# The difficulties of Healthcare.gov need to be seen in the context of an acrimonious political climate and the poor record of large and complex IT projects.

The past week has seen enormous criticism leveled at the rollout of the Affordable Care Act's online enrollment platform, HealthCare.gov. **Jane E. Fountain** *looks at the development of HealthCare.gov, and argues that the present delays and difficulties must be seen in the wider context of an incredibly complex system across public and private sectors, involving 55 contractors, five government agencies, 300 insurers and the integration of many new and old software components. With enrollments continuing, and the Obama administration's attention focused on the problem, current critiques should be seen as making political theatre out of bumps in the road.*

The Patient Protection and Affordable Care Act is a sea change for healthcare in the United States–for Americans who need access to affordable care and for the healthcare industry, currently a multi-faceted behemoth of hospitals, pharmaceutical firms, insurance companies, and myriad other organizations. The compromise law includes an individual mandate: it requires Americans and their dependents to obtain health insurance or to pay a penalty. The initial rollout of the HealthCare.gov online enrollment platform revealed a lack of capacity to meet the enormous initial volume and other system and software errors causing screens to freeze, the system to crash and other problems. The extent and seriousness of these errors, their underlying causes, are being evaluated. Given the pitched battle fought to pass the Affordable Care Act and the ongoing, determined efforts of an opposition to dismantle or disrupt the law and its implementation, it was politically necessary, even if technologically foolhardy, for the launch to occur on schedule–whether or not the system was ready. That these events took place amid a shutdown of the world's largest government is essential to understanding the political context of the launch.

What are the facts? A search for facts has been obscured by insistent fear mongering in a political discourse rife with hyperbole and exaggeration abetted by attention-grabbing headlines in media reports and outlets that offer few facts. Social media exacerbates the problem: the medium loves scandal. But ultimately the experiences of millions of Americans seeking health insurance and using the HealthCare.gov enrollment and purchasing site means that those millions of encounters should paint a fairly accurate picture from the perspective of system users.
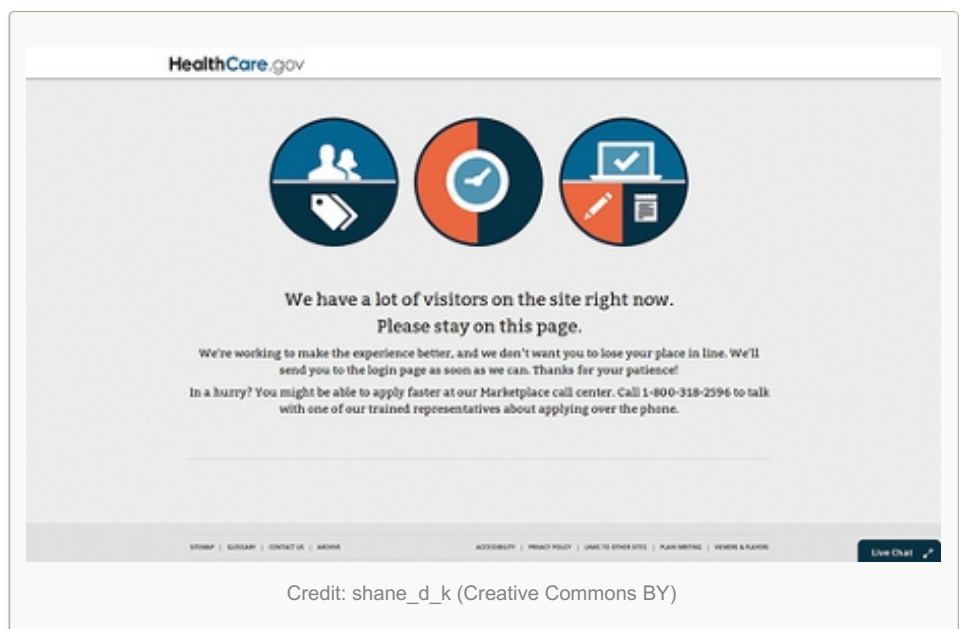
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Unexpectedly high initial volume

In all, the U.S. operates 17 state-run healthcare exchanges plus the federal exchange. The federal government operates exchanges for 34 states, some of whom are unable to provide such exchanges and others of whom were politically opposed to the Act. Many state exchanges work well: in New York, Maryland, and Kentucky, for example sites were overwhelmed by traffic during the hours following the initial launch, but by the evening of October 1

most problems were resolved.

Figures concerning early use of the system are yet well compiled and not always easily interpreted. The Pew Research Center reported on October 4 that 4.7 million unique visitors went to HealthCare.gov during its first 24 hours. According to Pew, 56 percent of those surveyed said that they personally found the site to be very or fairly easy to use; 40 percent said it was difficult to use. Pew found that one out of 7 Americans had visited an exchange website, but more than half who visited were merely curious, those with insurance and thus ineligible. About one third of visitors were uninsured. Moreover, people going to an exchange may be searching for private health plans or for Medicaid, which is expanded under the Affordable Care Act.

On October 20 the Associated Press reported that about 476,000 applications for health insurance had been filed under the new systems. Millward Brown, a digital marketing company, estimated that 83,000 people enrolled through the federal site in the first two weeks. The White House reported that by October 22 about 20 million people had visited HealthCare.gov. Projecting into the future, the U.S. Congressional Budget Office estimates seven million sign-ups in the first six months of the law's implementation.

To help citizens, the administration has encouraged phone sign-ups and has increased by 50 percent staff in call centers. A large contract was awarded to Serco, a firm that will oversee paper-based applications for healthcare. The firm will enter data manually to the system. Given that most online services continue to need robust call centers, the Affordable Care Act will continue no doubt to be implemented across multiple channels including online, telephone, face to face and postal service.

Is buying health insurance like buying a place ticket?

HealthCare.gov is not exactly like Amazon.com. Clearly, when one buys a plane ticket or a book one does not enter household income to see what pricing tier or subsidies are available. And although credit card information wil be verified, that's more simple than having citizenship, identity, income and several other attributes of eligibility verified – before one can even shop. On Amazon and other consumer sights, one is typically making one-time purchases. Consumer fraud, more prevalent that most people realize, is passed on to consumers via higher prices and minimally reported in the press. Politically, instances of fraud as part of the implementation of the Affordable Healthcare Act would provide potent ammunition to opposition groups. So preventing stories of "fraud, waste and abuse," is paramount, which means strict eligibility determinations, which translates into wait time. The federal exchange is not a standard consumer website. The site combines a portal, transaction processing, and business analytics to help people select and enroll for insurance and to apply and receive government subsidies through a virtual experience that is meant to be seamless. In fact, more than five government agencies, 300 insurers, 55 contractors and, not least, new and old software components are stitched together (integrated) to create this one-stop shop.

Is HealthCare.gov a typical government IT contract?

The two main parts of HealthCare.gov are the front end and a back end. The front end was actually developed by a startup company with other consultants and was originally hosted on the public GitHub library. (GitHub, Inc. is a web platform for collaborative software development, both open source and private, and calls itself the world's largest open source community.)

Fifty-five contractors have developed the components of the back end. CGI Federal, the prime contractor, and 54 other contractors each has developed software which then had to be integrated by the Centers for Medicare and Medicaid Services (CMS) at the U.S. Department of Health and Human Services (HHS) into the comprehensive healthcare.gov system. CGI Federal, whose parent company is the fifth largest independent IT and business processing company in the world, is also the developer of several of the state healthcare exchanges. CGI is the prime contractor for the state healthcare exchanges in Colorado, Hawaii, Massachusetts and Vermont. They are a sub contractor in California, Kentucky and New Mexico. The company recently delivered the FederalReporting.gov site, a government-wide system for reporting federal awards made under the Recovery Act, which requires quarterly reporting for contracts, grants and loans made under the Act. The firm also developed Medicare.gov, which allows 50 million beneficiaries to compare health and drug plans.

The *New York Times* reported that CMS changed system requirements seven times during the past 10 months. Many experts knew all too well that the system was not ready for a smooth implementation, but the political pressure to implement the Affordable Care Act forced the agency to move forward correcting errors after the initial launch. Testimony at a recent Senate hearing revealed that end-to-end testing to examine the integration across the work of the 55 contractors was not done until two weeks before the launch and failed miserably. A group of insurance firms who tested the system a month before it was to go public counseled the Department of Health and Human Services not to launch because of system problems. According to the *Washington Post,* a week before going public the system had not once been tested to determine if a single user would be able to work through the entire process online.

HealthCare.gov is a $400 million system. To put the project into perspective: for the 2013 fiscal year the Department of Health and Human Services will spend $7.4 billion on IT, less than 10 percent of the agency budget. The two largest IT projects are the National Institutes of Health IT infrastructure at $375.9 million and the Food and Drug Administration operational IT infrastructure at $204.98 million. (All of the federal government's IT projects, their contractors and spending are available on the IT dashboard at https://www.itdashboard.gov and at https://www.usaspending.gov.)

Integrating across 55 contractors would be challenging in any sector–public, non-profit or private. In the testimony of four key contractors on October 24, 2013 before members of the House Committee on Energy and Commerce, each of the four contractors was adamant that their firm's components were thoroughly tested. It is not yet known what the implications for the project have been from having the Centers for Medicare and Medicaid Services (CMS) serve as the system integrator. A late-in-the-game decision was made by CMS to require users to register before browsing for plans. This would reduce use of the site by casual visitors or, possibly, by those who might

Cheryl Campbell, Senior Vice President at CGI Federal gives testimony to House Energy and Commerce Committee 24 October

flood the site to degrade performance. But given problems with the registration and account set-up modules, the "front door" problems led to most initial frustration. More troubling, though, are reports that incorrect and incomplete information has been sent from the site to insurers, via the 834 forms, indicating backend problems that will have to be corrected. According to testimony by Cheryl R. Campbell, a senior vice president of CGI Federal, the company views these problems as "isolated and not a problem for all insurers." They regard them as part of "our normal defect build process". When an issue comes into the contact center, a trouble ticket is generated, these are prioritized with CMS, the client, and the problems are worked on to fix the coding errors that have produced them.

The public will learn more about decisions made as CMS and HHS officials begin to testify under oath to Congress during the week of 28 October. The Senate Energy and Commerce Committee hearing on 24 October, nearly four hours long, with four system contractors seemed like the warm-up act for hearings with government officials to follow.

The high failure rate for large, complex IT projects

It is well known that large, complex IT projects often fail miserably; the rate of delay, problems, cost overruns and outright failure is higher still for government IT projects because of greater constraints in contracting and, possibly, less IT expertise in most governments to design, manage and monitor projects. But the record in business may not be much stronger except for a greater willingness to kill unsuccessful projects faster. Business sector IT projects are not typically embroiled in political battles. Two examples of IT failure, of many, will remind readers of the familiar tale of large-scale IT project debacles.

In 2010, the Secure Border Initiative-Network (SBInet), a border surveillance system for the U.S. Customs and Border Protection under contract with Boeing, was over budget and behind schedule with software during the initial stages that failed to work. In 2006, a three-year indefinite delivery-indefinite quantity contract had been signed with Boeing to build the system with three optional one-year contract extensions. Between 2006 and 2009, Customs obligated $1.1 billion to Boeing. In January 2011, the Department of Homeland Security canceled the remainder of the contract following a major re-evaluation of the program.

Security is not the only site for IT project failures. In the late 1980s, the Internal Revenue Service (IRS) launched a major modernization effort, the Business System Modernization program. After spending $2 billion over eight years, agency heads testified to Congress that the new system resulted only in marginal improvements. In 1998, the IRS made a fresh start with a new $5 billion contract to CSC. The Customer Account Data Engine (CADE) was the centerpiece of the effort. The system processed 30.3 million returns in 2008 up from 11 million processed in 2007. But the IRS stopped work on CADE due to complexities in system development and as part of a rethinking of the agency's strategy for handling taxpayers' accounts. Its proportion of call center volume had decreased. Web traffic had increased. In short, the environment had changed.

In light of these billion dollar projects, the $400 million price tag so far for the HealthCare.gov should be viewed in a different perspective. And few government IT projects will face the intense public scrutiny of HealthCare.gov.

Where to from here?

The Obama administration has initiated a "tech surge" ramping up the expertise devoted to correcting problems with HealthCare.gov. Jeffrey Zients will spend the next few months at HHS to lead the effort. Zients is a business entrepreneur and consultant, the president's former acting director of the Office of Management and Budget and the country's first Chief Performance Officer that has served the president well in past assignments. He returned to the administration to lead the National Economic Council but will serve a short-term assignment at HHS. The tech surge includes also some of the Presidential Innovation Fellows–a group of outstanding innovators from universities, private firms and non-profits who do a 6 to 13 month "tour of duty" in the government to tackle challenging and important projects for the country–and Verizon.

The full attention of the administration is fixed on this problem. Unless there are serious underlying design flaws that cannot be fixed, meaning a system that has to be scrapped, the errors in the current system will be remedied. The fact that CGI has developed several of the state-level exchanges is cause for some optimism. Given the acrimonious political climate, sequestration and other budget strictures at federal agencies, a government shutdown, the historically poor record of large and complex IT projects, and the ambitious timeline to develop and launch HealthCare.gov it would have been miraculous for the government to have produced a well-functioning system on day one. Academics should be cautious, but my hopeful estimate is that in the long run, few will remember these opening glitches as much more than political theater and bumps in the road.

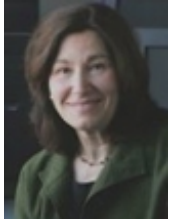*Please read our comments policy before commenting.*

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