in the Matanuska-Susitna valley near Sutton, Alaska.

A completed HIA contributed to the Oregon state legislature's decision in 2011 to pass a Farm to School pilot program, which encourages public schools to purchase their foods from local farms. A nonprofit, Upstream Public Health, completed an HIA before the bill was finalized, and lawmakers incorporated several of its recommendations into the final legislation. A pilot program was created that allowed schools to build gardens to add an educational component to the "farm-to-school" concept.

Detroit may be conducting one of the most ambitious HIAs ever. The Detroit Urban Resource Center has received a grant to study the effect of reduced population and revenue in Detroit, as local officials and a newly installed state emergency financial



“We hope the HIA will prove to be a really useful lens (for Detroit), and it will help people think rationally and carefully about tradeoffs when you try to figure out how to help a community rebuild.”

– Dr. Aaron Wernham,
Director, Health Impact Project

manager ponder how to encourage economic growth in their now-bankrupt city. The HIA will analyze new proposals from the public health perspective.

“The city's been struggling for years with figuring out, 'How do you deal with a shrinking economy? How do you stock the police well enough? How do you keep schools open?'" Wernham says.⁵¹ “They're in a very politically challenging environment. We hope the HIA will prove to be a really useful lens, and it will help people think rationally and carefully about tradeoffs when you try to figure out how to help a community rebuild.”

A former practicing physician, Dr. Wernham learned the power of environment on health when, as a resident,

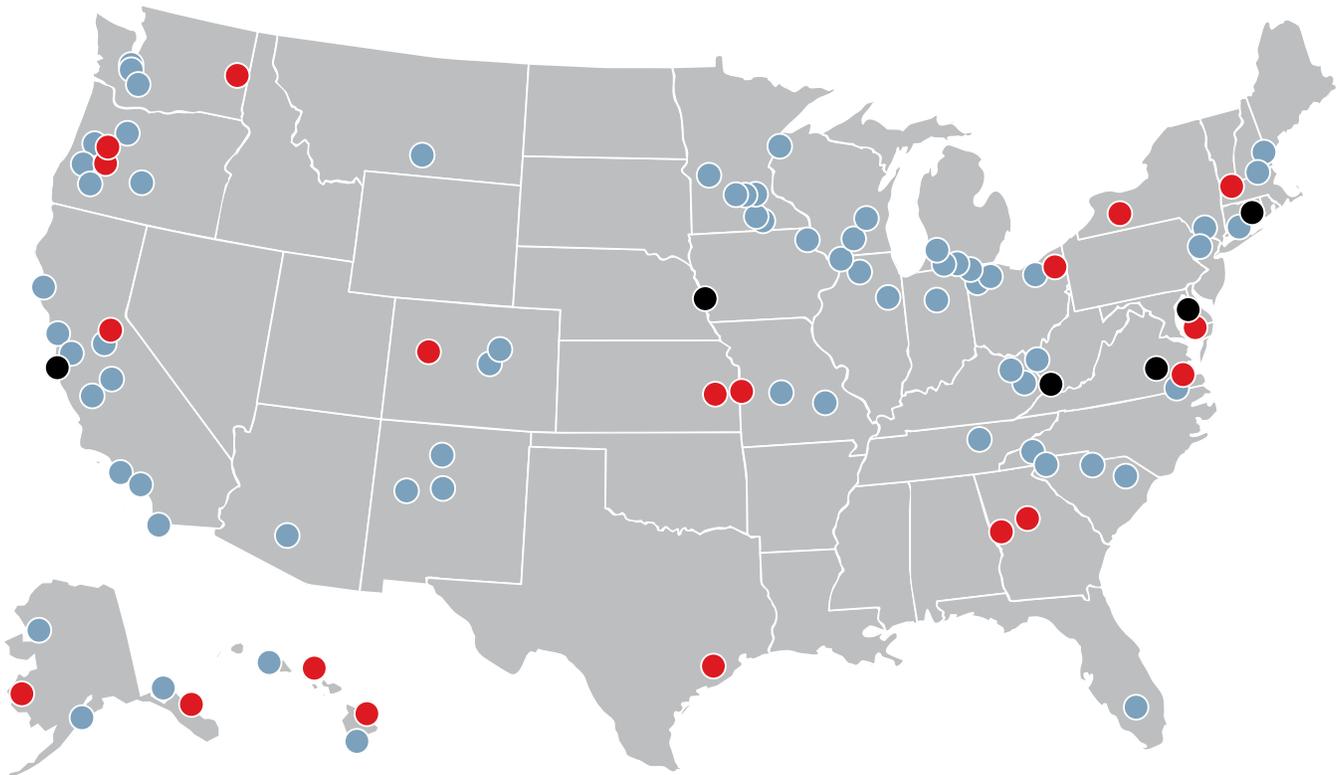
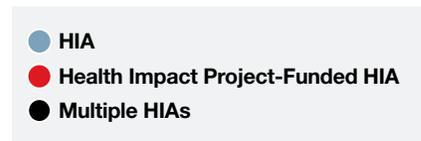
he had a 6-year-old asthma patient coming to the emergency room week after week, despite being highly medicated. “The mom said they lived in an old, run-down, moldy apartment,” Dr. Wernham says. “I wondered if we could prescribe new housing.” Today, HIAs are helping to, in essence, do just that. It takes inter-departmental collaboration, “agencies working together that normally haven’t before,” he says. And it is happening throughout the country. “It’s one of most exciting things we have seen,” he says. +

WHAT IS A HEALTH IMPACT ASSESSMENT?

According to the National Research Council of the National Academy of Science’s 2011 report, “Improving Health in the United States: The Role of Health Impact Assessment”: “HIA is a systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects.”⁵²

HEALTH IMPACT ASSESSMENTS GAIN TRACTION NATION WIDE

THE HEALTH IMPACT PROJECT tracks HIAs across the United States. The map below indicates where HIAs have been implemented.



The Age of Intelligence

Never before have there been more powerful systems or more pervasive data to transform how health and human services operates.





DAVID KIDD

Look at the smartphone on your desk or in your pocket. Then consider this: It has more computer power than NASA had to land men on the moon in 1969.⁵³ Technology has transformed the world in nearly every way imaginable, including health care. If knowledge is power, technology is applied knowledge and actionable knowledge in the palm of your hand.

“The new ways we collect, store and analyze data are all critical for having the information we need to identify problems and create solutions,” Farzad Mostashari, national coordinator for Health Information Technology at HHS, told the Robert Wood Johnson Foundation.⁵⁴ “Having data for decision-making, and the simple act of a clinician looking at data on their collective of patients, not just individuals, is the foundation of population health management. ... Our goal is not to have dead data that sits on shelves but to make it come alive by using it to improve the public’s health.”

That is also the goal of forward-thinking states and localities across a broad range of technological transformations.

Legacy Modernization

The 90/10 federal funding match for eligibility systems has given states a once-in-a-lifetime opportunity

“In my first day on the job, I held a meeting and learned that our technology wasn’t working for anybody. Our eligibility platform is 20 years old, and our error rate in Medicaid was 16 percent.”

– **Dr. William Hazel**, Secretary, Health and Human Resources, Virginia

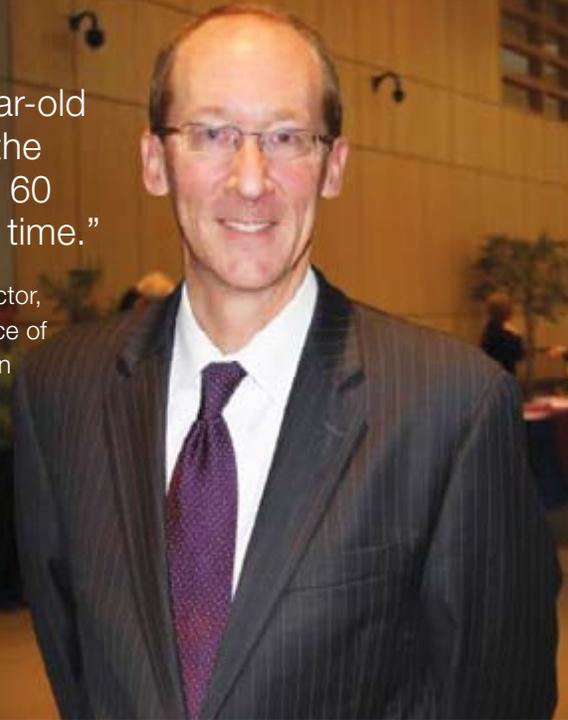
to bring their legacy mainframes into the 21st century, and states like Virginia and Ohio have used that opportunity to integrate eligibility across many HHS departments.

“In my first day on the job, I held a meeting and learned that our technology wasn’t working for anybody,” says Dr. William Hazel, secretary of Health and Human Resources for the commonwealth of Virginia. “Our eligibility platform is 20 years old, and our error rate in Medicaid was 16 percent. Each agency had its own CIO, so we brought these CIOs together and learned there was almost no strategic planning and looking ahead. It became abundantly clear that we are not serving citizens optimally. Then along comes the ACA.”

His department partnered with the state’s Department of Motor Vehicles — “They know 70 percent of Virginia citizens,” he says — to

“Our 32-year-old system gives the wrong answer 60 percent of the time.”

— Greg Moody, Director,
Ohio Governor’s Office of
Health Transformation



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identify and authenticate constituents to support a newly purchased data management system. “We also had inherited a child-care services project, and we saw it would fit into the system we were buying.”

While the back office still runs on the legacy platform, the new system supported a Web portal for Medicaid, SNAP, TANF and energy assistance programs. A foundation grant has funded a pilot program to pull data from 150 state sources to help coordinate child care.

Once the ACA deadlines pass, the agency will migrate functionality from the legacy system to the new infrastructure, “which will become the basis for all HHS services,” Hazel says. “At the end of the day we hope to have a common platform that other agencies that provide consumer-directed service can use.”⁵⁵

In Ohio, “our 32-year-old system gives the wrong answer 60 percent

of the time,” says Greg Moody, director of the Governor’s Office of Health Transformation.⁵⁶ “The county workforce has to override the system to get it to give the correct result. So it was an obvious priority to replace.”

They also looked to build an enterprise system, “not just a Medicaid eligibility system, but also food stamps, TANF and eventually the possibility to include all income-based programs on the platform,” says Portfolio Manager Rex Plouck. “We will create one person-centered, holistic view of these services.”

They too are rolling out functionality over time, projecting to be fully off the legacy system by July 2015. It will include mobile-ready applications. “That is a requirement,” Moody says. “We want these services to be available to Ohioans on their own terms, and for many that is a tablet or smartphone — their phone is their computer.”

Changing technology is one thing, but changing working habits is sometimes an even bigger challenge. So they came up with the novel idea to procure two separate vendors, one for the machinery, the other for “organizational change management.” “Money can become consumed by technology, and you end up automating the way you already do business,” Moody says. “What Rex did was split the two components, which was a real innovation to avoid this trap.”

In October they will begin another phase to include analytics, business intelligence and data warehousing capabilities into the platform. “That is a big, big component for long-term perspective to help us make better decisions,” Plouck says.

“We are not breaking new ground here,” Moody says. “What is original is tackling multiple reforms simultaneously to get a critical mass of reforms that reinforce each other. You don’t have to build a whole new bureaucracy to innovate. You just have to convene the talent and let them know you value their creative solutions.”

Electronic Health Records

In 2000, the Institute of Medicine called for the use of technology, such as using electronic health records (EHRs) to prescribe medications electronically, as a way to reduce preventable errors. Eight years later, that was still mostly a dream; as of 2008, only 7 percent of physicians e-prescribed using an EHR. Since then, though, the practice has blossomed, so that by June 2012, nearly half of all physicians (48 percent) were e-prescribing.⁵⁷

HHS has embraced EHR adoption, and its Office of the National Coordinator for Health IT (ONC) recently released the Health IT Patient Safety Action and Surveillance Plan to increase the quantity and quality of data about health IT safety; target resources and corrective actions to improve safety; and promote a culture of health IT safety.⁵⁸

Data Analytics

The consulting group McKinsey & Company calls big data, “The next frontier for innovation, competition and productivity.”⁵⁹ It goes on to say that if the health care industry could use big data “creatively and effectively to drive efficiency and quality, the sector could create more than \$300 billion in value every year.”

The Healthy Communities Institute,⁶⁰ a Bay Area project, is one initiative attempting to harness big data to “help local public health departments, hospitals and community coalitions measure community health, share best practices, identify new funding sources and drive improved community health.”

Its technology takes publicly available data on communities and creates Web-based dashboards for care providers or health care organizations. These analytics provide performance measures linked to public health interventions around such things as infectious disease rates and chronic disease patterns.

HCI, composed of health care IT professionals, academicians and former government officials, started in

2002 with the Healthy Cities Movement and the University of California at Berkeley. The principals have expertise in informatics, public health, urban sustainability, community planning and high-volume Internet sites. They took on this challenge, they say on their website, because, “First, although a lot of data is collected and stored, people don’t always know where to find what they need. Second, if they find it, it’s not necessarily presented in understandable ways. Third, once they do understand the information they found, it is not always clear what to do about it or how to get involved.”

As Thomas Goetz, managing editor of *WIRED*, explained to the Robert Wood Johnson Foundation,⁶¹ “This organization has really combined the basic goal of public health, which is to maximize the health of a population in the most efficient way. ... [A]ll sorts of different data are coming online, so you look at things like environmental data and exposure data that you are able to map. You think about disease clusters and other kinds of efforts at understanding how to do this work in a geographic framework, but it’s just really been hard to connect what seem like patterns with actual correlations, because the data is very wispy. In this new mode of constant measurement and of combining data sets with much more agility, you are able to get, with much more certitude, to exposures and disease rates in populations, and basically open a new lens onto the geographic component, which is a huge component of community health.”

Leveraging Big Data

Data is just numbers. What communities do with those numbers is what makes big data powerful. It allows you to see correlations hiding in plain sight.

Take, for example, the Louisville Asthma Data Innovation Project.⁶² There, asthma patients are being tracked by GPS implanted into their inhalers. Every time the patient uses it, the manufacturer takes the data, removes personal information such as the patient’s name and vital statistics, and gives it to a commission of city officials and health care providers. This data, combined with other public information like air quality, pollutants, traffic patterns and school absences, will allow Louisville officials to make decisions about how to create a healthier living environment for its residents.

Collaboration is, once again, the key. The project is a public-private partnership between the city, the inhaler manufacturer and another private sector partner that is funding the initiative. Pharmacies and physicians are distributing the inhalers; doctors will guide care based on the data collected (if patients allow it); and health care providers are overseeing the project and deciding what to do with all the information.

In another example of how analytics might improve public health, researchers from the University of Michigan, MIT, Harvard Medical School and Brigham and Women’s Hospital in Boston used data mining and machine learning techniques to analyze electrocardiograms from 4,557 heart attack patients enrolled in a large clinical trial.⁶³

The analytics revealed that the readings from many of the patients who later suffered cardiovascular death contained similar errant patterns that were thought to be just noise. These heretofore unseen markers of heart damage could help doctors identify those patients at high risk of cardiac death and start them on interventional treatment before a heart attack occurs.

“There’s information buried in the noise, and it’s almost invisible because of the sheer volume of the data. But by using sophisticated computational techniques, we can separate what is truly noise from what is actually abnormal behavior that tells us how unstable the heart is,” says Zeeshan Syed, an assistant professor in the University of Michigan Department of Electrical Engineering and Computer Science and first author of the study.

In Wisconsin, data is transforming care through the Wisconsin Health Information Organization. The WHIO is a voluntary initiative supported by leaders from insurance companies, health care providers, major employers and public agencies. Its big data initiative is called the WHIO Health Analytics Exchange. With data from about 250 million insurance claims for care provided to 3.7 million Wisconsin residents, the WHIO’s database holds a rolling 27 months of claims data and a total of 23.7 million episodes of care. (An episode of care is defined as all the treatments and follow-up treatment related to a single medical event, such as a broken leg or heart surgery, or the year-long care of a chronic disease such as diabetes.)

All this data, along with WHIO analytical tools, is available to member

health care organizations. Members of the Exchange, which the WHIO calls “a data-driven marketplace,” both supply information and receive reports that analyze health system and physician performance based on hundreds of analytic variables. “The Exchange can be used to identify gaps in care for treatment of chronic conditions, costs per episode of care,

population health, preventable hospital readmissions and variations in generic prescribing,” the WHIO says.

“To achieve real and meaningful changes in health care delivery that will produce higher quality and more affordable care, information must be turned into action,” it concludes.

That’s the goal of all big data enthusiasts. +

IMPROVING INTEROPERABILITY

“**TOO MANY BARRIERS STAND IN THE WAY** of clients getting the services they need,” says the Administration for Children and Families (ACF). “‘Interoperability’ — a national effort of technological and programmatic coordination — is poised to eliminate many of those barriers. Today, the emergence of ‘interoperable technology’ offers an unprecedented opportunity to connect systems across traditional boundaries in exciting and rewarding ways.”

The ACF’s Interoperability Initiative is supporting a State Systems Interoperability and Integration (S212) Project. As of May 2013, seven grantees were halfway through the one-year grant award period. The planning grant, funded by the Office of Management and Budget (OMB) Partnership Fund for Program Integrity Innovation, is helping the following states with their efforts to improve interoperability and integration across health and human services information technology systems:

- **CALIFORNIA** is promoting understanding of interoperability statewide and is developing a governance model.
- **COLORADO** is building a Client Information Sharing System (CCISS) that will facilitate collaboration and data sharing across its Department of Human Services and six other domains.
- **ILLINOIS** is developing a sustainable governance model.
- **INDIANA** is automating and improving the state’s vital events registry (IVER) information, collection and data sharing.
- **MARYLAND** is defining interoperability and its impact on client outcomes at the practice level through its “Life of the Case” Workflow Analysis Model, and Return on Investment Models and Calculator.
- **NEW YORK** is developing an online reporting portal called Children’s Passport (CP) that will capture data from multiple sources but will only focus on the health data using this grant money.
- **OKLAHOMA** is building a roadmap that will help redesign the eligibility and enrollment system, and to integrate service-oriented architecture (SOA) and the Enterprise Service Bus (ESB).

Systemic Vital Signs and a Path to Recovery

The system is the patient, and exciting treatments are underway.

If 2013 will be remembered as a year of urgent response to Code Blue in health and human services, 2014 and beyond may be seen as the time HHS turned the corner, began a robust recovery and embraced an exciting future. With ACA implementation largely behind them, HHS employees will find themselves in a new world in which 21st-century technology has, at long last, armed them with the tools they need to do their jobs smarter, faster and more efficiently. And that will mean better care and service delivery for the constituents who rely on their programs.

Updated eligibility systems will provide open and easy access — no wrong door — for the growing number of Medicaid recipients who may also need other support services. Health-centered policies will lower demand long term, and in the near term, data analytics will help providers triage that demand to help focus care where it is needed most.

Coincidentally, big data will be employed to influence the behaviors of all involved — patients, providers, partnering organizations, and state and local government agencies. All of this data will give HHS thought leaders



Arkansas State Medicaid Director Andrew Allison is leading one of the most innovative approaches to Medicaid reform.

“All of us here in Arkansas are walking through the process of discovery together, like a scientist discovering a new element or compound. ... I am incredibly excited about our innovation.”

— **Andrew Allison**, Arkansas Medicaid Director

a way to drill down ever deeper into costs per unit of service, thus finding economic efficiencies not visible to the naked eye. Those efficiencies will help refine internal cost and delivery models to improve the health and extend the life of the system itself.

The work is far from done. Challenging roadblocks remain, budgets and staff levels aren't likely to increase anytime soon, and the ACA will continue to eat up time and money as its kinks are worked through. But those

states and localities that have seized the opportunities afforded by the new health care law and its attending funding and intellectual opportunities are better positioned than ever to meet the challenges of human services delivery.

The late author Stephen Covey was often said to begin with the end in mind. Many states have. Namely, they have begun with a view of accomplishing their real mission: providing all citizens with the dignity of a decent life and the hope of a healthy tomorrow. +

Sponsors:



Acknowledgements:

THE GOVERNING INSTITUTE advances better government by focusing on improved outcomes through research, decision support and executive education to help public-sector leaders govern more effectively. With an emphasis on state and local government performance, innovation, leadership and citizen engagement, the Institute oversees GOVERNING's research efforts, the GOVERNING Public Official of the Year Program, and a wide range of events to further advance the goals of good governance.

The GOVERNING Institute is led by former Kansas City, Mo., Mayor Mark Funkhouser, who was city auditor of Kansas City for 18 years prior to being elected mayor and who is an internationally recognized auditing expert, author and teacher in public administration.

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DAVID LEVINE is a *Governing* contributor and freelance writer, who specializes in health and medical issues. His work has been published in the *New York Times*, *American Heritage*, *Sports Illustrated* and many other publications. Levine is the author/co-author of six books about sports. He is also a contributing editor at Wainscot Health Media and a contributing writer at *Hudson Valley* magazine.

PROVING PAY OR PLAY FOR THE ACA

Kronos helps state and local government achieve less costly and complex compliance

THE AFFORDABLE CARE ACT (ACA) is here to stay. And while it may have generated a significant amount of controversy, its complexity was never up for debate.

A key component affecting government leaders is the “Pay or Play” mandate, which requires employers with more than 50 full-time equivalent (FTE) employees to provide affordable health care coverage to employees who work more than 30 hours per week or 150 hours per month. Failure to “play” results in steep fines.

A recent GOVERNING Institute survey, underwritten by Kronos, queried 150 state and local leaders regarding their preparedness to comply with ACA employee benefits. Seventy-four percent of respondents noted they did plan to provide the coverage to their employees. However, this brings its own set of challenges — among them that the agency must prove to the federal government that they are, in fact, playing. For agencies that are struggling with reduced budgets and staff, the time and resources it takes to calculate which employees are full time in accordance with the ACA and prove compliance can be prohibitive — especially when many agencies are still relying on manual and paper-based workforce management processes.

According to the GOVERNING Institute survey, 50 percent of respondents either didn't have or didn't know if their current system or process allowed employees to enroll, opt out or waive ACA benefits. Additionally, 77 percent of respondents use or plan to use paper time cards or Excel spreadsheets to determine who is full time in accordance with the ACA.

Government agencies need integrated workforce management tools that provide complete automation and high-quality information

for driving cost-effective labor decisions and minimizing ACA compliance risk. Kronos can help agencies:

→ LOOK BACK QUICKLY AND MOVE FORWARD

If an agency is using a paper-based process to track employee hours, determining if an employee meets full-time status might be a nightmare, requiring human resources personnel to manually examine many months of files and records. By tracking scheduled and actual hours worked for each employee within a specified timeframe, automated workforce systems can almost instantaneously provide agencies with accurate information.

→ PROACTIVELY MANAGE IN THE MOMENT

Automated systems provide dynamic visibility into employee hours worked. If an agency has determined that an employee is a part-time employee for ACA purposes, the automated workforce system can ensure that the employer becomes aware that the employee is approaching this threshold. This real-time reporting is impossible with paper time cards or Excel spreadsheets.

→ STREAMLINE ENROLLMENT WITH EMPLOYEE SELF-SERVICE

For FTEs who will be eligible for health care, an automated workforce management system can help streamline the enrollment process by enabling employee self-service into benefits programs.



SMARTER DATA, BETTER HUMAN SERVICES

ADVANCED ANALYTICS AND NEW DATA SOURCES ARE RESHAPING HEALTHCARE MANAGEMENT

Federal and state agencies that manage Medicare, Medicaid, and other human services programs face enormous pressure to serve more citizens with shrinking budgets—do more with less. The only way agencies can be successful is to get smarter about the people they serve and the healthcare these citizens consume.

One way CIOs are meeting this challenge is by integrating all health and human services data into a single, scalable data warehouse.

Unfortunately, most agencies have versions of data spread across multiple systems, which leads to excess hardware, inflated IT support costs, and wasted resources wrangling with data and tools instead of focusing on analysis. When analysts spend their energy doing analysis, the organization gets smarter and can do more.

A PHASED APPROACH

If the thought of integrating massive amounts of siloed data in a centralized data warehouse sounds overwhelming, it doesn't have to be. The best way to build a data warehouse is one data source at a time, much like agile software development. When the next subject area is folded in, the value of the whole increases exponentially.

To guide this effort, Teradata created a health and human services logical data model (LDM). It acts as a blueprint, describing and showing the relationship of all types of health and human services data in various systems to then populate the data warehouse with one subject area at a time.

DAVID WIGGIN

David Wiggin is the Program Director for Healthcare & Life Sciences at Teradata. He is also a faculty member with the International Institute for Analytics, Health Care Analytics Research Council, and a regular speaker at Duke University Health Sector events.



As analytics, data, and tools all grow and change over time, the Teradata platform scales easily and seamlessly to meet these new demands. In addition, centralizing data reduces the costs of hardware, tools and applications, encouraging a lean approach to software licenses.

GETTING VALUE FROM BIG DATA

A data warehouse is inherently designed to handle today's new kinds of multi-structured data (big data) and analytics. Instead of just analyzing transactions, big data analytics answers questions about interactions. These new data and new methods bring next generation capabilities to detecting fraud and abuse, performing audits and empowering citizen engagement with personalized, automated outreach. Enabling these analytics in a single unified architecture lowers risk and total cost of ownership.

At the end of the day, the combination of the integrated data warehouse, Teradata Aster big data analytics and Teradata Applications, creates unparalleled actionable analytic capabilities.



View short video to see how the state of Michigan is improving services while saving millions.

Teradata.com/videos/michigan

WATCH VIDEO >



Streamlining the Eligibility Determination Process

Experian helps prevent fraud and theft, and improves benefits distribution to qualified applicants

The Problem with Preventing Fraud and Theft

Eligibility verification in the public sector carries with it an unfortunate challenge: It is becoming harder to identify and differentiate fraudsters from those who truly need public benefits.

Nearly 46 percent of state and local government leaders think fraud is a problem affecting every part of government. Qualifying criteria must be analyzed extensively to thwart fraud rings, syndicates and individuals with criminal intent who misappropriate public benefits. However, sifting through extra data is a time-consuming and expensive undertaking for agencies with budgetary and personnel shortfalls.

Faster, Better, Smarter Data

Experian Public Sector's Eligibility Assurance FrameworkSM offers next-

generation authentication, drawing from multiple layers of data that provide rich intelligence and enable better assessments. Experian's sophisticated tools mine and cross-reference data not typically included in other verification searches, providing:

- An integrated eligibility determination process for public service programs and benefits
- Income and asset estimation
- Continuous monitoring for eligibility
- Instant decision-making regarding applicants

Deep internal and external information and third-party data can help to swiftly target fraud, substantiate identity and confirm benefit entitlement. Individual profiles also can be monitored over time to prevent benefit overpayment should eligibility change.

If discrepancies are revealed, Experian's advanced data and analytics solution can determine recipients' capacity to repay and even help collect money owed. That's a significant advantage when you consider that outstanding government receivables currently run in the multi-billions.

Experian's modular framework offers flexibility so agencies incorporate only pertinent information into their systems and interpret it meaningfully. This gives social service employees the power and effectiveness of real-time data that heightens decision making, prevents data loss and fraud, and improves benefits distribution to the constituents who need it most.

MANAGING THE CRUNCH:

Qmatic prepares HHS agencies for the rush of new caseloads with innovative customer flow solutions

UPCOMING REGULATIONS PROMISE TO USHER IN A NEW ERA FOR PUBLIC HEALTH IN 2014.

In the process, caseloads are predicted to soar for public agencies that are tasked with serving millions of new beneficiaries but with limited resources. How will they manage the crunch?

Innovative customer flow management solutions can lighten the load. Qmatic, an industry-leading provider of this technology with over 30 years of experience and 55,000 installations worldwide, helps public service agencies better manage the customer journey. From automating the intake process, to scheduling appointments, to verifying arrivals — Qmatic enables agencies to improve productivity by up to 35 percent and shrink customer wait times by 30 percent.

Qmatic's advanced technology gives agencies the analytics and insight to improve an organization's efficiency and worker productivity. It can also help agencies improve customer service and reduce stress, for both clients and staff — resulting in a better customer experience.

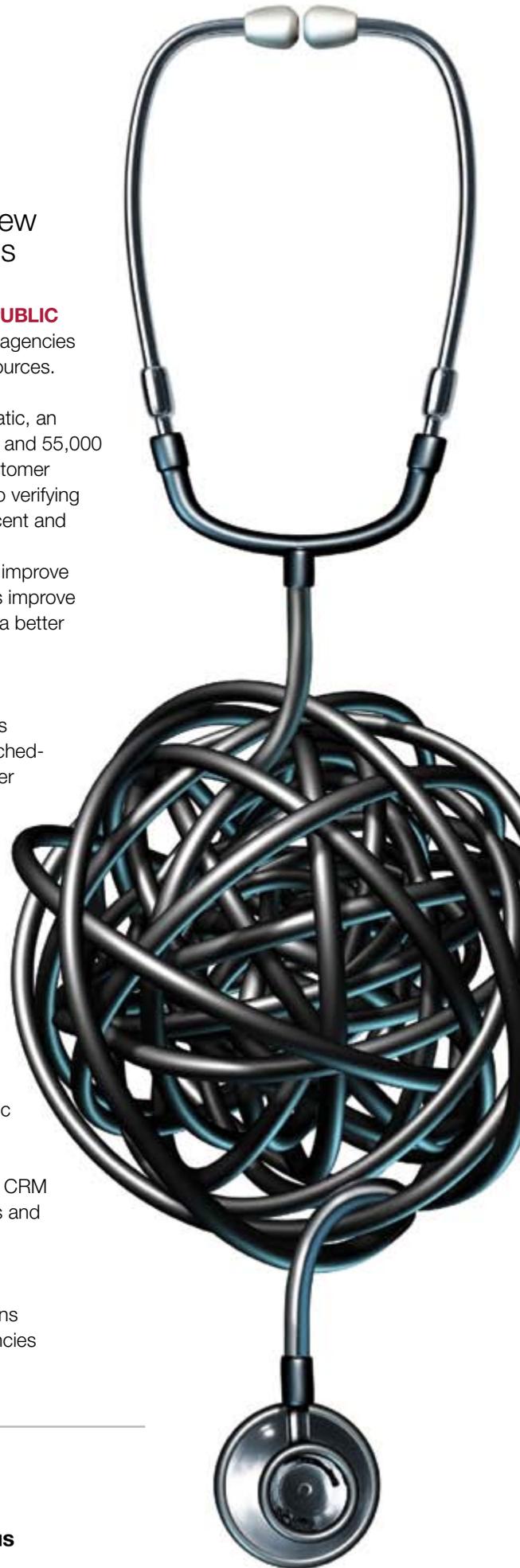
Qmatic solutions include:

- » **Caseload Management** — Manage caseload demand by assigning cases according to available resources and worker competence. Appointment scheduling can increase processing capacity up to 35 percent with same or fewer resources and balance client arrival by scheduling off-peak times. Load management is optimized, improving efficiency for both client and staff.
- » **Lobby Management** — Clients check in for an appointment or service at self-serve kiosks. Informational and directional displays and monitors keep waiting clients informed and provide clear direction of where to go and when.
- » **Mobile and Online** — Adds convenience and saves time by allowing clients to sign in prior to arrival via a computer or mobile phone. Improving the client experience reduces client and staff stress, and increases satisfaction levels.
- » **Predictive Technology** — Critical analysis and reporting tools help management drive ongoing operational improvements while better supervising the day-to-day activities. The tools can track and analyze client traffic trends to predict future service, workstation and resource needs based on times, days and more.
- » **Integration and the Cloud** — Qmatic systems can integrate with existing CRM programs or case management systems to enable analysis of transactions and performance, and maximize an agency's existing technology investments. The Qmatic application is also available via a cloud service.

Qmatic has a presence in 122 countries, with more than 55,000 installations worldwide. Their solutions help government health and human services agencies do more with same or fewer resources.

QMATIC
Valuing Time

To learn more, visit qmatic.com/us





Get the Bigger Picture:

EMC Isilon NAS Scale-out Storage Solution

MEDICAL IMAGING has undergone a true renaissance in the last few years, with high-resolution digital and 3D technologies that are a boon to science but a challenge for those who must store such huge files. A single 60-second radiology scan can generate 10 terabytes of data — with health care demands predicted to spike exponentially over the next decade, the implications for storage are staggering.

The EMC Isilon Network Attached Storage (NAS) is ideal for high-volume, high-availability data environments where server sprawl is a concern. Offering advanced features and a wide range of connectivity options, the solution allows health care to keep patient video and still images well organized and easily accessible using image data consolidation.

Easy Use, Easy Access

Management and security features are included in a scalable, intelligent file system with a single point of management, giving

users access to a plethora of tools and information without the hassle of a complex setup. This innovative architecture means that a single NAS cluster can be utilized for a variety of uses, such as radiology, cardiology, PACS, archives and more.

Under-provisioning or over-provisioning storage can waste space and efficiency and hurt your bottom line. With EMC Isilon, those worries are eliminated, thanks to the system's ability to scale on the fly to over 15 petabytes and adapt to quickly changing circumstances or emergencies with no complications and minimum downtime. Sensitive image data is protected and compliance guaranteed, with unique encryption capability and keys for separate users — a critical feature for Health Insurance Portability and Accountability Act (HIPAA) requirements.

EMC Isilon helps health care organizations reduce costs, improve operational efficiency and get the bigger picture — painlessly.

MorphoTrust Health Care Solutions:

Boosting program productivity while reducing fraud

As provisions of the Affordable Care Act take hold, states are striving to prepare for the impact a 15%+ increase in enrollments will have on their operations. This fuels an elevated need to streamline program enrollment and operations while also continuing to bolster resilience to fraud. By strategically adding innovative systems to manage identity, public organizations can achieve both goals.

Boosting efficiency and goal-oriented service

MorphoTrust, the U.S. leader in identity solutions and services, and verification technologies to state, federal and local government, can help agencies meet the demands of new health care regulations by designing and implementing end-to-end solutions. These systems are uniquely capable of linking the physical beneficiary with identity records already trusted by the state (i.e. driver's license data) to open up new applicant channels. Those same capabilities bring reciprocal opportunities to accelerate processes and mitigate fraud risk at the point of service.

For example, health agencies can leverage MorphoTrust technologies to automatically verify the identities of applicants via new self-service channels of delivery. The result is applicants can enjoy easier, more convenient access to program benefits while agencies continue to operate in a secure manner. Further, case professionals can focus on their mission to address the health needs of clients rather than spending unnecessary time on administrative tasks, such as identity checking. When fully leveraged beneficiaries enjoy high service levels, your staff is able to focus on other, high-value activities, with protections in place to curtail the possibility of fraud.

With self-service options for applicants, agencies can speed enrollments via a mobile phone app, tablet or kiosk. By leveraging these now ubiquitous platforms it is entirely likely the need for applicants to wait to see case workers could be greatly diminished or even eliminated. Successfully employing these new capabilities means the time needed for applicants and case workers to interact can be focused on the delivery of critical services.

Continuing the Trend of Fraud Mitigation

By offering applicants faster enrollment options, health care agencies and providers also benefit from the most reliable information to verify identity and eligibility. MorphoTrust technology uses digital watermarking to authenticate driver's licenses and identity cards while also employing other proven technologies to ensure people are who they claim to be.

MorphoTrust builds and delivers innovative solutions that integrate with a state or agency's existing systems and infrastructure, such as facial image analysis, motor vehicle agency (MVA) records and master data. The use of digital watermarking technology encrypts/decrypts data within intelligent card solutions to instantly authenticate identity-related documents, and verify many other important details important to caregivers and beneficiaries.



Reliable Data to Measure What Matters

SAS® Claims Analytics for APCD converts big data into insight for better health care decisions.

What if your state could create a transparent health data infrastructure that provides stakeholders with the critical information they need to make the best health care policy decisions?

States are turning to All-Payer Claims Databases (APCDs) to provide visibility into the cost of health care services. The purpose of APCDs is to help stakeholders — including state leaders, legislators, constituents and others — to understand and identify variation in payment and quality across health care plans and providers to promote informed decision-making across the entire health care system. However, without the proper tools, assimilating this massive amount of information can result in an unwieldy data heap that makes it difficult to draw meaningful conclusions.

Enter SAS Claims Analytics for APCD, an innovative solution that compiles claims data from multiple payers, prepares it for advanced analytics, and delivers meaningful insights to stakeholders — from policymakers to consumers. States and agencies can use the solution to access built-in health care metrics and even create custom analysis and research based on the APCD information.

Specifically, SAS Claims Analytics allows states and agencies to:

› Better manage health care data

Create a comprehensive health data management process that makes it easy for payers to submit their claims in a secure manner and provides a data preparation process that organizes the claims for the types of analytics that states need to do.

› Provide visual data analytics of health care information

Explore and utilize *all* of the data, rather than a sample, to generate health insights that are important to your state.

› Deliver meaningful insights about the health care system to citizens

Create a consumer Web portal that displays information to your constituents. Create easy-to-use reports and visualizations that provide drill-down capabilities to deliver insights that are most important to citizens.



Symantec: Helping organizations tread carefully when securing electronic health information

As states move to roll out the Affordable Care Act (ACA), healthcare agencies are rapidly adopting secure information exchanges (SIEs) to allow easy transfer and access of electronic health records.

But if they can't effectively protect sensitive patient data from prying eyes, everyone suffers. Consider these recent breaches:

- ▶ **A state department of technology services director was forced to resign** after a hacker compromised weak user authentication to steal Social Security numbers and other personal data of about 260,000 Medicaid recipients, costing the state approximately \$10 million to remediate
- ▶ **An additional 6,000 state Medicaid beneficiaries were exposed** when a third-party claims contractor saved the information to an unencrypted thumb drive that was later lost
- ▶ **A former state employee was arrested** for swiping the personal information of more than 228,000 Medicaid recipients
- ▶ **A state was required to make a \$1.7 million payout** after a hard drive was stolen containing Medicaid beneficiary information
- ▶ **A state misplaced a USB drive** containing PHI for 280,000 Medicaid recipients

In an era of growing cyber threats, even inadvertent data loss can result in millions of dollars in fines under HIPAA regulations, which has become more stringent as a result of HITECH and the FINAL Omnibus Rules. Additionally, it can take years for healthcare agencies to rebuild constituent trust — and their reputations — following a data breach.

What agencies don't know can hurt them

To protect their interests, Symantec believes organizations must commit to a failsafe approach when building SIEs. Symantec recommends that government and healthcare organizations:

- 1. Aim for a 360-degree security method:** Relying on strong user-authentication that includes back-end identity verification can ensure that only authorized users can access data. Adding often overlooked front-end monitoring to detect fraudulent activity can bolster the solution.
- 2. Create centralized control:** Incorporating a cloud-based data loss prevention (DLP) program can provide a highly effective single point of control. As more information moves into the cloud, it often resides in multiple environments and locations. A DLP can help organizations avoid the ensuing logistical nightmare, and weakened security.
- 3. Encrypt the data:** Taking this extra step to protect information in the DLP cloud can help make protection systems as close to failsafe as possible.
- 4. Add antivirus protection:** Once the data is secure, relying on anti-virus monitoring can thwart phishing, malware and other dangerous attacks or breaches.
- 5. Include e-Discovery:** In case of an attack, tapping this component provides crucial information to aid breach or fraud investigations. E-Discovery maintains audit trails that reveal who accessed the data, for how long and whether violations occurred.

A strong defense requires a multi-layered strategy. To learn more about how Symantec can help health organizations and government agencies roll out SIEs securely, visit <http://symantec.com/healthcare> or read the white paper, "New World Order: Effectively Securing Health Care Data Through Secure Information Exchanges" at <http://eval.symantec.com/mktginfo/downloads/securing-healthcare-data-through-secure-information-exchanges.pdf>.



Building Tomorrow's Health and Human Services

HHS organizations are in a balancing act: Comply with a range of mandates including healthcare reform while transforming to become more citizen-centric and integrate health and social programs.

Infosys Public Services partners with HHS organizations to help them stay ahead of the innovation curve.



Optimizing operations today while building tomorrow's enterprise

Regulatory Compliance: HHS organizations need to shift focus from compliance to care and service. Our future-proof solutions for Health Exchanges, eligibility, modernization, ICD-10 transition, and other imperatives enable HHS organizations to quickly adapt to evolving regulatory requirements and connect health and social programs at lower cost and risk.

Connected, Smart, Agile: HHS organizations need to connect with citizens to improve service delivery, become smarter with better decision making, and optimize operations and costs. Our solutions are architected to utilize cloud, mobility, social media, analytics, and other disruptive technologies to address these imperatives and improve mission outcomes.

Distinct solutions delivering value with excellence

Insights from a broader perspective: Our consultants apply best practices from across industries to innovate 'outside-in' and manage transformation e.g. Affordable Care Act in healthcare, consumer engagement in retail, and fraud detection in banking.

Linking strategy to execution: Our value frameworks like IMPACT™ and VRM, excellence centers, and capabilities across consulting, systems integration, IT and business process services ensure robust implementation.

Culture of delivery excellence: Our proven capability and local + global delivery ensure 98% of projects are on time and deliver business value with predictability.

Compliance:

Healthcare Reform and Mandates

- Health Benefit Exchange
- iTransform™ for ICD-10
- EHR Interoperability and Integration



Connected:

Engage Digital Consumers

- Mobile Government
- SocialEdge™ Social Media Platform
- Disease and Wellness Management



Smart:

Leverage Insights and Innovation

- BigDataEdge™ Big Data Analytics Platform
- AssistEdge™ Customer Service Platform
- Hospital Performance Management



Agile:

Optimize Operations and Costs

- Cloud Ecosystem Hub
- IT Modernization
- Shared Services



ENABLING DATA-DRIVEN MANAGEMENT OF GOVERNMENT HEALTH AND HUMAN SERVICES PROGRAMS

Optum provides effective business intelligence solutions

— a powerful combination of analytics supported by enterprise data warehousing and user-friendly reporting dashboards and tools — to help government health and human services make sense of the data they possess. Our solutions help turn raw data into understandable and usable information to enable fact-based decisions about how program funds are spent, how services are delivered, how well programs perform, and to provide insight into whether individuals are getting the care they deserve.

REAPING BENEFITS

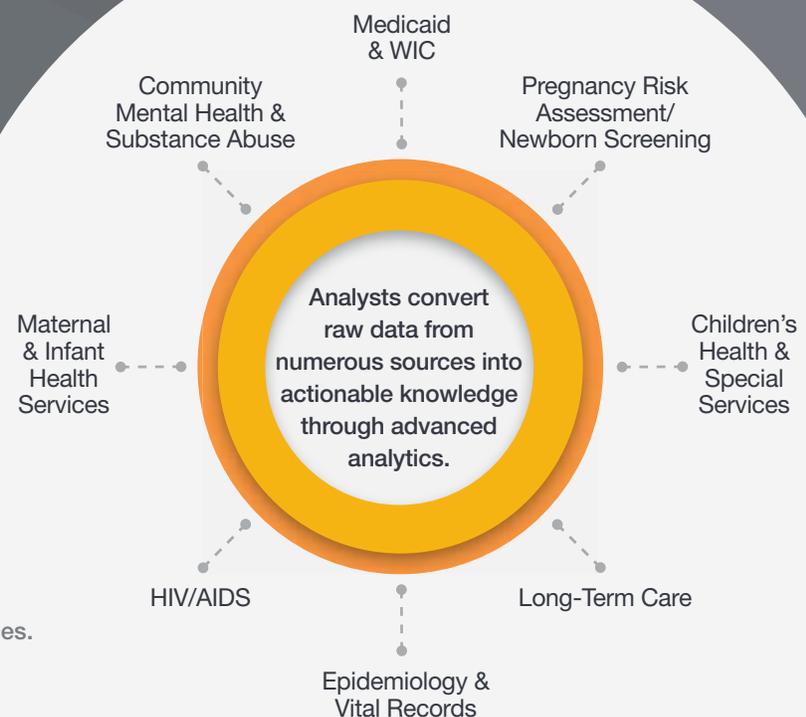
To date, Optum's business intelligence solutions have provided documented cost savings and financial benefits in excess of \$3 billion to states across the country. In fact, OptumInsight solutions help effectively manage programs and services that cover one of every four Medicaid recipients—approximately 15 million people.

The state of Michigan's Enterprise Data Warehouse (EDW) links data across multiple sources to enable the sharing of data. Today nearly 10,000 users in five major departments, 20 agencies, and more than 100 bureaus rely on the EDW to do their job more effectively and better serve Michigan residents with health and human services programs, the courts and treasury. Vital activities such as tracking children across state programs, monitoring long-term health outcomes, and clamping down on fraud and abuse are bringing real results. Michigan recently acknowledged to *Forbes Magazine* that the EDW helps save approximately \$1 million per business day, or more than \$250 million per year.

START NOW

Optum counsels that instead of ripping and replacing existing IT systems, states should begin by working within the framework of the Medicaid Information Technology Architecture (MITA), a national initiative supporting IT modernization. Optum suggests that states:

- Start with a few systems integrated into an enterprise-wide data warehouse, and add additional phases over time.
- Adapt existing systems to a modern, flexible service-oriented architecture.
- Add business intelligence and analytics, and tools such as dashboards for consistent reporting and monitoring.
- Create a governance process that manages data sharing, related conflicts between agencies, privacy and data security.
- Secure the support of the state legislature.



ADVANCED HEALTH CARE ANALYTICS

Health and human service agencies store and process significant volumes of raw data, often from disparate sources. Transforming this data into actionable information drives better decisions, reduced costs and improved health care.

Sponsored Content



Optum is transforming the performance of state and federal government health and human services programs with a broad array of population health services, advanced analytics, and information technology solutions that drive better decisions and results.

To learn more, visit Optum at www.optum.com/government.



Building a Smarter Planet one city at a time.

On a smarter planet, governments promote the economic health, welfare and security of their citizens. Through a unique combination of industry experience and expertise, IBM is helping governments drive transformative change, improve organizational accountability, reduce risk, create a citizen-centered experience and strengthen security and public safety. With years of valued relationships and experience serving all levels of government worldwide, we are equipped to provide end-to-end business and technology solutions to help governments to address some of society's most critical problems.

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