U.S. Department of Health and Human Services
Office of Inspector General

HealthCare.gov

CMS Management of the Federal Marketplace

A Case Study

OFFICE OF INSPECTOR GENERAL

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EXECUTIVE SUMMARY

FOREWORD

This case study examines implementation of HealthCare.gov and the Federal Marketplace by the Centers for Medicare & Medicaid Services (CMS), from passage of the Affordable Care Act (ACA) in 2010 through the second open enrollment period in 2015. As required by the ACA, HealthCare.gov is the Federal website that facilitates purchase of private health insurance for consumers who reside in States that did not establish health insurance marketplaces. At its launch on October 1, 2013, and for some time after, HealthCare.gov users were met with website outages and technical malfunctions. After corrective action by CMS and contractors following the launch, CMS ended the first open enrollment period with 5.4 million individuals having selected a plan through the Federal Marketplace.

In our oversight role for the Department of Health and Human Services (HHS), the Office of Inspector General (OIG) has a significant body of ongoing and planned audits and evaluations regarding the Federal Marketplace and other ACA provisions of high interest and concern to HHS, Congress, and other stakeholders. These include reviews and suggestions for improvements related to the accuracy of Federal financial assistance payments; verifications of eligibility determinations for insurance, premium tax credits, and cost-sharing reductions; and CMS's management of marketplace contracts and the security of personal information. OIG reports about the marketplaces are available online at www.oig.hhs.gov/reports-and-publications/aca/, and additional information about our planned and ongoing work is available online in OIG *Work Plan* documents at http://www.oig.hhs.gov/reports-and-publications/workplan/index.asp.

ABOUT THIS CASE STUDY

The objective of this case study was to gain insight into CMS implementation and management of the Federal Marketplace, focusing primarily on HealthCare.gov. Our review spans 5 years, providing a chronology of events and identifying factors that contributed to the website's breakdown at launch, its recovery following corrective action, and implementation of the Federal Marketplace through the second open enrollment period. OIG calls on CMS to address identified problems and employ lessons learned from management of this project to avoid future problems with program implementation and to further strengthen CMS. In conducting this review, we interviewed 86 current and former HHS and CMS officials, staff, and contractors involved with the development and management of the website. We also reviewed thousands of HHS and CMS documents, including management reports, internal correspondence, and website development contracts.

WHAT WE FOUND

The development of HealthCare.gov faced a high risk of failure, given the technical complexity required, the fixed deadline, and a high degree of uncertainty about mission, scope, and funding. Still, we found that HHS and CMS made many missteps throughout development and implementation that led to the poor launch. Most critical was the absence of clear leadership, which caused delays in decisionmaking, lack of clarity in project tasks, and the inability of CMS to recognize the magnitude of problems as the project deteriorated. Additional HHS and CMS missteps included devoting too much time to developing policy, which left too little time for developing the website; making poor technical decisions; and failing to properly manage its key website

> ## WHAT'S INSIDE THIS REPORT
>
> › **Detailed chronology** of CMS's **development and implementation** of the Federal Marketplace and HealthCare.gov in four chapters:
>
>   › Preparation & Development
>   › Final Countdown to Launch
>   › Launch, Correction, & First Open Enrollment
>   › Turnaround & Second Open Enrollment
>
> › **Key Contributing Factors** to the website **breakdown and recovery**
>
> › **Call for continued progress** with **Lessons Learned** for ongoing CMS management of HealthCare.gov
>
> › **Glossary** of key terms

development contract. CMS's organizational structure and culture also hampered progress, including poor coordination between policy and technical work, resistance to communicating and heeding warnings of "bad news," and reluctance to alter plans in the face of problems. CMS continued on a failing path to developing HealthCare.gov despite signs of trouble, making rushed corrections shortly before the launch that proved insufficient. These structural, cultural, and tactical deficiencies were particularly problematic for HealthCare.gov given the significant challenges of implementing a new program involving multiple stakeholders and a large technology build.

Following the launch on October 1, 2013, CMS and contractors pivoted quickly to corrective action, reorganizing the work to focus on key priorities and to improve execution. This required significant and focused effort to measure website performance, correct problems with website capacity and functions, and establish a new project structure. Key factors that contributed to recovery of the website included CMS adopting a "badgeless" culture for the project, wherein all CMS staff and contractors worked together as a team, and a practice of "ruthless prioritization" that aligned work efforts with the most important and achievable goals. CMS recovered the HealthCare.gov website for high consumer use within 2 months, and adopted more effective organizational practices, such as closer integration of policy and technical functions, developing redundancies in anticipation of problems, and flexibility in learning from and modifying processes.

CALL FOR CONTINUED PROGRESS

CMS continues to face challenges in implementing the Federal Marketplace, and in improving operations and services provided through HealthCare.gov. As of February 1, 2016, CMS reported that over 9.6 million consumers had selected a health plan through the Federal Marketplace or had their coverage automatically renewed. As CMS moves forward, challenges include completing the automated financial management system and continuing to address areas OIG has identified in past reports as problematic or needing improvement. The agency has focused on this project for years and now must keep attuned to these challenges as it shifts focus to other work.

OIG calls on CMS to continue progress in applying lessons learned from HealthCare.gov to avoid future problems and to maintain improvement across the agency. These lessons comprise core management principles that address both specific project challenges and organizational structure, and could apply to other organizations. CMS concurred with OIG's call for continued progress, stating that it will continue to employ the lessons below and that, since OIG's review, it has implemented several initiatives to further improve its management.

LESSONS LEARNED

❶ **Leadership**
Assign clear project leadership to provide cohesion across tasks and a comprehensive view of progress.

❷ **Alignment**
Align project and organizational strategies with the resources and expertise available.

❸ **Culture**
Identify and address factors of organizational culture that may affect project success.

❹ **Simplification**
Seek to simplify processes, particularly for projects with a high risk of failure.

❺ **Integration**
Integrate policy and technological work to promote operational awareness.

❻ **Communication**
Promote acceptance of bad news and encourage staff to identify and communicate problems.

❼ **Execution**
Design clear strategies for disciplined execution, and continually measure progress.

❽ **Oversight**
Ensure effectiveness of IT contracts by promoting innovation, integration, and rigorous oversight.

❾ **Planning**
Develop contingency plans that are quickly actionable, such as redundant and scalable systems.

❿ **Learning**
Promote continuous learning to allow for flexibility and changing course quickly when needed.

KEY CONTRIBUTING FACTORS TO BREAKDOWN

PREPARATION & DEVELOPMENT
March 2010–December 2012

Policy Development Delays
Initial work to create the Federal Marketplace required extensive policy development that delayed HHS and CMS in planning for the technical and operational needs of the HealthCare.gov website.

Poor Transition to CMS
A poor transition of the Federal Marketplace from HHS to CMS early on caused inefficiencies that resulted in communication breakdowns and needlessly complex implementation.

Lack of Clear Leadership
HealthCare.gov lacked clear project leadership to give direction and unity of purpose, responsiveness in execution, and a comprehensive view of progress.

Mismanagement of Key Contract
CMS mismanaged the key website development contract, with frequent changes, problematic technological decisions, and limited oversight of contractor performance.

FINAL COUNTDOWN TO LAUNCH
January 2013–September 2013

Compressed Timeline for Technical Build
CMS continued to change policy and business requirements, which compressed the timeframe for completing the website's technical development.

Resistance to Bad News
CMS leaders and staff failed to recognize the magnitude of problems, became resistant to bad news about the website's development, and failed to act on warnings and address problems.

Path Dependency
As problems worsened, CMS staff and contractors became path dependent, continuing to follow the same plan and schedule rather than change course as circumstances warranted.

Corrections Weak and Late
CMS attempted last-minute corrections that were weak and too late to effect change, retaining a fixed deadline for launch, despite poor progress.

KEY CONTRIBUTING FACTORS TO RECOVERY

LAUNCH, CORRECTION, & FIRST OPEN ENROLLMENT
October 2013–March 2014

Quick Pivot to New Strategy
CMS and its contractors began correction of website problems immediately following launch, making a quick pivot to change their strategy.

Adoption of Badgeless Culture
CMS and its contractors adopted a badgeless culture that encouraged full collaboration by CMS staff and contractors regardless of employer status and job title, fostering innovation, problem solving, and communication among teams.

Integration of All Functions
CMS integrated all functions into its organizational structure to align with project needs, enhancing CMS and contractor accountability and collaboration.

Planning for Problems
CMS planned for problems, establishing redundant (backup) systems in the event of further breakdowns, and restructuring its key development contract to ensure better performance.

TURNAROUND & SECOND OPEN ENROLLMENT
April 2014–February 2015

Ruthless Prioritization
CMS adopted a policy of ruthless prioritization to reduce planned website functionality, focusing resources on the highest priorities.

Quality Over On-Time Delivery
CMS prioritized quality over on-time delivery, employing extensive testing to identify and fix problems and delaying new website functionality if unready for perfect execution.

Simplifying Processes
CMS simplified systems and processes to enable closer monitoring of progress, increased transparency and accountability, and clearer prioritization.

Continuous Learning
CMS adopted continuous learning for policy and technological tasks, balancing project plans with system and team capacity, and changing course as needed to improve operations.

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BACKGROUND

OBJECTIVE

To evaluate the Department of Health and Human Services' (HHS or the Department) and Centers for Medicare & Medicaid Services' (CMS or the agency) implementation and management of the Federal Marketplace, focused primarily on the development and operation of its website, HealthCare.gov.

PATIENT PROTECTION AND AFFORDABLE CARE ACT

The Patient Protection and Affordable Care Act (ACA) was signed into law on March 23, 2010.[1] The ACA expanded access to health insurance coverage by enacting insurance reforms, requiring many businesses to offer health insurance coverage, and requiring most individuals to obtain coverage. Generally, those who do not comply must pay a penalty.[2] The ACA also required, and provided Federal funding for, the establishment of a health insurance exchange (marketplace) in each State that would be operational on or before January 1, 2014.[3] For States that elected not to establish their own marketplaces, the Federal Government was required to operate a marketplace on behalf of the State.[4] The marketplaces provide those seeking health insurance a single point of access to view qualified health plan (health plan)[5] options, determine eligibility for coverage, and purchase insurance coverage. Individuals also use the marketplaces to determine eligibility for insurance affordability programs (e.g., Medicaid, premium tax credits, and cost-sharing reductions) that lower insurance premiums and costs of care.[6] At the beginning of the third open enrollment period, November 1, 2015, the Federal Government operates a marketplace (Federal Marketplace) for 38 States, including 7 State-partnership marketplaces for which HHS and the State share responsibilities for core functions and 4 Federally supported State marketplaces in which States perform most marketplace functions.[7] Thirteen States (including the District of Columbia) operate their own marketplaces.[8]

The ACA required the Secretary of HHS to specify an initial open enrollment and annual open enrollment periods each subsequent year during which individuals may enroll in a health plan.[9] The first open enrollment period was 6 months in duration, lasting October 1, 2013–March 31, 2014.[10] The second open enrollment period was 3 months in duration, lasting November 15, 2014–February 15, 2015.[11] Special enrollment periods (SEP) allow consumers who experience certain life changes or other circumstances to purchase insurance outside of open enrollment,[12] and CMS has several times offered SEPs to provide other consumers additional time to purchase plans when situations beyond their control limited their ability to select a plan during open enrollment.[13]

After several challenges to the ACA, the Supreme Court heard two cases about the constitutionality of certain provisions of the Act. In June 2012, the Court upheld the mandate that most individuals must have health insurance, but ruled unconstitutional the requirement that States expand their Medicaid programs.[14] The Court ruled in June 2015 that the ACA provides premium tax credits for insurance purchased through all marketplaces, Federal and State.[15] Several Federal court challenges to the ACA are pending.

CENTERS FOR MEDICARE & MEDICAID SERVICES

CMS, an agency within HHS, has had responsibility for managing the marketplace programs since January 2011.[16] CMS manages more than 85 percent of HHS's $1.2 trillion budget, primarily for operation of the Medicare and Medicaid programs.[17] To implement the ACA provisions related to the marketplaces, CMS worked in collaboration with public and private entities, including other Federal agencies as required by the ACA,[18] State Medicaid agencies, private contractors, health insurance issuers (issuers), and not-for-profit organizations.

CMS has core responsibility for operation of the Federal Marketplace. In this role, CMS must ensure accurate eligibility determinations, process enrollments, facilitate Medicaid enrollment for those who qualify, and communicate timely

and accurate information to issuers and consumers. CMS also provides support functions for the State marketplaces and administers Federal financial assistance and premium stabilization programs related to the marketplaces. See Appendix A for a list of the referenced HHS and CMS divisions involved in the Federal Marketplace.

HEALTHCARE.GOV

HealthCare.gov is the public website for the Federal Marketplace through which individuals can browse health insurance plans, enroll in coverage plans, and apply for Federal financial assistance to help cover the premium and other costs. The Federal Marketplace links consumers from HealthCare.gov to multiple supporting systems that facilitate the enrollment process and payment to issuers. For purposes of this report, key components of HealthCare.gov and the Federal Marketplace include:

› **Enterprise Identity Management (EIDM) system**, which was used during the first and second open enrollment periods to enable consumers to create accounts and verify their identities. The EIDM was developed to support multiple CMS systems.

› **Federally-facilitated Marketplace (FFM)**, the core of the overall Federal Marketplace system, which includes three main subcomponents to facilitate various aspects of acquiring health insurance:

   o *Eligibility and Enrollment* determines consumer eligibility for health plans and Federal financial assistance and manages enrollment transactions with issuers,

   o *Plan Management* coordinates with issuers to determine coverage specifics, and

   o *Financial Management* tracks effectuated enrollments (wherein the consumer has selected a plan and also paid the premium), and manages payments to issuers for Federal financial assistance (premium tax credits and cost-sharing reductions) and premium stabilization.

› **Data Services Hub (Hub)** routes information requests from the Federal and State marketplaces and Medicaid/ Children's Health Insurance Program (CHIP) agencies to other Federal agencies and back, such as to and from the Internal Revenue Service (IRS) and the Social Security Administration (SSA).

SCOPE

This case study evaluates HHS and CMS implementation and management of the Federal Marketplace, primarily the website HealthCare.gov. Our review is limited to the actions of HHS and CMS personnel and divisions and their contractors, spanning from passage of the ACA in March 2010 through the end of the Federal Marketplace second open enrollment period in February 2015. See Appendix B for a timeline of key implementation dates.

METHODOLOGY

To evaluate HHS and CMS management of HealthCare.gov, we based our review on analysis of data from three sources:

› **Interviews with officials and staff from HHS, CMS, contractors, and other stakeholders**: We conducted interviews with 86 respondents, individually or in small groups, regarding their roles and involvement during the implementation of the Federal Marketplace, the strategy for development, factors that contributed to the website problems, and actions taken to address those problems. We present interview data in the report in both aggregate analysis and individual quotations.

   o *HHS senior leadership at the time of the HealthCare.gov launch*—respondents included the Secretary, Deputy Secretary, Assistant Secretary for Administration, Assistant Secretary for Financial Resources, Senior Counselor, Chief Information Officer (CIO), and Chief Technology Officer (CTO).

   o *CMS senior leadership at the time of the HealthCare.gov launch and after*—respondents included the Administrator, Principal Deputy Administrator and Acting Administrator, Chief of Staff, Chief Operating

Officer (COO), Chief Financial Officer (CFO), and Deputy Administrators for the Center for Consumer Information and Insurance Oversight (CCIIO) and Center for Medicaid and CHIP Services (CMCS).

- o *CMS leadership and CMS staff*—respondents included Directors and Deputy Directors for the Office of Information Services (OIS) and Office of Acquisition and Grants Management (OAGM), Director for the Office of Communications (OC), and Deputy Directors for CCIIO. We also interviewed key staff such as a Regional Administrator managing the Consortium for Medicare Health Plans Operations, and CMS Government Task Leaders who were the technical representatives responsible for monitoring HealthCare.gov contractors' technical progress.
- o *Contractor representatives*—respondents included representatives from Accenture Federal Services, LLC (Accenture); CGI Federal Services, Inc. (CGI Federal); Quality Software Services, Inc. (QSSI); and Terremark Federal Group, Inc. (Terremark).
- o *Other stakeholders*—respondents included a small number of others involved in the HealthCare.gov project or in a position to observe the project, including navigators hired to assist consumers in selecting plans and research organizations studying the ACA.

› **Documents from HHS and CMS**: We used records management software to search through approximately 2.5 million project management documents and correspondence. The documents included presentations, memorandums, emails, meeting agendas, status reports, technical requirement documents, and documentation exchanged between CMS and other entities, such as contracts and Technical Direction Letters.

› **External documents and witness testimony**: We reviewed independent research and analysis about the Federal Marketplace and the implementation of large information technology (IT) projects from other Government agencies and independent research organizations. We also reviewed written and oral testimony to Congress by HHS and CMS staff and other stakeholders regarding HealthCare.gov.

LIMITATIONS

Although we believe the nature and extent of our review provided a sufficient basis for our findings, we note two potential limitations: (1) we purposively selected respondents at HHS, CMS, contractors, and stakeholders for interviews based on our review of HHS and CMS documentation and discussions with experts, but we did not interview all persons involved; and (2) CMS provided access to a large number of documents on the basis of search terms and parameters provided by OIG. We reviewed documents selectively on the basis of relevance to our objective as determined by OIG.

RELATED OFFICE OF INSPECTOR GENERAL REPORTS

This report is one in a series of OIG reports that evaluate the Federal and State marketplaces. OIG found a number of problems with CMS's implementation of the Federal Marketplace, including that CMS did not adequately plan for and monitor contracts and that CMS could not verify the accuracy of payments to issuers. OIG also identified areas for improvement in CMS eligibility verification and information security controls. OIG posts all ACA-related reports on its website (www.oig.hhs.gov/reports-and-publications/aca/) and continues its oversight of the marketplaces as articulated in the OIG *Work Plan* (http://oig.hhs.gov/reports-and-publications/archives/workplan/2015/FY15-Work-Plan.pdf) and the Health Reform Oversight Plan (http://oig.hhs.gov/reports-and-publications/archives/workplan/2015/health-reform-plan-2015.pdf).

STANDARDS

This study was conducted in accordance with the Quality Standards for Inspection and Evaluation issued by the Council of the Inspectors General on Integrity and Efficiency.

CHAPTER 1

PREPARATION & DEVELOPMENT

March 2010–December 2012

"Marketplace" as a label for the insurance program evolved over time. Early implementation used the term "exchange" or "HIX" for Health Insurance Exchange.

The ACA's system for individuals to purchase private health insurance and enroll in Medicaid was a topic of heated debate in Congress, States, and the media before and after the law's passage. Twenty-six States filed suit against the Federal Government regarding various aspects of the ACA within the first year after passage, and in the 6 years since, the U.S. House of Representatives has taken more than 60 votes to change or repeal the ACA.[19] Those in HHS responsible for execution of the program reported that these debates and uncertainties over the ACA's policies had ramifications throughout development and implementation of the Federal Marketplace. As is often the case with complex legislation, many regulations and other guidance documents were needed to implement the ACA. HHS had significant responsibility for implementing marketplace operations in accordance with statutory requirements and timeframes. The ACA provided for significant flexibility in implementation, for example, leaving States to decide whether they would operate their own marketplaces or participate in a national, Federally-run marketplace.[20]

HHS initially housed the marketplace project in a new office that made early gains, but was hindered by limited resources and competing expectations

The "first" HealthCare.gov

HealthCare.gov "Plan Finder" was an early browsing website created by HHS in 3 months and cost approximately $17 million.

HHS launched the HealthCare.gov "Plan Finder" website and established a new office to manage the marketplaces. From the outset, implementing the ACA required HHS to meet multiple priorities, including many provisions unrelated to the marketplaces. A former HHS official reflected, "There were hundreds of things that needed to be done, and the Marketplace was just one." A number of ACA provisions had early delivery dates for HHS. This included the initial HealthCare.gov website, "Plan Finder," a browsing website to provide health plan information to consumers but without the functionality to purchase plans or apply for Federal financial assistance.

The ACA required that HHS establish the browsing website by July 1, 2010.[21] A small team of technical experts from HHS and the White House worked "around the clock" to complete the HealthCare.gov Plan Finder website. The website launched in July 2010 with general plan information, and was upgraded in December 2010 with functionality for consumers to enter

information about themselves and receive an estimate of their health plan premiums.[22] HHS reported that the website functioned smoothly and received approximately 2 million visitors from July 2010 to July 2011.[23] HHS and CMS staff later said that the relative ease with which HHS built the browsing website may have contributed to underestimation of the resources and time required to build the much more complex full HealthCare.gov website planned for launch on October 1, 2013.

HealthCare.gov Plan Finder Homepage, July 1, 2010.

At the same time that HHS was developing the browsing website, it began planning for the establishment of the Federal and State marketplaces that would facilitate health plan coverage for consumers by January 1, 2014. In April 2010, HHS created the Office of Consumer Information and Insurance Oversight (OCIIO) to oversee implementation of the ACA provisions related to private insurance.[24] Meanwhile, HHS continued its broader focus on all provisions of the law. OCIIO was to serve as a coordination point between the Department, issuers, and other Federal (e.g., IRS, SSA) and State partners, and to begin putting into operation the way in which individuals would purchase insurance.

HHS officials indicated that the private insurance aspect led HHS to establish OCIIO as its own staff division in the Office of the Secretary, rather than assign the program to CMS, its Medicare and Medicaid operating division. HHS staffed OCIIO with both long-time Federal employees, many

> *"The single most important thing was the insurance part had to work."*
> —Former HHS official

from CMS, and those with expertise in the private insurance market, such as former officials of State Departments of Insurance. OCIIO in 2010 had direct hiring authority that allowed flexibility to assist HHS in expeditiously filling vacant positions when facing a critical hiring need. OCIIO focused largely on developing and obtaining approval for the many regulations required to implement private insurance reforms and establish the Federal and State marketplaces.[25] It also worked with a contractor to create an initial blueprint of critical tasks.

According to interview respondents who worked in OCIIO at that time, the focus was on policy development and not yet on operational issues, such as development of the full website intended for the 2013 launch.

OCIIO's chief objectives, according to former officials, were to publish the regulations that laid out how the Federal and State marketplaces would work, and to coordinate the participation of the partners necessary to make the marketplaces work, including

> *"Of course issuers were going to participate. It is a huge new market where people are compelled to buy this new product. There was money to be made."* —Former OCIIO official

States, issuers, consumers, other Federal agencies, and private entities.[26] Former OCIIO officials reported in interviews they were most concerned with ensuring the participation of issuers, which were needed to submit health plans for purchase on the marketplaces. Officials worried that issuers would be reluctant to submit plans due to concern about new requirements for coverage, the process for marketplaces to approve plans, and uncertainty about establishing premium rates not knowing the size of the population to be covered and what health care services this new insurance population required. A former OCIIO official later discounted concern over issuer participation, stating, "Of course issuers were going to participate. It is a huge new market where people are compelled to buy this new product. There was money to be made." Still, at a minimum, OCIIO was tasked with developing a new and complex system that required the collaboration of multiple entities, each with its own incentives and requirements.

> " *We didn't want people to walk into the store and not have anything on the shelf.* –Former HHS official

HHS officials had competing predictions for whether marketplaces would be State or Federal. Both HHS and States faced uncertainty regarding whether States would build their own marketplaces or default to the Federal Marketplace. Interviews with former OCIIO officials indicated that the conventional wisdom among leadership at HHS in 2010 was that most States would choose to establish their own marketplace, with as few as eight States participating in the Federal Marketplace. They reasoned that State leaders would want autonomy and to avoid participating in a large Federal program, and that States would be enticed by Federal Establishment Grants that provided money to build and operate State marketplaces. To build their own marketplace, States had to complete a considerable number of tasks, including passing State legislation in some cases. Interviews and documentation indicated that some in HHS focused on encouraging States to build their own systems, while others in HHS predicted that it would be too difficult for State Governments to build individual marketplaces, politically and operationally, so they would default to the Federal Marketplace. HHS officials recalled an expected sense of failure among some States that opted to join the Federal Marketplace because they "did not think they could pull it off, were too small, and didn't have the issuer base to finance the user fees." In other cases, State legislatures did not authorize the creation of a State marketplace. One HHS official explained that some States "did not want to touch Obamacare." (HHS delayed the deadline for States to make this

decision several times, and it was ultimately early 2013 before it was clear which States would join the Federal Marketplace for the first open enrollment period.[27])

HHS determined that OCIIO was ill-equipped to manage such a large and complex project. Although OCIIO provided HHS with a program and staff focused on the marketplaces, it had a relatively small number of staff and lacked the infrastructure and budget of an operating division. OCIIO did not possess basic in-house operations, including contracting and technological support. It also had few technical staff, rendering it ill-equipped, in HHS's view, to manage such a large project. CMS's decades-long experience administering large Government programs made it the frontrunner to replace OCIIO in managing the marketplaces. CMS had a large infrastructure from which the Federal Marketplace program could benefit, including technical and operational staff. Some in favor of assigning the Federal Marketplace operations to CMS wanted to employ existing expertise and infrastructure rather than build the Federal Marketplace program from scratch, with one CMS official arguing that the Medicare program had "much of the same operational DNA" that would be needed for the Federal Marketplace. Other officials in HHS argued against the move to CMS, contending that identification with CMS (as the operator of Medicare and Medicaid) might cloud the program's objective as a market for private insurance.

In January 2011, 10 months after OCIIO's inception, HHS transitioned the marketplace project from OCIIO in the Office of the Secretary to CMS.[28] Those involved in the decision reported that it was driven largely by the idea that CMS's available funding and substantial existing infrastructure could help support marketplace functions. The ACA provided a $1 billion Health Insurance Reform Implementation Fund to help pay for the administrative costs of implementation of ACA, but HHS ceded over half of these funds to the IRS and other Departments to support ACA implementation.[29] Given that the Congressional Budget Office predicted a $5-10 billion cost of implementation to HHS over the 2010–2019 period, HHS faced a substantial funding shortfall.[30] In addition, several HHS officials perceived that embedding the project in CMS may have helped those responsible for developing the marketplaces to avoid distractions from ongoing debate about the ACA. They believed that incorporating the project into the larger organization might help to avoid line-item scrutiny of its budget execution by critics.

Integrating into a large organizational structure at CMS brought new challenges to the Federal Marketplace project, primarily caused by unclear project leadership

The move to CMS separated marketplace staff into different divisions. The transition to CMS after 10 months in the Office of the Secretary under OCIIO provided the expected benefits of greater resources, but also brought drawbacks. Most OCIIO staff and leadership previously working together were split into two CMS divisions: (1) policy and business operations management staff went to the newly created CMS CCIIO, responsible for establishing Federal and State marketplace policies; and (2) technical and contract management staff went to the existing OIS, which coordinated the technical aspects of the HealthCare.gov website development (website build). Other Federal Marketplace responsibilities were folded into existing CMS divisions. Most notably, the CMS Office of Acquisition and Grants Management

(OAGM) was responsible for managing the Federal Marketplace contracts, the Office of Financial Management (OFM) was responsible for the Federal Marketplace budget, and the Office of Communications (OC) was responsible for interaction with consumers. CMS's Center for Medicaid and CHIP Services (CMCS) also played an important role in coordinating the application form that marketplace consumers would use to apply for assistance. The application would enable consumers to apply for: coverage in a health plan, advance payments of the premium tax credit, cost-sharing reductions, Medicaid, and CHIP. Given the shared application form, CMCS had much to gain from a successful Federal Marketplace that effectively facilitated Medicaid enrollment.

In addition, key Federal Marketplace staff were located in offices apart from either CMS or HHS headquarters, which contributed to communication problems and a sense of separateness. The office space for both CCIIO and OIS staff assigned to the marketplaces remained in the existing OCIIO space in Bethesda, MD, a 45-minute drive from the main CMS campus in Baltimore, MD. The decision to stay in the existing location rather than move to CMS's main campus was attributed to the desire to retain former private sector employees who lived in the greater Washington, DC, area and were unwilling to travel to suburban Baltimore. Some CMS staff reported that the separate location in Bethesda may have exacerbated problems communicating with other CMS divisions, particularly in the case of OIS technical development staff located in Bethesda but reporting to the larger OIS organization in Baltimore. The use of multiple locations in the Washington, DC metropolitan area was not new for CMS, with its agency headquarters in several separate buildings in Baltimore and senior officials in Washington, DC (in addition to substantial staff in 10 regional offices throughout the country). Many rooms were equipped for video conferencing, and staff had access to daily shuttles between locations and remote access to computer systems. Still, even with these technical capabilities, the Bethesda location for CCIIO, particularly in the critical first year following integration, appears to have contributed to a sense of separateness between the new program and the larger agency.

More important than integration of CCIIO staff within the larger CMS organization was a lack of unity among those responsible for pieces of the marketplace development. Marketplace staff in CCIIO, OIS and the other divisions had different operating procedures, reporting structures, and lines of authority. Project management documents indicated efforts throughout 2011–2012 to bridge these gaps, such as regular meetings between project leaders in the various divisions. These documents also revealed major differences in understanding between the divisions regarding shared responsibilities and assessments of project progress. In interviews, staff in CCIIO and OIS gave very different descriptions of each other's tasks and in some cases could not identify the staff positions or subdivisions responsible for critical project tasks. This lack of unity and dispersion of responsibility had serious consequences, resulting in difficulty tracking progress and enforcing accountability.

> *There were two different conversations going on and they were not married up.*
> *—CMS official*

Merging a "start-up" organization with a large bureaucracy created tension. The integration of the Federal Marketplace project into CMS provided a broader infrastructure for the program, but some marketplace officials reported that they struggled to fit into the CMS organizational culture. One explanation offered by several officials was that the marketplace program and development of the HealthCare.gov website required a "start-up" mentality that encouraged creativity and innovation to support something new and unique. Yet the CMS organizational culture was that of a more traditional government bureaucracy, based on rigid management methods and an established hierarchy. In their view, those working on the marketplace program had to straddle the two cultures and this exacerbated difficulties meeting the already-challenging schedule and tasks. As one long-time CMS policy official serving in CCIIO reflected, "We were never fully accepted by CMS as a whole. Every new program feels that way, but this was a special case. The objective was too different and not well understood [at CMS]."

> *"We were never fully accepted by CMS as a whole."*
> —CCIIO official

Transition to CMS heightened differences regarding program mission. The uncertainty about whether States would choose to operate their own marketplaces or join the Federal Marketplace continued after the Federal Marketplace project was transitioned into CMS. The lines in this debate were drawn largely between long-time CMS staff who were in favor of building a large-capacity Federal Marketplace, and newer staff with State or private insurance experience who were in favor of encouraging States to establish their own systems. Given that the marketplace program had already used almost a year of scarce implementation time, resolving these conceptual differences took on a new urgency. CMS had yet to develop and publish a large number of pressing regulations, some of which were tri-departmental regulations with the Departments of Labor and Treasury and therefore potentially faced more hurdles in coordination.[31]

CMS had also not begun planning in earnest for how the Federal Marketplace would operate. The debate about the role and need for State and Federal marketplaces played out in issues across the policy spectrum, affecting decisions about health plan requirements, benefits, and financial assistance. Some of these differences involved ACA provisions about consumer protections that were not specific to the Federal Marketplace and HealthCare.gov, such as premium rate reviews and essential health benefits.[32] Several CMS officials indicated that disagreement about these issues complicated decisionmaking about the Federal Marketplace, and may have contributed to delays in decisionmaking. One CCIIO official from a State background complained that these ancillary issues caused CMS staff sometimes to lose focus on the key Federal Marketplace mission to facilitate buying and selling of insurance: "We've built up the marketplace to be something grander than it is. It's a store."

Another point of contention between some long-time CMS staff and newer employees was that CMS staff tended to rely on past experience implementing Government health care programs, such as the launch of the Medicare Part D prescription drug program in 2006. The Part D program was a large project that required collaboration with private issuers to create competition among plans, so it is reasonable that the launch of the Part D program provided

CMS staff with relevant expertise and experience. Also, the Part D program had problems at launch that required quick correction.[33] Still, creation of the Federal Marketplace was a larger and more complex project. Further, prior programs, such as Part D and Medicare Advantage, were built for the existing Medicare population, rather than a new market. Comparisons of the marketplaces to existing CMS programs were perceived by those new to CMS as demonstrating a lack of understanding about the larger scope and complexity of the Federal Marketplace program. As one CMS official reflected, "I learned to never bring up the Part D example."

Who was in charge?
When asked who led the Federal Marketplace project, several staff named positions that were unfilled. When asked what division led the project, staff named four different CMS divisions.

Lack of leadership caused problems integrating Federal Marketplace staff into CMS. CMS interviews and documentation indicated that the chief cause of organizational problems was CMS's failure to complete two critical tasks: assign clear and dedicated leadership for the marketplace program, and fully assess project needs to determine how to best establish the marketplace program in CMS. In CMS, there was no single official early on, below the CMS Administrator, responsible for the Federal Marketplace, and the officials responsible for different pieces often reported to the CMS Administrator through several layers of management. Throughout this early development period and into implementation and the first open enrollment period, CMS senior leadership never declared a clear "business owner" with overall responsibility for the Federal Marketplace. This issue of leadership was more straightforward for OCIIO as a small organization: the Director of OCIIO reported directly to the HHS Secretary, whereas in CMS those active in planning for the marketplaces were spread throughout the organization and reported through the CMS Administrator.

The marketplace program was a complex task for an organization that was already responsible for implementation of many other ACA provisions and managing Medicare and Medicaid, programs with combined expenditures exceeding $900 billion in fiscal year 2014—about one-third of total U.S. health care expenditures.[34] Adding to this, the CMS Administrator and the second-in-command Principal Deputy Administrator were both new to CMS, joining CMS in 2010 and 2011, respectively, in the first year of CMS's enormous tasks to implement the ACA.[35] To undertake the project without assigning leadership was to underestimate the project's difficulty. Lack of clear and effective leadership and thoughtful consideration of project and organizational structure characterized the preparation and development period, and had long-term negative consequences for the program's success. This insight was not only true in retrospect. In late 2011, the White House CIO expressed concern to HHS and CMS officials that leadership for the program was fragmented and recommended appointing a Chief Executive Officer (CEO) to oversee the project.

CMS struggled to provide timely guidance to States, secure future funding for the development of HealthCare.gov, and retain key staff for the project

Lack of clear direction and continued uncertainty delayed guidance to States. Several State officials criticized CMS for being slow to provide regulations and guidance for developing State marketplaces. The ACA required CMS to provide criteria for State marketplaces and required States to demonstrate their readiness to operate on the basis of these criteria.[36] Pieces of the regulations and guidance were due throughout 2011 and 2012, but most were delayed several times. In October 2012, a State Governor wrote to the Secretary explaining that the delay in guidelines contributed to the State deciding to join the Federal Marketplace. "There is simply not enough valid information to make an informed choice for such an important decision."[37] Around the same time, a State insurance commissioner testified before Congress that "the lack of detailed information from HHS has put [us] in a very difficult position."[38] In fact, CMS did not finalize its regulations for State marketplace oversight and program integrity standards until October 2013,[39] 10 months after the State deadline to submit plans for a State marketplace.[40]

CMS officials indicated that the delays were caused, in part, by efforts to provide greater flexibility for States to establish their own marketplaces or to use the Federal Marketplace in a way that suited their needs. According to CMS staff, when States objected to a policy, CMS sometimes revised the policy to provide additional flexibility. This in turn required changes to the "business requirements" (provisions that articulate to developers the processes the website would support), and potential delays in software development. CMS officials did not have a good sense of which or the number of States that would build their own marketplaces, causing consternation about scale, budget, and coordination with States. As observed by an HHS official, "Whether 1 State or 50, we knew we had to build the functionality, but the scale shifted many times by an order of magnitude and made it more complicated."

Political context and funding uncertainties also affected CMS's development of the Federal Marketplace program. CMS officials and staff reported that they felt the political importance of the ACA throughout marketplace implementation. CMS officials described White House staff as being substantially involved throughout policy development and as the clear policy leads. A Deputy Director at CCIIO reported, "There was constant contact with the White House. The White House was in charge." It appears that for high-level CMS officials the interaction was expected, but lower-level CMS staff were unaccustomed to working so closely with White House staff and the lack of clarity and experience around this process led to some confusion and delays. Specifically, some CMS staff expressed frustration that the close involvement of White House staff and HHS officials resulted in a complex process for making decisions and caused delays in completing policy work. They were particularly frustrated when they perceived heavy involvement about what they believed were relatively small issues. For example, emails between HHS and CMS staff revealed CMS staff frustration with the discussion around changing the term "nationwide health insurance" to "health insurance" in official documents. Others defended the high level of involvement given the importance of the ACA to the White House. The CMS Administrator also reported perceiving the White House involvement as collaborative and helpful, particularly in making policy decisions. Other

> *CMS was convinced that [we] had to build the perfect policy and did not leave time to implement.*
> *—CMS Administrator*

high-level CMS officials agreed, indicating that most understood the strong interest in details. As one CMS official noted, "This was the President's achievement. It raised the stakes. It meant that people at my level had a lot of bosses."

Others at CMS identified occasional challenges in meeting White House and HHS direction during the development and implementation of the Federal Marketplace. For example, according to some CMS policy officials, White House staff and HHS officials expressed concern that planning and educational documents for key stakeholders might be overly complex and could discourage participation. CMS, CCIIO, and OIS staff reported that a White House policy official requested that some policy and technical documents be simplified or not used. As an example of these requests, CCIIO produced a Federal Marketplace "concept of operations" document in 2011 to educate States and issuers about Federal Marketplace operations that was perceived by CCIIO staff as critical to these stakeholders understanding the planned operations, but the document was not distributed as planned.

Another complication stemming in part from the political contention surrounding the ACA was lack of certainty regarding future Federal Marketplace funding. Although initial resources were improved with the move to CMS, it was unknown to HHS and CMS officials how much funding Congress would provide for development in future budgets. CMS officials reported that this uncertainty about future funding for implementing the Federal Marketplace and other ACA programs made decisionmaking more difficult, particularly determining how to prioritize different aspects of the website build and provide overall project direction. CMS officials also reported that this uncertainty delayed establishing contracts and moving forward with the technical build. As one CMS contracting official explained, "I cannot put [a contract] on the street without [funding]. . . . We didn't know when we were going to get [funding] or what we can use it for." HHS officials expected user fees to make Federal Marketplace largely self-sustaining by the end of 2015, but ensuring that funding was available for the build was cause for concern. One HHS official reported that CMS completed a budget in mid-2012 that showed a sizeable gap between the amount of money forecasted to complete the technical build and the amount available for use.

> " *Every time I turned around, I had to brief new people. This project is so complex you have to be immersed.* –CMS official

CMS experienced high turnover in Marketplace staff. The Federal Marketplace program experienced significant staff turnover after the project moved to CMS in 2011, particularly in CCIIO management positions. Officials in Director- and Deputy-level positions in CCIIO in 2011–2015 often had a tenure of less than 1 year. One Director-level position was filled by seven different people during our study period. As many as two-thirds (30 of 45) of the Director- and Deputy-level positions were vacant at some point during our study period, many for an extended time. These vacancies were filled by staff who were temporarily moved from other parts of CMS to serve in an "acting" capacity. In many instances, individuals in these temporary slots divided their attention with a second, or even third, leadership position. One important position responsible for establishing premium rates was vacant for a total of 24 months spanning 2011–2013. CMS also experienced a high turnover of staff responsible for managing and overseeing key Federal Marketplace contracts.[41] CMS staff reported that the high turnover and lack of permanent managers in key positions hindered program and organizational knowledge while making building relationships among management and staff

more difficult. CMS officials later attributed the high turnover to a number of factors, including that former State and private sector employees intended to serve for only a short time to participate in the launch and that the workload was considered by some to be unsustainable. A former CCIIO director stated that "CCIIO was a rewarding place to work but was not sustainable based on the hours needed and timeframes to get the job done."

IT contracting for the FFM encountered significant problems, including limited bids, uncertainty in funding, and disjointed CMS contract management

CMS selection of contractors and type of contracts limited the number of bids. As CMS worked to finalize policies and standards for the marketplaces through 2012, it awarded key IT contracts for the Federal Marketplace largely on the basis of existing contracts. Prior OIG work on Federal Marketplace contracts found that of the 60 Federal Marketplace contracts, 55 were awarded under previously established contracts.[42] CMS contracted the core pieces for the FFM and Hub in 2011, and the EIDM in 2012, using Indefinite Delivery Indefinite Quantity (IDIQ) contracts. Contracting through an IDIQ is generally more streamlined and faster than the processes for other types of contracts because CMS can choose from pre-qualified companies that are familiar with CMS's systems and procedures without having to follow all Government acquisition regulations, such as completing acquisition plans.[43] CMS hired CGI Federal to build the core of the overall Federal Marketplace system, the FFM, which consisted of three main subcomponents: eligibility and enrollment, plan management, and financial management subcomponents. CGI Federal's responsibility also included developing the website interface (functions that support consumer interaction) and online application for consumers. CMS also hired QSSI to build the Hub and the EIDM. The Hub enabled the Federal Marketplace to check application information such as income and citizenship, and the EIDM provided identity management services that enabled consumers to create accounts and verify their identities. The EIDM was built for account-creation functions in multiple CMS programs, including Medicare.

Use of the IDIQ contracts limited the number of companies allowed to submit proposals to the 16 companies previously awarded an IDIQ contract, but uncertainty surrounding the ACA may also have limited contractor interest in the project.[44] One CMS official later reflected that uncertainty about ACA requirements and funding may have further reduced the field of companies willing to vie for the contracts: "We had problems getting people to bid on contracts without assurances that the law would continue." Ultimately, only four contractors submitted proposals for the FFM build, and only that of CGI Federal was deemed technically acceptable.[45]

CMS did not use an acquisition strategy to develop contracts and select contractors. In addition to the limited number of companies under consideration, the CMS process for establishing these key contracts included three factors that may have further hindered contractor selection and later results. First, as OIG previously reported, CMS did not develop an acquisition strategy for Federal Marketplace contracts, nor did it perform a thorough review of contractor past performance beyond the basic requirement to consider past performance on prior task orders awarded under the IDIQ.[46] An acquisition strategy is an

92%
of contracts for the Federal Marketplace were awarded under previously established contracts.

overall plan for satisfying the project mission in the most effective, economical, and timely manner.[47] Having an acquisition strategy would have provided a framework for CMS to precisely assess project needs and make a systematic assessment of the contractors' ability to meet those needs. Not developing such a strategy likely limited CMS's ability to fully and systematically assess proposals. Second, CMS chose to structure the FFM contract with CGI Federal as "cost-plus-fixed-fee." OIG work from January 2015 reported that this type of contract pays the contractor a prenegotiated award fee amount, requiring the contractor to bill as it incurs additional labor and material expenses.[48] A cost-plus-fixed-fee contract is typically selected when the tasks are so uncertain that accepting a contract on the basis of an end product would pose undue risks for contractors. The drawback is that it provides the contractor with less incentive to control costs and provide high quality products.[49] Third, CMS did not define important aspects of the Federal Marketplace functionality in its original statements of work to some contractors. For example, CGI Federal reported that their statement of work for the FFM contract . . ."contained very broadly defined general technical requirements, task order management expectations, and work activities." Officials and staff from both CMS and CGI Federal indicated that this lack of specificity created misperceptions about CGI Federal's responsibilities, resulting in delays and additional work.

> *"October 2013 seemed a long way off."* —CMS official

Unclear division of staff responsibilities led to disjointed contract management by CMS. In addition to the barriers presented by contract selection practices, confusion over the roles of contract managers hampered contract management. Staff within OIS's Consumer Information and Insurance Systems Group (CIISG) in CMS was responsible for managing the technical aspects of the contracts to ensure they met specifications; most importantly, the Government Task Leaders (GTL) within CIISG monitored contract progress and contractors' deliverables.[50] At the same time, CMS contracting officers (CO) in OAGM were responsible for authorizing, administering, and terminating CMS contracts.[51] COs appoint Contracting Officer's Representatives (COR) to assist in the technical monitoring of a contract.[52] The CO is the only CMS official authorized to make modifications to the contract.[53] Contractors reported that they had difficulty determining where GTL responsibilities left off and the CO or COR picked up, and they received "inconsistent direction" when asking the same question of the GTL, CO, or COR.

Such poor coordination between the GTLs and the contracting office also led to key staff discussing changes with contractors outside of formal channels, causing tension between CMS offices and lack of clarity to contractors. Previous OIG work determined that CIISG and OAGM did not adequately maintain contracting records or always monitor contractor performance.[54] Part of the problem was that the CO did not always designate and authorize the COR in writing, and did not always document the specific duties and responsibilities assigned for each contract. Regarding these challenges, the CMS Deputy CIO wrote, "This is an epidemic of anemic management and leadership and it is much worse in our case because of the relative book of work that needs to be accomplished."

Continued insufficient coordination and direction by CMS led to delays in guidance to contractors, and set the stage for problems with HealthCare.gov operations

Solidifying business requirements and technical specifications was slow and involved much iteration. Although the contractors had begun the website technical build, CMS was still making key regulatory and policy decisions and in many cases had not finalized the business requirements and the technical specifications needed to develop the software. Writing the business requirements is an iterative process, with policy experts and technical staff refining the technical specifications to meet the functional needs. In December 2011, a CMS technical official expressed frustration over the lack of a single leader to make decisions and sign off on business requirements, indicating that the lack of leadership resulted in mid-level staff and managers having difficulty coordinating and lacking authority to make decisions.

> *"We had an overall vision for functionality, but we were not sure how to get there."* —CMS technical staff

> *When they started the build, the requirements they knew were in the middle. Things at the beginning, such as the application, were still being decided and were not solved until very late in the process.* –CMS contractor staff

For the Federal Marketplace, the back-and-forth (between CMS policy and technical staff and CMS and contractors) was substantial because CMS was still making regulatory and policy decisions. Contractors reported that they immediately identified the lack of business requirements as a problem and that the extent of iteration was unusual. This likely reflects CMS's lack of clarity in defining key marketplace functions, which traces back to conflicting statutory interpretation and debates about policy choices. In addition, the pending Supreme Court case regarding whether individuals would be mandated to purchase health insurance created further uncertainty, given its potential to alter implementation of the ACA.[55] One contractor noted that continued legal uncertainties surrounding the ACA also slowed progress. For example, in the contractor's view, "regulations slowed to a trickle" while waiting for the ruling.

Supreme Court Upholds Health Care Law, 5-4
–The New York Times, 06/28/2012

This lack of clarity forecasted problems to come. A CCIIO official sent the following email in late 2011 to officials in CCIIO and OIS: "I am growing increasingly worried that our [marketplace] work is off track. We have not been effective in communicating the importance of finalizing policy timely so that operational decisions can be made and processes built." Several CMS staff reported that they believed that stronger CMS leadership could have prevented some problems by mandating that no additional changes to business requirements be made at a certain point. CMS technical staff were often caught in the middle between policymakers and contractors, moving forward on the basis of assumptions but without a clear plan. By the time the June 2012 Supreme Court ruling confirmed the legality of the individual mandate, CMS had already lost critical months toward focused development of the Federal Marketplace and HealthCare.gov.

"Agile" *is a method of software development that breaks larger tasks into smaller increments that are then completed and tested.*

The selected method of software development made it easier for policymakers to seek frequent and late changes. In its contract proposal to build the FFM, CGI Federal indicated its intent to use the "agile" method of software development, which separates development of pieces of the build such that developers can begin on some components while business requirements for other components are still being finalized. This method is commonly used when some pieces are not well-understood at the outset. An advantage of agile development is that each increment, often completed in two-week "sprints," results in a functioning product that can be tested, so that the business owners (in this case, CMS staff) responsible for a particular process can assess whether the software meets the project's needs and adjust business requirements accordingly. This ability to adjust, however, enabled policymakers to frequently change business requirements and technical specifications on an ongoing basis. Changes made through the agile development process must still be properly considered, documented, and communicated. Managers at CGI Federal reported in interviews that the frequency of CMS's requests for change resulted in too much change too late in the process, contributing to delays. For example, CGI Federal managers reported that CMS did not define business requirements at the beginning of each sprint and often made changes throughout the sprint, which inhibited the agile method and resulted in incomplete development. An agile method also allows for pieces of the build to be completed out of order, but this also caused problems for the FFM in that some earlier pieces that were still undecided affected the build of subsequent components.

Key technological choices and poor execution also inhibited the website build. A number of technological decisions hampered development, including selecting a nontraditional technology that did not align with the expertise available. CGI Federal indicated in its final FFM contract proposal that it would use a combination of two types of "database platforms" (the digital structure upon which the website is built): a traditional "relational" platform such as Oracle that uses tables to store data; and a nontraditional "NoSQL" platform that uses non-tabular documents to store data. Given that each type has different benefits, CMS indicated in its evaluation of CGI Federal's contract proposal that use of both Oracle and NoSQL databases was a strength. The key benefit of the traditional relational platform is its wide use, with most developers experienced in Oracle. The key benefit of the nontraditional NoSQL platform is its potentially greater capability, in that it can allow more data to be transferred at a time and can be easily expanded to include more data or users. However, NoSQL platforms were used less frequently and fewer developers had experience building on and maintaining them.

Although CGI Federal's final contract proposal, accepted by CMS, indicated partial use of a NoSQL platform, it did not specify the brand of platform it would use—over 100 vendors provide NoSQL platforms. In November and December 2011, CGI Federal met with one of the oldest NoSQL vendors, MarkLogic, to better understand the risks and benefits of MarkLogic's platform. Following these meetings, CGI Federal managers expressed concern to CMS about using MarkLogic's platform. Interviews and documentation indicated that few at CGI Federal and CMS had development experience with the platform. In a presentation to CMS technical managers in January 2012, CGI Federal indicated that its lack of experience with MarkLogic's

platform could affect the timely development of the FFM. CGI Federal reported to CMS that it would be unable to fully replace staff expertise on traditional databases with equivalent expertise with MarkLogic's NoSQL platform and recommended that CMS develop a contingency plan.

Despite CGI Federal's reluctance to use the platform, CMS notified CGI Federal of the selection of MarkLogic in a January 2012 Technical Direction Letter (TDL). A TDL is used to clarify or give specific direction to the contractor within the scope of the statement of work and cannot alter the contract cost. The TDL directed CGI Federal to use MarkLogic's platform and to obtain staffing support from MarkLogic to help implement the change. In a February 2012 presentation to CMS, CGI Federal reiterated its concerns about the use of the platform.

CGI Federal managers contended later that use of a TDL demonstrated that CMS did not recognize the importance of the platform choice, and use of a more formal Contract Change Order would have allowed both parties to fully vet the decision and possible consequences. A Contract Change Order directs the contractor to make a

> *"From a design, development, and integration standpoint, MarkLogic is vastly different from Oracle [the prior relational platform]."*
>
> —CGI Federal presentation

change that may increase the contract cost, change the terms of the contract (e.g., extend the length of the contract), or be outside the existing scope of the statement of work. CGI Federal hired additional staff trained in the platform and subcontracted with MarkLogic for technical assistance, but staff from both CMS and MarkLogic reported that CGI Federal never retained the number of experts needed to configure and integrate the MarkLogic technology.

Both CMS and CGI Federal staff reported that use of MarkLogic's platform caused development problems throughout the remainder of the FFM build. Although QSSI used the platform for development of the Hub, CMS and QSSI did not report the same problems as CGI Federal had using the platform to develop the FFM. CMS documentation indicated that QSSI hired an adequate number of additional staff from MarkLogic to work on the Hub development and operations, as CMS had directed CGI Federal to do in the TDL.

Another technical decision with the website build may have compounded problems with the platform. CGI Federal included in its final contract proposal for the FFM the use of automatically generated software code called Model-Driven Architecture (MDA), typically used in conjunction with developer-written code to save time and reduce human error. According to a CMS official, CGI Federal was committed to this technique and referred to MDA as their "bread and butter." Although CMS approved the use of MDA in the contracting process, the CMS GTL responsible for monitoring the technical progress of CGI Federal's contract later reported that it was one of the biggest culprits in the coding problems. The GTL explained that CGI Federal used MDA for perhaps too much of the build (estimated at 60-70 percent), and did not build the MDA code effectively or coordinate it properly with developer-written code. The GTL also came to believe that use of MDA created additional

problems in the "last mile" of development because it was difficult to modify when late changes were needed.

Poor CMS management of changes to the website build created delays and confusion. Each development team maintained detailed schedules to manage system development, which were summarized into an integrated master schedule to track development of all Federal Marketplace systems. The integrated master schedule was maintained by CIISG, which served as the CMS IT project management office for the Federal Marketplace. CMS required that CMS staff and contractors working on the website submit changes in business requirements or technical specifications for approval by a Change Control Board if the change could alter the project cost, scope, or schedule. The Change Control Board was mostly comprised of representatives from OIS, CCIIO, OC, and CMCS who were to make these decisions and log changes in a central repository accessible to both CMS and contractors. CMS's central repository stored a variety of information about the Federal Marketplace project, including not only business requirements and technical specifications, but also archived software code, infrastructure descriptions, testing results, and past defects that were identified and resolved.[56] Part of the purpose of the central repository was to enable CMS staff managing contracts to analyze and compare technical specifications to ensure that the technical build met business requirements.

However, the Change Control Board and central repository processes were not effectively managed, leading to delays and confusion about tasks and progress. In interviews, CMS staff said that difficulty tracking and responding to revisions to the business requirements may have concealed problems with production and schedule. First, project documentation and email correspondence revealed that CMS's Change Control Board frequently cancelled decision meetings and did not promptly address change requests. Second, when changes were approved, contractors were not always informed immediately, resulting in further delays. Third, CMS and contractors did not always log approved changes in the central repository, as required. Fourth, CMS staff did not appear routinely to review documents in the repository to identify problems, as intended by CMS. Email correspondence indicated that by mid-2013 there were several thousand documents in the central repository, and CMS staff raised concerns that the documents were not well organized and there was no evidence of review by the Change Control Board. This failure to approve changes promptly and track changes in the repository also inhibited the "agile" development process that was used to build the FFM. As part of the Change Control Board process, developers were required to submit changes before they could begin the next sprint, so delays in the board approval process delayed the daily work of the software build.

Additionally, CMS staff and contractors sometimes circumvented the Change Control Board process, making changes without board approval or the knowledge of affected CMS staff and contractors. Between March and December 2012, CMS staff not authorized to modify the contract added numerous work items to CGI Federal's contract.[57] The CO and initial COR responsible for CGI Federal's contract were unaware of the additional items added to the contract until a newly assigned COR discovered the contract overrun, referred to as an "unauthorized commitment," which violates the Federal Acquisition Regulation.[58] However,

> " _If we had the requirements sooner, we would had discovered the problems sooner. The flux in the requirements allowed the developers to hide, to not come clean._
> –CMS technical staff

an unauthorized commitment may later be approved under certain circumstances.[59] In this instance, CMS was able to modify CGI Federal's contract to fund the unauthorized changes, but bypassing the Board created confusion among stakeholders about which changes were implemented.

According to both CGI Federal and CMS staff, this continued alteration of business requirements through 2012 and into 2013 resulted in significant delays in website development. Additionally, CMS was still making policy decisions late in development that changed technical specifications and created additional work. One example was CMS OC's decision to change the website interface long after CGI Federal had begun development. Another late policy decision that changed the website build was the determination of whether only one member or all family members needed identity verification.

CGI Federal advised CMS staff numerous times in weekly status reports beginning in February 2012 that delays in finalizing business requirements were affecting the development timeline, yet the changes continued. CGI Federal managers indicated in interviews that they now believe they should have alerted the CMS Administrator directly regarding the depth of the problems and

> *"We should have been more emphatic in warning CMS of the risks of launching."*
>
> —CGI Federal official

spoken more candidly and earlier to other CMS officials. A CGI Federal official stated, "We should have been more emphatic in warning CMS of the risks of launching." CGI Federal managers reflect now that they did not do so primarily in order to follow the standard "chain of command" in reporting problems to CMS.

KEY FACTORS CONTRIBUTING TO BREAKDOWN

› **POLICY DEVELOPMENT DELAYS**

Implementing the Federal Marketplace required substantial policy development and decisionmaking to inform technical planning and implementation of the website. This included not only writing regulations to govern the marketplaces, but also establishing partnerships with other entities involved in implementation, such as other departments, States, and issuers. This policy work was made more difficult and protracted by a lack of certainty regarding the mission, scope, and funding for the Federal Marketplace and website, which was caused in part by varying expectations for the marketplaces and a contentious political environment. This time spent developing regulations resulted in further delays later in the process, such as States deciding whether to join the Federal Marketplace and technical needs for website contracts. These delays used valuable time and made an already compressed timeframe more difficult.

› **POOR TRANSITION to CMS**

The transition of the Federal Marketplace to CMS after 10 months in HHS OCIIO resulted in problems that lasted long after the move. HHS OCIIO made significant strides in establishing the policy framework, but did not focus attention on planning for the project's longer-term technical and operational needs. CMS had to reconfigure roles and timelines, determine how it would leverage its resources, and begin work behind schedule. Further, while CMS's infrastructure and experience provided greater resources for the project, it also required the Federal Marketplace to operate within a large bureaucratic structure that separated contract, policy, and technical staff, causing further diffusion to the project team and making implementation needlessly more complex. Interviews and documentation indicate that CMS leadership failed to address this diffusion by fostering effective collaboration, particularly between CMS policy and technical staff and contractors.

› **LACK of PROJECT LEADER**

CMS's failure to immediately assign a project leader was particularly problematic for HealthCare.gov. Clear leadership alone may have corrected many of the project's deficiencies. As a new project with staff spread across CMS, the HealthCare.gov team needed unity and identity within the larger organization. The project also needed quick decisionmaking and flexibility, made easier when a single lead entity is responsible rather than multiple entities with organizational layers. Effective project leadership would have enabled a comprehensive view across the project to better assess progress, identify problems, and determine priorities. Leadership was also lacking beneath the senior executive level, with high turnover among officials in CCIIO and high-level CMS technical officials involved in the HealthCare.gov build.

› **MISMANAGEMENT of KEY WEBSITE CONTRACT**

Mismanagement of the FFM contract with CGI Federal was a key problem for CMS in development up through the launch. The contracting process suffered from a limited number of bids and uncertainty about funding and technical specifications, and CMS contract oversight was disjointed and lacking. CMS made frequent changes to contracted work, some of which represented questionable technical decisions, and did not communicate effectively with CGI Federal about the changes and any resulting effects on staffing and schedules. Interviews and documentation indicate that CGI Federal made missteps as well; for example, the company did not adequately increase staffing and expertise when changes were made and progress began to deteriorate. Still, poor CMS management of the contract substantially contributed to problems building the FFM, a critical component of HealthCare.gov.

CHAPTER 2

FINAL COUNTDOWN TO LAUNCH

January 2013–September 2013

By January 2013, CMS knew that 34 of the eventual 36 States would participate in the Federal Marketplace for the first open enrollment period, finally giving contractors the knowledge of needed scope and capacity. Still, inability to finalize business requirements continued to hamper the website build into 2013. Some of these requirements were delayed because CMS had not yet completed the underlying program policies. For example, CMS did not finalize decisions about some aspects of the program—benefits required for health plans and using a single, streamlined Medicaid application—until February and June 2013.[60] In other cases, such as Medicaid eligibility exceptions, CMS abandoned the goal of creating new policies and reverted to former practices because it lacked the time to solidify new policies.

Several entities voiced concerns about the status of HealthCare.gov, but warnings were either not fully communicated or not acted upon

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Documented Warnings

with concerns regarding the HealthCare.gov build

A CMS technical advisor and two consulting firms identified specific problems that threatened a successful launch. Throughout the course of the HealthCare.gov build, staff at HHS and CMS, as well as outside entities, identified problems with the program and warned that these problems warranted action. By January 2013, the most common advice given to CMS senior leadership was that the program needed a single lead entity and that CMS should stop revising policy. During June–October 2012, the technical advisor hired by CMS to assess HealthCare.gov progress prepared six reports for the CMS Administrator and CCIIO leadership, laying out problems in explicit detail after reviewing project documentation. CMS also hired outside firms to assess progress. Throughout 2012 and 2013, a series of 11 technical reports from the firm TurningPoint Global Solutions gave scathing reviews, including a progress report in April 2013 that listed the Top 10 Risks of the website build, such as inadequate planning for website capacity and deviation from IT architectural standards. In addition, in early 2013, the Secretary hired McKinsey Consulting to review the program and make recommendations to improve CMS management of the project. In all, CMS received 18 "documented warnings" of concerns regarding the HealthCare.gov build between July 2011 and July 2013, all containing substantial detail about the project's shortcomings and formally submitted to CMS senior leadership or project managers at CMS.

Among the recommendations was to assign a single project leader for the Federal Marketplace, the same advice given earlier by the U.S. CIO. However, these reports were not shared broadly with CMS leadership and technical staff. The TurningPoint reports were presented only to CMS technical staff, such as the CMS Deputy CIO, and McKinsey's recommendations were presented only to senior CMS officials such as the Administrator. The CMS Deputy CIO, the chief CMS technician on the HealthCare.gov build, specifically reported that technical staff did not receive or even have knowledge of the McKinsey report findings.[61]

Attempts by CMS to take action on recommendations were poorly executed. CMS officials were repeatedly made aware of problems with the development of HealthCare.gov and attempted to take corrective action, but these efforts were largely unsuccessful because they were not fully and diligently executed. For example, after criticism that there was not clear leadership, CMS assigned its newly appointed COO (previously the Deputy COO) in early 2013 to head the Federal Marketplace program, but the assignment was not formally announced, the position was not supported by clear responsibilities, and the designee had an already large responsibility as CMS COO. In addition, the Deputy COO position remained vacant until November 2013, which meant even greater responsibility for the new COO. Reflecting after the launch, CMS officials pointed to this assignment as an example of underestimating the enormity of the task. The COO's assignment also was not formally communicated to other CMS leadership and staff, although staff indicated later that "the group sort of knew."

"Who is tracking?"

Although CMS staff in both its technical and policy divisions were assigned to oversee contracts, documentation indicated little formal corrective action or even communication with contract managers in 2012 and early 2013.

As another example, a CMS advisor recommended that the project hire a technical systems integrator[62] and CMS officials and contractors discussed this need at several points in the project. However, in correspondence and congressional testimony, it was clear CMS technical leadership perceived that CMS itself was already serving in that role.[63] CGI Federal managers reported that the lack of a true systems integrator created extra work that was outside the scope of their contract. For example, CGI Federal reported having to assist CMS with defining the business requirements to mitigate problems with interdependency of various Federal Marketplace computer systems and avoid losing more time for system development and testing. Although the systems integrator need not be a contractor, CMS staff and contractors later identified two barriers to CMS serving in this capacity: they reflected that few at CMS had the necessary experience integrating a project of this size and complexity, and that CMS leadership did not recognize the need to clearly outline responsibilities and delineate this role from other CMS tasks.

CMS failed to effectively manage poor contractor performance with HealthCare.gov, and did not take sufficient action when aware of problems. In February 2013, independent reviewer TurningPoint Global Solutions determined that the FFM had a high number of coding defects. CMS staff later reported that CGI Federal's coding quality did not improve later in development. In an onsite review in August 2013, just over 1 month before the HealthCare.gov launch, CMS staff discovered that CGI Federal developers did not follow some best practices for making late-stage coding changes, resulting in software code conflicts between some systems. First, CMS discovered that CGI Federal was not following a standardized process for documenting development of code, which resulted in very limited information available in the CMS Central Repository. As a reviewer reported, "[CGI Federal]

was making changes on the fly without documenting them up until the launch. They were breaking, from an industry perspective, every golden rule." Second, CMS observed developers modifying the system without assessing the impact to other parts of the system, resulting in coding defects that required weeks to troubleshoot. Third, CMS observed developers using an outdated version of code to continue building the website and deploying incorrect versions of code. Fourth, CMS discovered that development teams were making system modifications that produced inefficiencies that required additional computing resources to process the code.

In one technical example revealed in interviews, CMS discovered after the October 1 launch that in some instances the website software requested to access information from the FFM database over 100 times for a single operation that should require 1 or 2 requests. Compounding this problem was the fact that the requested information from the FFM database used what one CMS staffer called a "bloated data model" that made the information "10 times the ideal size" and larger with each request. Therefore, each of the numerous requests made to the database would have retrieved ever larger records and required more capacity to process. According to CMS documentation of its correspondence with CGI Federal, CMS noted delays and performance problems, but did not issue a Corrective Action Plan when performance did not meet the contractual commitments.[64] Correspondence among CMS staff indicated that some believed CGI Federal "needed to have more skin on the line" to help ensure on-time delivery of functionality, implying that the cost-plus-fixed-fee contract type or lax contract oversight may have weakened project management.

> *"We are in bad shape. Perhaps worse than ever and we are not even touching the hard stuff yet."*
> —Email from CMS technical staff

CMS senior leadership failed to fully grasp the poor status of the website build, and to alter its course. Interviews indicated that at this point in time, CMS senior leadership believed that the technical work was still on schedule or close enough that concerted effort would ensure delivery at launch. An official in CCIIO reflected in an interview that "[CMS senior officials] would sit in meetings across from me and not know there is an enormous fire burning behind them." It is not clear why CMS senior leadership failed to grasp the poor status or why those who felt the project was in danger failed to communicate their opinions more forcefully. When CMS requested a live demonstration for leadership of the online health insurance application 1 month before first open enrollment, CGI Federal presented snapshots of the software rather than a demonstration of the functionality. A CMS technical official commented, "You can't test drive a Ferrari just by looking at pictures of a Ferrari going fast." CGI Federal ultimately staged two successful live demonstrations in the weeks before first open enrollment, but the failed demonstration the prior week, which did not show actual functionality, did not indicate to CMS leadership that the Federal Marketplace was in trouble.

CMS leadership, staff, and contractors became fixed or dependent on an organizational "path" to complete the website build, failing to adequately consider new information and alter course as needed. CMS has a long history of administering large programs, such as Medicare and Medicaid, but the organizational structure used to manage those programs was insufficient for developing and implementing the innovative technology solutions required for the website build. Part of the problem was poor communication across divisions and between CMS and contractors in an environment where project status changed quickly. As previously stated, CMS technical staff often received different messages from policymakers and contractors, and were forced to develop ad hoc strategies that were then not well-documented and unlikely to evolve further. CMS staff and contractors reflected that they had failed to coordinate the work, did not adhere to a clear schedule, and failed to track progress and changes.

The HealthCare.gov website build was alarmingly behind schedule, with CMS scrambling for "minimal functionality"

Communication deteriorated further as problems worsened, with a critical early piece of HealthCare.gov failing in July 2013 and more problems arising through the summer. By summer 2013, responsible CMS staff had been warned of problems repeatedly and knew the website build was in trouble. Still, both leadership and responsible staff did not fully grasp the extent of problems and the degree to which the build was behind. Reflecting afterward, those involved reported that communication deteriorated as the situation worsened. Interviews and documentation revealed this was due to a number of factors: the range and number of technical problems made it difficult for nontechnical staff and officials to gauge the enormity and impact of problems, negative reports about progress became so common that they lost their power to alert, and information was not communicated comprehensively to demonstrate the extent of the problems across the build.

This lack of recognition changed somewhat in July 2013, when CMS received a tangible sign of problems: an early component of the website build failed immediately. One of CGI Federal's significant deliverables for summer 2013 was the pre-enrollment account creation system, Account Lite. In comparison to the overall

> *"The level of complexity was greater than what we originally anticipated."* —CMS official

website build, the functionality for Account Lite was fairly simple and straightforward. Still, it posed a challenge to deploy, in part because CMS did not request this functionality until May 2013 with an expected launch date of July 1, 2013. CGI Federal delayed delivery of the system past the July date, and then requested the assistance of CMS technical staff.

When CGI Federal finally demonstrated the product, it performed poorly. A top OIS official indicated that a week past the date Account Lite was supposed to launch, OIS found 105 defects with the Account Lite system. The extent of problems with Account Lite raised alarm throughout OIS, CCIIO, and OC, and began a shift in thinking that would lead to reducing planned functionality for HealthCare.gov. As a CCIIO official later noted, "That was our first

inkling into how bad things were. If they couldn't even deliver Account Lite, where were we on the build?"

CMS technical staff began to avoid reporting further bad news about the website build, leading to greater disconnection as problems worsened. Despite knowledge that the project was going poorly, many of the CMS and contracted staff responsible for the Federal Marketplace build were averse to alerting those in leadership positions that there were problems with the build. Correspondence indicated that this was driven in large part by the belief that they would be able to succeed in the end, and thus there was little benefit to causing alarm. It also indicated that CMS technical staff were so busy attempting to complete the build that they were reluctant to take time reporting to executives and answering questions. During this timeframe, HHS IT leadership requested more information from CMS, but did not receive the information requested. The reluctance to convey information included the critical topic of website security, even though security testing ran well behind schedule and identified possible risks. The top CMS security official later testified to Congress that "[CMS leadership] was not properly briefed or properly portrayed, [about] the issues that were happening that week during security testing."[65] During the Account Lite problems, a CMS official's correspondence indicated that those responsible kept "thinking and hoping that the next thing will solve more issues and we'll be okay."

Despite the importance of the mission, a small number of CMS staff carried responsibility. Had communication about the project's status been more open at this stage, leadership at CMS and contractors might have been prompted to add additional staff to the website development earlier; they did not add substantially to staffing until less than 2 months before launch. CMS officials reflected later that in summer 2013, there were still relatively few people working on the project given its size and slippage in the schedule, and experienced technical staff and others in CMS were not called to assist. Officials and staff not included in the development of HealthCare.gov included CMS's CTO, responsible for technological innovation and strategy, CMS's CIO, responsible for operating CMS technological systems, and most of the staff of CMS OIS. Additionally, HHS technical officials and staff could seemingly have been called in to assist, including the HHS CTO, the HHS CIO, and others. CMS documentation indicated that CGI Federal did not make requests during this period for more staffing or more time.

By late July 2013, HealthCare.gov technical managers were requesting assistance from others in their divisions; as one stated, "You know it has to be bad if I am requesting help." Two months before the October 1 launch, CMS temporarily assigned 60 additional staff from other projects within OIS (39 staff) and in other parts of CMS (21 staff) to assist the 51 staff already working on the Federal Marketplace, a 117 percent increase (see Figure 1). Some involved in the project reported that it felt too late to involve others, given the steep learning curve, and that they were embarrassed to "add others into a mess." As late as mid-September 2013, there were calls for establishing contingency plans, including pulling in additional staff and even CMS staff taking the project over from contractors.

117%

Increase

in CMS technical staff to support the Federal Marketplace project during August 2013, nearly all reassigned from other CMS projects.

Figure 1: Increase in CMS staff dedicated to Federal Marketplace, July–August 2013.

51 Staff through July 2013 → **90** Staff with +39 OIS additions → August 2013 **111** Staff with +21 additions

Source: OIG analysis of 2013 CMS organizational charts, 2015.

Last minute attempts to correct and avoid further problems with HealthCare.gov were ad hoc and insufficient

CMS continued to prioritize functions and cut those it could not complete, including the Spanish language website and the "anonymous shopper" function. CMS focused by mid-August on determining the minimum that could be delivered by October 1, holding "reprioritization" meetings to further reduce the scope of the HealthCare.gov build to deliver basic functionality. Part of the reprioritization process involved collaborating with CGI Federal to establish a list of "minimum essential capabilities" and a timeline for FFM development. There was an attempt at this time to recognize problems and renew project unity and mission. The CMS COO, assigned to serve as the single project lead, announced at an August 2013 meeting, "This is a blame-free zone. We are a team. This is the President's number one priority and we will make it happen, but we must be open and honest with each other." The revised scope and functionality of the website was reduced to only what CMS considered necessary: accepting information, determining eligibility, and selecting a plan. There was skepticism among CMS staff regarding whether even that could be completed: "Around the table, people were saying, how are we going to get this done?" There was also discussion about whether the existing pieces were so flawed that CMS should begin developing some pieces anew rather than improve upon the existing structure. Reprioritization resulted in reductions to planned scope and functionality of the website. In August 2013, CMS called on CGI Federal to develop a definitive plan for the final 40 days. The CMS Deputy CIO instructed them, "Don't dwell. Don't debate. Don't be in denial. Come up with a plan, however thin it is because it certainly is better than an unrealistic plan." The reprioritization included delaying the Spanish language website, CuidadoDeSalud.gov, a tool that correspondence indicated was particularly important to White House staff. Meeting notes from this time period revealed that the CMS Administrator was notified of this decision, made by other senior CMS officials, on September 3, 2013.

After consulting with technical staff, the CMS Administrator communicated to HHS and White House officials that CuidadoDeSalud.gov would be working by October 15, 2013. (It was later delayed further and was not working until early December 2013.) The Secretary of HHS and the U.S. CTO expressed concern about losing consumers and asked CMS to provide additional call center support for Spanish speakers, which it did. CMS also announced on September 26, 2013, that it would delay until November 2013 its completion of the Small Business Health

> *We contemplated [as late as August 2013] whether we would scrap the whole thing and start over.*
> *—CMS technical staff*

Options Program (SHOP) website, a companion website to HealthCare.gov.[66] SHOP provides health plan selection and enrollment for businesses with 50 or fewer full-time-equivalent workers. (The SHOP website was further delayed until second open enrollment, opening in November 2014 then adding further consumer tools in February 2015.)

Needing even further reductions in technical scope, CMS also delayed a tool to identify and compare health plan information that CMS had dubbed "anonymous shopper," as well as parts of the Eligibility and Enrollment functionality. The anonymous shopper tool would have allowed consumers to view some targeted health plan information, including premiums estimates, without completing a full application. (The tool was not truly "anonymous" in that consumers would still have to create an account.) Testing of the anonymous shopper tool during August–September 2013 revealed that it did not provide accurate information and would require significant rework.

Since CMS did not consider the tool to be critical for the launch, it delayed the completion until after October 1, 2013. Parts of the Eligibility and Enrollment system that were delayed until later included the automated functionality enabling the FFM to send and receive enrollment information to issuers regarding enrollee status (e.g., payment of premium, plan cancellation, changes in circumstance) and the resolution of complex application inconsistencies (e.g., income, whether applicant is lawfully present in the U.S.), which can occur when Federal data available through the Hub do not exist or do not match an applicant's information. A CMS official reflected later that reducing scope "seemed reasonable and normal before a launch of this size." However, project documents and correspondence indicated the lateness and depth of these reductions was not planned.

CMS and contractors recognized they would not finish system functionality testing before the launch, but prioritized delivering the product on time over testing and resolving problems. By August it was clear to both CMS technical staff and contractors that the system would not be fully tested for functionality before October 1, 2013. As one contractor remarked, "You can't test what is not built." Issuers complained about testing delays and problems conducting tests due to incomplete and malfunctioning software and unavailable testing environments (the computing and storage space to run tests). This lack of system capacity to conduct testing affected those who were building website pieces because the agile development process relies on testing of each increment as it is completed to ensure it functions correctly. In addition, according to CMS and contracted staff, CMS was never able to complete full end-to-end testing that identifies problems in how the pieces work together, because the component pieces arrived too late. Regardless of the development process used, complete end-to-end testing is the final, and a critical, step in simulating consumer use of all functions. One technology contractor involved in the build reported, "End-to-end testing is critical. It's suicide not to do it." CMS staff did not appear to consider the lack of functionality testing to be a dire situation. The CMS technical team reported they considered launching the website on time the priority over testing for and resolving performance problems. One CMS technical official characterized the launch itself as a test of the system and indicated that CMS planned to resolve problems after launch, as CMS had done with other large programs, such as Medicare Part D.

Final State Count

For the first open enrollment period, 36 States, including 7 State-partnership marketplaces, used the Federal Marketplace, and 15 States had established State marketplaces.

CMS prepared to launch HealthCare.gov on October 1, 2013, as planned, optimistic in spite of problems and never seriously considering delay

CMS leadership held no formal discussion of delaying the website launch date, despite poor progress. There were many discussions in the months leading up to the launch that the HealthCare.gov build was behind schedule, including multiple presentations to CMS leadership. Still, documents and interviews indicated that no one among CMS leadership, or seemingly even among CMS staff, seriously discussed delaying the October 1 launch date.[67] This may be in part because some CMS staff and contractors working on the build were under the misimpression that the deadline for website functionality was statutory when, in fact, the ACA required that health plan coverage begin by January 1, 2014.[68] Moreover, some HHS and CMS staff feared that due to the high expectations and the contention surrounding the marketplaces, if HealthCare.gov did not launch as planned it might fuel efforts in Congress to repeal the ACA.

Several key CMS technical staff reported they never discussed the launch date with CMS leadership, neither when the date was set in 2012 nor leading up to the launch. Some staff at CMS complained in correspondence to each other that the timeframe was unrealistic and that leadership was bent on moving forward

> _"People needed insurance. In the absence of major problems, it was important to move forward."_
> —HHS official

despite the significant workload and problems. CGI Federal reported that it did not request additional time or formally request that CMS delay the launch because it believed CMS would not delay due to the White House's public commitment to launch on October 1, 2013. Many CMS staff reported later that they were eager to launch HealthCare.gov despite concerns shortly before launch, and were optimistic about its success. Some may have assumed the launch would be delayed at the last minute if functionality did not operate correctly; the Medicare Part D website launch was delayed several times, on its proposed launch date and two other promised dates, ultimately launching three weeks after originally planned.[69]

> _The launch was alpha version 1 of the [Federal] Marketplace. You would expect version 1 to do exactly what it did . . . launching to 300 million Americans on day one was a crazy idea._ –HHS official

Not delaying the launch resulted in a race to complete what was possible before the deadline. By September, concern grew to the degree that officials with little prior involvement in the Federal Marketplace, including managers from other programs at CMS, technical officials from HHS and other Federal agencies, and the U.S. CTO, began asking responsible CMS and contractor staff for more detailed progress reports and offered their assistance. At this point, CGI Federal and CMS technical offices were filled with staff and experts from multiple Government and contractor offices, including support staff from software vendors and CMS technical staff who had no prior knowledge of the Federal Marketplace program and therefore were not optimally prepared to contribute quickly. CMS OC also began notifying stakeholders and consumers through messages on the website and outreach to media to potentially expect some problems. As one OC official noted, "It was never a matter of whether we moved forward, it was only how to message about what the public and others could expect to reduce poor reactions."

CMS moved HealthCare.gov forward to launch with an interim authorization to operate and concerns about incomplete security testing. Federal guidelines require that a senior official or executive assume responsibility for operating an information system at an acceptable level of risk by signing an Authorization to Operate (ATO).[70] ATOs are typically signed by the CMS CIO, last for 1–3 years, and include supporting documentation of security testing.[71] Each part of the Federal Marketplace system (e.g., FFM, Hub, and EIDM) required an ATO before operating. Full, 3-year ATOs for the EIDM and Hub were completed and signed by the CMS CIO (on March 22, 2013, and September 6, 2013, respectively).

"Authorization to Operate" is a declaration stating publicly that the launching organization (e.g., CMS) has deemed the functionality sufficient and is accepting any associated risk to the organization's operations or to others involved.

On September 24, 2013, just days before the launch, CMS's chief information security officer raised concerns that the FFM did not reasonably meet CMS's security requirements, citing specific concerns about the lack of security testing. Given this information, and the high profile of HealthCare.gov, the CMS Administrator, CIO, and COO determined that a higher official than the CIO should sign an interim (short-term) ATO that would require completed security testing within 6 months of launch. On September 27, 2013, the CMS Administrator signed the interim ATO, which allowed the FFM to operate for 6 months provided that the security risks were reduced by employing a mitigation plan that included completing additional security testing and installing continuous monitoring. Additional security testing was conducted in December 2013 and a full, 1-year ATO was signed by the CMS CIO on March 12, 2014.

Shortly before launch, CMS determined that the system had much lower capacity than anticipated and requested that the contractor double capacity in 3 days. On September 26, 2013, CMS technical officials visited CGI Federal offices to assess progress on the FFM build and conduct testing. They conducted limited performance testing and determined that the website capacity could support far fewer concurrent (simultaneous) users than planned. The low capacity available was in part because the software code required more infrastructure capacity for execution than CMS anticipated.

72 *hours* before launch of HealthCare.gov, CMS requested the contractor to **double computing capacity** on September 26, 2013.

According to CMS and contractor staff, the CMS officials drove immediately to the offices of Terremark, the main contractor for HealthCare.gov computing capacity and infrastructure, and informed its project managers that the project would require double the capacity already purchased by CMS for the launch. A Terremark manager reported in interviews that "The request was to double everything 72 hours from launch. We had done an extremely large build for months. We were pulling gear from all over the world, renting planes to get hardware here that was intended for other clients." The request for a 72-hour buildup was made on September 26 (4.5 days from launch) to allow for at least 1 day of testing. Terremark added more than double the capacity during this time, and by September 29, testers indicated that the concurrent user limit was raised substantially. A CMS technical official communicated to the CMS Administrator and U.S. CTO over the course of September 29-30 that capacity was no longer a critical problem.

Technical problems continued in the final days before launch. The EIDM account and identity management system suffered outages on September 29, and contractors reported later that they anticipated continued problems. (See Figure 2 for a timeline of the final countdown to launch, July–October 2013.) Still, the CMS Administrator emailed the U.S. CTO on September 29 that the website would be ready to launch on October 1. CMS officials later reflected that they were nervous about the launch, but were still excited to move forward and that they did not understand the depth of the technical problems or predict the poor outcome. As one CMS official reflected later, there was a sense that "it is always like this on major projects, with tight deadlines and complex delivery."

Figure 2: Timeline of Final Countdown to Launch, July–October 2013.
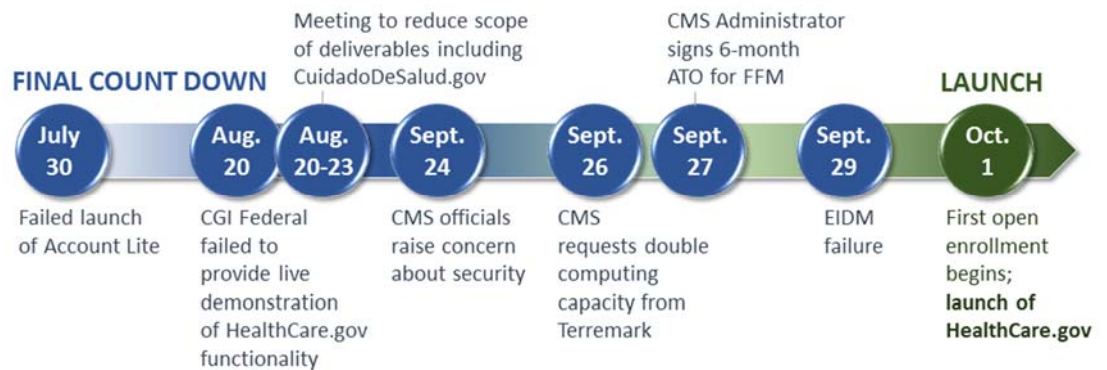
Source: OIG analysis of CMS project management documents, 2015.

KEY FACTORS CONTRIBUTING TO BREAKDOWN

› **COMPRESSED TIMEFRAME for TECHNICAL BUILD**

The final months of development and implementation for HealthCare.gov were chaotic for CMS staff and contractors. The 9 months from January–September 2013 provided, from the outset, very little time to accomplish the tasks remaining. These included tasks critical to success, such as testing website functionality and security, and ensuring adequate capacity for users. Changes in policy and scope continued into early 2013, with the States' deadline to establish their own marketplaces or join the Federal Marketplace moved to December 2012 and many decisions remaining regarding the content of the website. CMS made changes to business requirements and technical specifications well into 2013, delaying development to a point where it was not feasible to complete and test the website as initially planned.

› **RESISTANCE to BAD NEWS**

CMS leadership and staff were warned of trouble prior to the launch of HealthCare.gov, both formally with reports from outside entities hired to assess the project and informally, through meetings and emails. Despite this awareness, those knowledgeable at CMS did not ensure that the bad news prompted appropriate change. CMS leadership and staff took little action to respond to warnings, remaining overly optimistic about the launch, and developing few contingency plans. As the project degraded further and problems became more well-known, CMS officials and staff appear to have become desensitized to bad news about progress. The problems were layered and complex, and information became unwieldy and difficult to prioritize. Also, the CMS officials were used to problems implementing large projects, particularly with technology, causing them to fail to recognize the extent of problems with HealthCare.gov.

› **PATH DEPENDENCY**

In early 2013, problems with the HealthCare.gov build deepened and CMS did little to improve management. Through most of the year, CMS continued with the same plans for a full launch and even added an early implementation of the Account Lite creation function. Given the technology and complex systems involved, changing the project's path would have required a leader or team to conduct a comprehensive assessment of status, and to either possess the authority to alter tasks and processes or to fully communicate that assessment to leaders with that authority. Absent this, CMS staff and contractors continued with the initial strategy and goals, falling further behind schedule, with largely the same leadership, staff, and plan.

› **CORRECTIONS WEAK and LATE**

By the time CMS took action to change the project's path in August and September of 2013, it was too late to adequately affect change given the substantial need for progress and improved execution. For example, the CMS Administrator placed the CMS COO as head of the project without establishing a clear agenda or communicating the decision to the full team. CMS cut functionality that was at one time considered critical to a successful launch, such as the Spanish language and SHOP websites, to divert resources to the main build. This occurred in the last few weeks before launch, when developers and testers reported they were months behind. The rush to launch affected all aspects of the build, including moving forward with only an interim authorization to operate and requesting double computing capacity late in September. Leaders sought to deliver "minimal functionality" but without a comprehensive and thoughtful strategy. The corrections were too weak and late to avert the poor outcome.

CHAPTER 3

LAUNCH, CORRECTION, & FIRST OPEN ENROLLMENT

October 2013–March 2014

The HealthCare.gov launch quickly revealed multiple problems with the website, and initial efforts to fix the problems were hampered by lack of coordination

Problems with HealthCare.gov were apparent immediately after launch. On October 1, 2013, HealthCare.gov experienced 250,000 concurrent users, much greater than the planned capacity. Website outages began within 2 hours of launch, preventing many consumers from logging in and signing up for health insurance. In reporting to the public, the U.S. CTO attributed the problems to high volume, which was five times the number of simultaneous users anticipated.[72] It was soon clear to CMS and contracted operators that the HealthCare.gov issues were not caused solely by a higher number of visitors to the website but also by core problems in website performance. In the end, only six consumers were able to submit an application and select a plan on the first day of the first open enrollment. The problems at launch created a firestorm of negative stakeholder response and media attention chronicling the website problems. Within days of the HealthCare.gov launch, CMS leadership dispatched additional CMS and contractor staff to be onsite at the CGI Federal command center in Herndon, VA to correct software defects and improve system performance. Those onsite were largely staff from CMS and CGI Federal, joined gradually by additional staff from a number of contractors involved with the build.

> *"We were sitting in the office at midnight when it started running and it wasn't looking good. Everything was turning red on our screens."* —EIDM contracted staff

Homepage of HealthCare.gov at launch, October 1, 2013.
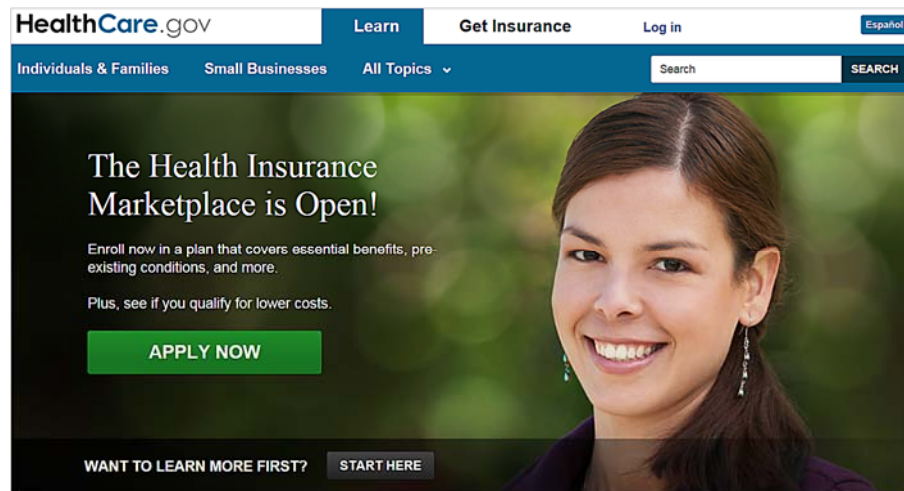
CMS and contractors identified the most immediate performance problem as the EIDM, the website entry system used for establishing accounts and verifying consumer identity, a problem caused in part by CMS not adequately communicating with contractors about overall system functionality. The lack of capacity on the part of the EIDM created a bottleneck to consumers reaching website functions and information. As one CMS official explained, "It was like having a small, one-lane onramp to a major highway." The EIDM bottleneck also caused problems for developers; since the EIDM served as an entry point to the website, coders assigned to fix errors could not easily access the website themselves to see and correct other problems. As one CMS technical official reported, "The FFM was actually the bigger problem, but we could not see the magnitude of the coding problems in the FFM and begin fixing until we got through the EIDM problem." CMS directed QSSI to fix the EIDM and at the same time directed CGI Federal to construct a new portal for website entry and account creation, to be used if QSSI was not able to fix the EIDM. The work on a new portal expended CGI Federal coding time that could have been devoted to other website fixes, but an HHS technical advisor reflected later that the redundancy was a reasonable strategy given the importance of the website entry function and uncertainty about the viability of the EIDM.

Software, Design Defects Cripple Health-Care Website
−The Wall Street Journal 10/6/2013

QSSI, the contractor responsible for developing the EIDM, reported later that they did not know that all visitors to the website would have to enter through the EIDM system and, therefore, underestimated the capacity needed. QSSI officials reported in interviews that they believed the anonymous shopper tool would enable individuals to view health plan information without creating an account, and that CMS's decision to postpone implementation of the tool contributed to the EIDM experiencing heavier than expected traffic. CMS officials later confirmed that the (poorly named) anonymous shopper tool would not have been truly "anonymous" and would have required individuals to create an account through the EIDM even if they only wanted to view plans. (Later in October, CMS launched a limited, temporary shopping tool to allow consumers to view health plan information without establishing an account.)

Initial efforts to fix the website were hampered by lack of information and coordination among CMS and contracted operators. Also hampering diagnosis and correction of the website was a lack of coordination among CMS and contractors in monitoring website performance. CMS technical staff later reported that ensuring comprehensive and coordinated monitoring was not a priority before the launch because resources were focused on completing the build of the website. CMS, CGI Federal, QSSI and other contractors continued adding staffing resources prior to and following the launch, but there was no clear entity or system to coordinate and monitor their efforts. A CMS technical official reported that prior to the launch, contractors were responsible for monitoring their own systems and unable to see other systems, which was a problem because the systems worked together. As a result, there were teams from CMS and contractors in different locations functioning as separate "command centers," including the CGI Federal command center in Herndon and a QSSI command center in Columbia, MD. These centers had a variety of tools for monitoring outages, response time, and errors in loading and processing information, but there was not a single, systems-wide leader or team with an overview of the project and ability to take action. While the CGI Federal command center was still considered the primary location for operating HealthCare.gov, it did not house all CMS and contracted staff relevant to the website's operations. It did not include development teams or contractors responsible for the Hub, EIDM, and data centers, and it did not have an entity serving formally as systems integrator to coordinate these functions.

Federal Government-wide shutdown further complicated CMS's management of the launch. The morning of the launch, the Federal Government was shut down due to lack of funding.[73] The Government shutdown was not certain until late the prior evening. Thus, CMS officials had to manage both the launch and implementing the shutdown, such as distributing notices to staff and managing orderly shutdown processes. The shutdown lasted for 16 days and affected critical Federal Marketplace staff, complicating implementation. CMS officials reported that staff in key offices responsible for Federal Marketplace functions, including CCIIO, OIS, and OC, was reduced to approximately one-third its pre-shutdown levels and in some subgroups, closer to one-tenth of pre-shutdown levels. Contractors continued to work on HealthCare.gov during the shutdown, but they reported that they were hampered by CMS staff not able to work and by the general disruption of processes and communication brought on by the shutdown.

After initial difficulties, CMS and contractors worked with outside experts to repair HealthCare.gov, instilling changes in the project culture and work processes

CMS reconfigured HealthCare.gov operations to improve the website, establishing clearer leadership and consolidating technical operations. On October 22, three weeks after the launch, HHS announced new leadership for the HealthCare.gov fix, appointing a well-known Federal manager to oversee efforts to improve the website and facilitate enrollment.[74] At the same

> *"This was the hardest thing I have ever done and I hope nothing ever comes close to it again."*
>
> —Member of ad hoc technology team

time, the U.S. CTO recruited an ad hoc technology team comprised of several leaders and engineers from top technology firms who were not involved with the Federal Marketplace development.[75] HHS and CMS officials made improving the website a top priority. The Administration assigned an official with business operations experience as the project lead, responsible for managing daily operations and reporting back to White House staff. CMS also filled the Deputy COO position, which had remained vacant leading up to October 1, to provide assistance to the COO. Some from the ad hoc technology team also took lead roles, identifying problems and organizing daily tasks. In combination with the HHS and CMS leadership already involved, this made for a multi-layered group of managers and advisors that could have resulted in difficulties determining which leader would make key decisions. Yet all interview respondents involved in this period reported that it was a productive and efficient environment, with few if any problems of delegation or workflow.

According to CMS staff and contractors, the productive environment was due to several factors: the willingness of CMS and CGI Federal staff to open their work processes to input and work side-by-side with the new ad hoc technology team; the tight structure and discipline brought by the new leadership and engineers, several with extensive expertise working with successful private sector companies; and the shared sense of mission and urgency involved to make the website work for consumers. As observed by a leader of the ad hoc technology team, "Some of the very best engineers and troubleshooters in the world willingly put their lives on hold to dedicate their time to this very difficult problem. . . . They found Government officials and contractors, who also wanted nothing more than to fix the site and who were ready and willing to work together."[76] Similarly, CGI Federal managers reported that their staff felt strongly about fixing the website and "finishing the job we started." Still, the task at hand was difficult and those onsite experienced many successes and failures in improving the software and systems.

By late October, CMS and contractors began to move command center operations residing at the CGI Federal facility in Herndon and other locations to QSSI's Columbia location, establishing what would ultimately become the formal HealthCare.gov command center—the Exchange Operations Center (XOC). The structure at the XOC was based on active coordination between technical and policy staff, a key component missing during the website preparation and development. The structure ensured that technical solutions aligned with the functionality consumers needed to apply for and select plans. A member of the ad hoc technology team explained, "We had policy folks figuring out the error messages. What did the code do or not do? What was supposed to happen?" Lack of tools for website monitoring was still a problem for those repairing the website, particularly as it concerned consumer use.

A member of the ad hoc technology team noted that in the absence of comprehensive monitoring tools, "There was no place to look to find out whether the site was up today or not except CNN, which was literally how we found out about problems a good part of the time in the beginning."[77]

> *"There was no place to look to find out whether the site was up today or not except CNN."*
>
> —Member of ad hoc technology team

Contractors and the ad hoc team of technical experts recommended that CMS obtain monitoring tools for a variety of functions, including website traffic, capacity use, speed of file transfers to States, and website security. During the period of October 1–December 1, 2013, and shortly after, CMS purchased new monitoring tools that provided at-a-glance statistics (dashboard) of website performance.

"Badgeless Culture" is a term used by CMS to signify all CMS and contracted staff operating as a team regardless of their employer status or job title.

The technical staff were divided by function, with one group focused on capacity and speed, and another on defects in the software code. Assignments were made by skill and availability, irrespective of whether the person was employed by CMS or any of the contractors. This effort was the beginning of a "badgeless, titleless" culture at the XOC, meaning an environment in which all staff were to operate as a team regardless of their job title or whether they were a CMS employee or a contractor. Nontechnical CMS staff and contractors were also present at the XOC, or actively communicating with technical staff located at the center. For example, the call centers were linked to the XOC to provide information about problems their staff heard about from consumers.

CMS made key decisions to build on current systems rather than create new ones, to develop contingency plans, and to hire a technical systems integrator. CMS leadership, in consultation with the ad hoc technology team, made a key early decision to refactor (correct and streamline the code for) the existing software code rather than rebuild from scratch. Those involved reported that the decision was based on the tremendous time investment required to start over and the willingness of CMS and contractor staff to work together with the ad hoc technology team to identify and solve problems.[78]

At the same time these repairs were underway, CMS began to develop redundancies for core operations in the event of future problems. CMS's contingency plan up to this point was to ask consumers to fill out paper applications through call-center assistance if the website went down. The new contingency planning focused on establishing redundant systems to keep the website up if the primary systems failed. CMS hired separate groups of developers to begin creating new systems to replace three key components of HealthCare.gov. These were an account creation system, the Scalable Log-In System (SLS) that, unlike the CMS-wide EIDM (the EIDM was developed to support multiple CMS programs), was created exclusively for HealthCare.gov; a streamlined application, Application 2.0 (App 2.0); and Plan Compare 2.0, a new shopping tool that provided more robust information about health plans and premiums, and did not require consumers to create an account. Lastly, CMS hired three companies to run data centers to provide system capacity, placing various data functions at different centers so that, as a CMS official stated, CMS would "not put all our eggs in one basket" and have a greater range of data resources to call upon.

A key decision by CMS during this time was to hire QSSI as technical systems integrator to serve as an advisor in coordinating technical tasks and resources. By all accounts, this action led to greater coordination between and among contractors and CMS technical staff, and enabled project leaders to more quickly and clearly identify and correct problems and allot resources. The job of the systems integrator is to coordinate operations, ensuring that those responsible for various aspects of the project communicate their activities, schedules, and

needs to each other. Some in CMS and outside the agency had raised the idea of contracting a systems integrator at various times since 2011, but the concept was not widely discussed. According to CMS officials, for past projects such as the Medicare Part D implementation, CMS coordinated contract activities themselves, but the agency had not implemented a project with the scope and complexity of the Federal Marketplace. A CMS official reported that, in hindsight, CMS had a difficult time performing the systems integrator role and that it plans to keep a HealthCare.gov systems integrator for the foreseeable future.

> "*We put eyes on everything. We deployed tools that enabled us to see ahead of time if the server would get overloaded. We threw everything up on a monitor to see what was going on.*"
>
> —QSSI, technical systems integrator

HHS officials provided information to Congress and the public. At the same time as CMS staff and contractors were fixing the website, the HHS Secretary and White House staff were managing much of the public fallout following the launch. The website problems were front-page news and generated substantial debate among all manner of stakeholders, including Congress.[79] This culminated in 10 congressional hearings before the end of November, with testimony from the HHS Secretary, CMS staff, IRS, and contractors.[80]

> " Nobody could have felt worse than the people at CMS did. It was their responsibility to stand it up. They want to never have this happen again. –HHS Official

During this time, the CMS OC was responsible for providing updates to the White House, HHS, and the public, holding daily briefings to indicate project status. OC also managed the call centers, adding thousands of call center operators after the first week of operations and transmitting information to technical staff about problems reported by website users to the call-center staff. The website difficulty also affected the call centers and staff in external organizations that helped consumers enroll, such as navigators. In interviews and external studies, navigators reported that technical difficulties with the website and long wait times at the call centers increased the amount of time needed with each applicant. One external study found that approximately 25 percent of assisters (such as navigators) spent more than 2 hours, on average, with each applicant.[81] Developers also made improvements that instructed consumers when the online application was unavailable and provided the call center number as an alternative for consumers to apply for coverage.

HHS announced an improvement benchmark, that the website would "relaunch" and work smoothly for the vast majority of users by the end of November, a date many believed was necessary, given that the ACA required coverage by January 1, 2014.[82] Public reports indicated that the new target date was made on the basis of assurances that the ad hoc technology team made to the White House.[83]

HealthCare.gov consumer message, November 10, 2013.

Those responsible for repairing the website reported that although daily operations of fixing and operating the website were going fairly smoothly, lack of communication among some HHS and CMS senior leadership was still a problem. For example, CMS leaders at the XOC reported that they were not involved in discussions about whether the end of November was reasonable from a technological perspective, and that HHS informed them only after the decision was made. The deadline created further pressure to improve, with one HHS official later reflecting in an interview that "the December 1 assurance for improvement seemed ambitious." Sporadic outages of Terremark's equipment challenged these efforts, including two outages in late October 2013 that led to website downtimes of 24 and 36 hours.

HealthCare.gov downtime message, October 30, 2013.

Inadequate website capacity continued to be a challenge, limiting computing and storage infrastructure for developers to make changes. By mid-November, Terremark had increased capacity to a point at which these challenges were lessened and progress accelerated.[84] The work to improve website performance continued at a strenuous pace, with some CMS staff and contractors reporting they slept in nearby hotels and worked 24-hour shifts. In the meantime, HealthCare.gov went down several times, and press reports and public dialogue were highly critical of the website. As one CMS official stated, "those were dark days." CMS also continued to reduce the scope of the HealthCare.gov build, for example announcing on November 27, 2013, that the SHOP website promised for that month would be delayed until the second open enrollment period a year later.[85]

CMS and the expanded technical team improved HealthCare.gov by December 1, 2013 and continued improvements through early 2014

Even with HealthCare.gov substantially improved, CMS faced large challenges to further improve operations. CMS improved website performance by December 1, 2013, as promised by HHS. Also in December, CMS enhanced its shopping tool that allowed consumers to shop for health plans without creating an account. CMS staff and contractors continued website corrections through the end of first open enrollment (March 31, 2014). The proportion of time that the website was functioning went from 42 percent in early November to over 90 percent at the end of November (see Figure 3).[86]

Figure 3: Percent of time HealthCare.gov functioned during November 2013.

Source: CMS, HealthCare.gov Progress and Performance Report, December 1, 2013.

The website could now handle more than 35,000 concurrent users without crashing, and technical glitches were less frequent.[87] The XOC had project-wide monitoring systems and website performance dashboards. When capacity was overloaded, CMS could place consumers in "waiting rooms" that inhibited navigating further to complete tasks until website traffic was reduced. When placed in a waiting room, consumers were given an option to receive email notification to return to the website when capacity was available or to contact the call center to apply.

HealthCare.gov waiting room message, December 23, 2013.

As the technical staff fixed defects and improved performance, staff at CCIIO and OC were focused on retaining and assisting consumers by resolving problems with individual cases identified by call centers, navigators, and issuers. CMS also extended the period for signing up for health insurance coverage that would be effective beginning January 1, 2014, by 9 days (shifting from December 15, 2013, to December 24, 2013) so that those who encountered difficulty enrolling could have more time.[88] On the final day, HealthCare.gov experienced 49,156 concurrent users, and approximately 1.2 million consumers selected a plan through HealthCare.gov by December 28, 2013.[89]

As the end of the first open enrollment period neared, other issues emerged. As of February 2014, CMS reported that the Federal Marketplace was unable to resolve about 2.6 million of 2.9 million application inconsistencies, which occur when a marketplace cannot verify an applicant's information (e.g., Social Security number, citizenship, income, family size) through available data sources, such as IRS or SSA.[90] CMS reported that as of February 2014, the Federal Marketplace computer systems lacked the capability to resolve inconsistencies and that CMS would retain any documents submitted to resolve inconsistencies until CMS's eligibility system had that capability.[91,92,93] In addition, subsequent OIG work determined that not all of the Federal Marketplace's internal controls were effective in ensuring that consumers were properly determined eligible for health plans and insurance affordability programs.[94] For example, OIG found that the Federal Marketplace did not always validate an applicant's Social Security number when the applicant provided the number at the end of, rather than the beginning of, the application process.[95]

After January 1, 2014, and through the remainder of the first open enrollment period, CMS and contractors continued to work on system improvements, preparing for the expected surge of HealthCare.gov users enrolling before the March 31, 2014, deadline. After meeting the improvement benchmark on December 1, 2013, CMS finalized the designation of the XOC in Columbia as the command center for CMS staff and contractors supporting HealthCare.gov. CMS developed a new and more standardized routine for monitoring the website and managing contracted work, with the XOC serving as the focal point for monitoring and coordinating systems during the remainder of the first open enrollment period. The XOC was staffed by CMS technical staff and contractors involved with multiple aspects of the system (e.g., FFM development, EIDM operations, website capacity, security), and operated 24 hours a day during open enrollment. The XOC also employed new monitoring tools, including an application monitoring tool that updates information about website functionality every 5 seconds. These tools allowed the staff to identify problems more quickly and acquire baseline data to track further performance improvements.

CMS and contractors reflected later that this period represented a shift away from "putting out fires" and toward establishing standard operating procedures that would give the work more form and structure. As during policy development in 2012–2013, CMS temporarily reassigned staff from other divisions to the Federal Marketplace to supplement technical and contractor staff. Some technical problems continued throughout the first open enrollment period, with another outage of EIDM in March 2014 placing incoming users in waiting rooms for up to 45 minutes. To better address challenges as they arose, CMS reorganized its management structure to create formal chains of communication for task areas such as eligibility and data centers to help address these concerns. CMS and contractors set up integrated teams, called "towers," centered on a single project area, such as eligibility.

CMS also more tightly coordinated changes with contractors, in particular aligning contract obligations to meet changing needs, what HHS refers to as "change control." The essence of change control is that the contractor and agency both agree to changes in the contractor's scope of work and document how those changes play out in cost and deliverables. The Change Control Board began meeting daily (compared to initial development, when meetings were infrequent and often cancelled) to review system changes, and coordinated with contractors to prioritize fixes that would have the highest positive impact. As a CMS technical official stated of the prelaunch time period, "In the beginning, we were too busy making sure there was even a product to launch to properly track changes. . . . [After the launch,] the problems came from so many directions . . . we worked with the Change Control Board to make a list of the most important things to fix."

CMS hired a new FFM software contractor, restructuring the FFM contract to better account for high-quality delivery. At the same time CMS hired QSSI as the HealthCare.gov systems integrator, CMS officials decided to consider other contractors to replace CGI Federal. CMS expedited the contracting process by issuing a "letter contract" that was awarded without a full and open competition. Ultimately, the letter contract was finalized into a sole source contract that describes justifications for other than full and open competition. The new FFM contractor, Accenture, had experience with several State marketplaces and had previously built the IRS connection to the Hub. The company presented a proposal to CMS in December 2013 that focused on increasing the technical discipline, clarity of leadership, and decisionmaking authority of leaders. They began work in January 2014 by "shadowing" CGI Federal staff. CGI Federal officials reported that they learned of the switch from reading the *Washington Post* just days before Accenture's arrival.

> *"We were equal partners. . . . We knew that we were all successful or no one was successful."* —Accenture staff

The transition operated in three phases: first, CGI Federal continued in the lead role through February with Accenture in support; second, Accenture acted as the lead with CGI Federal in support for March; and third, after the close of first open enrollment, Accenture fully performed tasks and consulted with CGI Federal as technical experts as needed. Managers from both contractors reported the transition went smoothly, with CGI Federal dedicated to assisting and Accenture to learning and improving the project. Staff from both companies and CMS reported pressure from the public conversation. As one contractor noted, "This was the most visible project in the world." Part of Accenture's task was to refactor the software and institute a way of overseeing and running the project to facilitate rapid decisionmaking.

The Federal Marketplace project and development of HealthCare.gov came at a substantial cost financially and organizationally to CMS

CMS met key enrollment goals for first open enrollment, but incurred higher than expected costs in contracts and fees paid for correcting defects. CMS ended the first open enrollment period with 5.4 million individuals having selected a plan through the Federal Marketplace, a technologically workable system (albeit with limited functionality), a clearer policy framework, and a stronger management structure.[96] However, the attention to the Federal Marketplace effort (including reconstruction of the website systems and other compensatory actions resulting from the launch) had costs for CMS, its programs, and staff.

CMS contract costs for the Federal Marketplace project were ultimately much higher than initially estimated by CMS, but the total contract amount would have been expected to rise from the initial allotment. CMS originally estimated the contract value for six key Federal Marketplace contracts to be $464 million.[97] As of early 2014, CMS had updated the estimated value of these contracts to $824 million.[98] The value more than tripled for the FFM contract awarded to CGI Federal, from $58 million to $207 million.[99] In addition, the value for the Hub

contract more than doubled, from $69 million to $180 million. The remaining four contract values increased between 1 and 54 percent.[100]

The initial estimated value of a contract may increase after award for a number of reasons, including tasks added to the contract or increases in the cost of scheduled work. CMS reported that contract requirements changed during the implementation of the Federal Marketplace and that not all of these requirements were known at the time of award. That said, some of the increased costs were fees that CMS paid to contractors for correcting defects. Also, CMS's decision to select a cost-plus-fixed-fee contract with CGI Federal for the FFM contract under which CMS assumed the risk for cost increases meant that it was obligated to pay all allowable costs associated with correcting defects. Previous OIG work determined that from October 2013–February 2014, CMS paid CGI Federal for charges associated with hours worked to correct defects for work associated with the FFM contract.[101]

> *"We are defined by the person who couldn't enroll, not the 99 percent who could enroll."*
>
> —CMS official

The website breakdown and recovery effort also affected CMS staff, many of whom worked under high pressure for long periods or were redirected from other CMS programs. CMS staff in CCIIO and OIS in particular had been working long hours since receiving the Federal Marketplace program from HHS in 2011, working under tight deadlines on difficult aspects of policy development and the technical build. Now in 2014, both CMS staff and contractors reported difficulty maintaining focus and energy. Compounding this were increased staff turnover and vacancies, causing a greater workload for those that remained and also a loss of organizational knowledge and relationships. For example, as previously stated, one Director's position in CCIIO was filled by seven different people during our review period.

Focus on HealthCare.gov also required CMS to redirect staff from other CMS programs. CMS assigned staff from other divisions to help build and repair the Federal Marketplace. CMS officials said this resulted in a fairly modest cost to other programs, with one senior official observing: "We have enough capacity to absorb extra work for a while. We were not cut to the bone in an organization as big as ours." In assessing this impact, it is important to note that the effect of diverted staff may have been somewhat amplified by more general reductions in CMS staff. According to agency documentation, the number of staff in all CMS offices decreased by about 20 percent between 2011 and 2014, due in large part to a CMS-wide hiring freeze (and normal attrition, such as retirements). Whether due to diverted staff or overall staff reductions, CMS officials noted that fewer staff required that management strategically prioritize what had to be done by postponing some items.

A sense of CMS staff fatigue is unlikely to be abated in the near future with an aggressive schedule for the Federal Marketplace planned through 2016. CMS staff and contractors reported great difficulty completing FFM-related tasks under current time and resource constraints and expressed concern that the prolonged high intensity work could hamper successful operations in the short- and long-term. CMS leadership indicated an awareness of

these problems and have encouraged staff to take earned leave, communicate more openly, and set realistic deadlines that recognize limitations. Leaders have also taken steps to improve morale by recognizing staff who performed well in challenging positions and by establishing and maintaining clearer program objectives and guidance. Still, some key staff have left CMS or transferred out of the Federal Marketplace program to avoid the strain, and others reported they may do so after they feel the program is more fully established.

The imperative for CMS staff was not the publicity and the embarrassment, it was the mission. CMS is accustomed to taking hits. We wanted to fulfill the mission.
–CMS official

Many CMS officials and staff reported in interviews that they stayed at CMS despite the large workload, pressure, and reassignments because they were committed to seeing a successful Federal Marketplace project. HHS and CMS staff reported that one of the most painful aspects of the post-launch fallout during the first open enrollment period was that they believed much of ACA implementation had gone smoothly, as had, in their view, nontechnological aspects of the Federal Marketplace, such as issuer participation and establishment of benchmarks for essential health benefits. While press reports and outside stakeholders appeared overwhelmingly to perceive the launch as an unacceptable failure, a number of CMS technical staff in interviews defended not only the correction period and ongoing work on the website, but also the efforts leading up to the 2013 launch. They alluded to the project's difficulty, arguing that the complex technology, fixed deadline, and multiple systems and stakeholders would have made execution difficult for any entity responsible. Several CMS officials and staff members who were brought into the Federal Marketplace program after the launch suggested that the difficulty of the project itself was as much a cause of the initial website failure as poor communication and project management, believing that people by-and-large did their best under tough circumstances. Current CMS officials acknowledged CMS made major missteps, but they focused on learning from the experience rather than casting blame on individuals responsible.

KEY FACTORS CONTRIBUTING TO RECOVERY

› **QUICK PIVOT to NEW STRATEGY**

CMS and contractors quickly brought in new staff and expertise following the launch, developing an all-hands environment wherein fixing problems with HealthCare.gov was the key agency mission. Most of the additional staffing came to the project within 3 weeks, including technological and project management experts from CMS, contractors, and the private sector. Working collaboratively under new leadership, the team simplified processes and consolidated operations. These changes allowed CMS to make quick progress in identifying the source of problems and developing a strategy forward. The team demonstrated a strong sense of urgency to take action, and quickly accepted new work processes. The widespread attention to the launch and the number of parties involved could have created bureaucratic paralysis, but those working on the repairs directed their attention to immediate action and improved the HealthCare.gov website substantially in 2 months.

› **ADOPTION of a BADGELESS CULTURE**

The enhanced team of CMS staff, contractors, and technological experts correcting problems with HealthCare.gov included people at all levels of CMS and contracted entities, and with varied experience on the project. Before the launch, artificial distinctions and divisions among staff contributed to poor collaboration, lack of communication, disjointed management, and slow progress. Following the launch, first with the technological team and then more broadly, CMS promoted a horizontal culture that was "badgeless" and "titleless," meaning all of those on the Federal Marketplace project were encouraged to collaborate as a single team, regardless of employer or job title. CMS leadership promoted a culture wherein all team members could speak out about problems and develop creative solutions. In interviews, CMS leaders and staff later reflected that this change in culture fostered a greater sense of mission and teamwork that further improved daily operations.

› **INTEGRATION of ALL FUNCTIONS**

The Federal Marketplace needed expertise and personnel across CMS, including policy, technical, contracting and communications staff, as well as many contractors. Prior to the launch, some functions had no formal connection, despite their interdependency. Key to the correction, CMS integrated the various functions both operationally and technically, improving daily work and promoting the larger project mission. CMS assigned clear project and technical leadership, and restructured its divisions to allow for greater visibility and oversight of technical staff and contractors by senior leadership. This integration allowed CMS to identify and address problems more quickly, make informed decisions, and provide clearer direction to those involved in the website development and operations.

› **PLANNING for PROBLEMS**

CMS began to plan for and mitigate potential problems by considering contingencies, building redundant systems, and increasing capacity. CMS's lack of contingency plans before the launch meant that CMS had few options when the functionality and computing capacity of HealthCare.gov encountered problems. Given limited resources, CMS leadership had to analyze past problems with HealthCare.gov and carefully consider how and to what extent it would develop new systems and strategies, such as enhancing training for call center staff. Key to success was identifying all possible problems and developing systems and strategies specific to the concern.

CHAPTER 4

TURNAROUND & SECOND OPEN ENROLLMENT

April 2014–March 2015

In April 2014, CMS turned to preparing for the next open enrollment and added functionality, sharply prioritizing to limit scope and focus resources

"Ruthless Prioritization" is a CMS term for determining the most critical elements of a project to be completed given the available time and budget.

<u>CMS worked to limit the scope of work required for second open enrollment</u>. By the end of the first open enrollment period, CMS had a stable website that functioned well at high capacity, but planned components had yet to be completed. CMS needed to make significant upgrades to the account creation, application, and plan selection subcomponents, and to complete the financial management system that would track effectuated (paid) enrollments and manage payments to issuers for Federal financial assistance and premium stabilization. The day after first open enrollment closed, April 1, 2014, CMS began substantive planning for the second open enrollment period of HealthCare.gov to occur 7 months later on November 15, 2014. Federal Marketplace managers from OIS, CCIIO, OC, and the Office of the [CMS] Administrator met in a 3-day session for what they termed "ruthless prioritization" to consider which elements were most important to include for the second open enrollment period and what funds were available. CMS leadership requested that managers provide a list of technological needs, then technical and business management staff evaluated the personnel, time, and other resources needed to complete each task. According to officials, the group debated and then cut about half of the items requested.

50%
Estimated Cut from list of additional functionality for second open enrollment in April 2014.

These cuts included key elements of the Federal Marketplace system, including completion of the automated financial management sytem and tools for existing plan holders to reenroll. CMS initially planned for the automated financial management system to be completed for the first open enrollment period, then delayed the project to focus resources on items considered essential for the website's 2013 launch. In the interim, CMS established a manual process to track effectuated enrollments and manage payments to issuers, which an OIG audit later found did not have effective internal controls in place to detect possible payment errors.[102] In addition to cutting automated financial management, CMS cut components of the automated reenrollment functionality that would have redetermined the eligibility of existing enrollees who did not make an active plan selection on or before December 15, 2014.

CMS had not yet developed this component because the first open enrollment had only new customers and did not require reenrollment. CMS also scoped out planned website tools intended to help consumers make health plan purchasing decisions.

This process for strategic and organized prioritization marked a significant improvement over the reprioritization meetings that occurred prior to the launch. The 2013 prelaunch reprioritization was performed late (August 2013, less than 2 months prior to launch), resulting in rushed and poorly informed decisions, and did not cut enough functionality to alter the negative outcome. For 2014, CMS officials and contractors allowed for more time, fully engaged officials from across the organization, and conducted a close examination of resource costs and program implications.

"Pens Down" is the term CMS used for signifying the final date for technical staff to make system coding changes.

Informed in part by problems in 2013, CMS set an aggressive schedule to make technical improvements in every area. Also in April 2014, CMS leaders went over the schedule with Accenture, QSSI, and other key contractors to ensure adequate time for testing before second open enrollment. Recalling the 2013 problems with policy changes requiring changes to the software late in the build, CMS established a more formal process for "change management," the task of completing and communicating changes in policy, business requirements, and technical specifications. Part of this process was to bring problems to managers more quickly and to include more detail in technical reports and presentations. A CMS technical official indicated that during this time period, CMS and Accenture were still correcting coding problems that were not fully resolved during the recovery period after first open enrollment. CMS also set a firm "pens down" date of October 7, 2014, for system coding, meaning no additional system changes were to be made other than to address problems found during testing. Another barrier to testing in 2013 was coordinating testing environments to provide enough computing and storage space to run tests. To improve this for the second open enrollment, CMS increased its infrastructure available for testing, and staff at the XOC worked in conjunction with QSSI, the systems integrator, to schedule use of testing environments among the CMS staff and contractors working on various pieces of the build.

CMS also refined processes for the XOC, which was now able to shift its focus from fixing problems to training and establishing longer-term processes. As a CMS official at the XOC stated, "We tried to step away from heroics." CMS managers conducted readiness reviews that identified weaknesses in the XOC's ability to operate during open enrollment. Two key changes resulted, both regarding leadership: CMS designated the role of the Pit Boss, a contracted employee who manages incidents and ensures that system changes are coordinated across teams; and instituted a Floor General position, a CMS employee who reports status and problems to a CMS Executive On Call and coordinates the XOC workflow.

Other changes to management of XOC operations included hiring a permanent team of "site reliability engineers" to provide technical guidance focused on maintaining service; additional training, such as simulation drills to existing staff; and enhanced monitoring tools for "real-time" tracking of functions, such as the application process. They also coordinated closely with other Federal agencies, such as SSA and IRS, regarding system downtimes and technical changes in interrelated systems. CMS established a new Open Enrollment

Coordination Center to coordinate the nontechnological aspects of open enrollment, such as consumer and issuer experiences, and relay information from this vantage point to the XOC to improve operations (see Figure 4). Overall, these enhancements strengthened CMS's ability to respond to operational issues with the website.

Figure 4: Description of Open Enrollment Coordination Center.

> ### TYING IT ALL TOGETHER—OECC
>
> In September 2014, CMS created the Open Enrollment Coordination Center (OECC), an entity that serves as the "business version of the XOC" and operates out of the policy office, CCIIO. The OECC placed the communication and coordination of all project components into a single office with a small group of staff. The key tasks of the OECC are to monitor and coordinate resolution of all open enrollment issues by translating information to and from the policy, operations, communications, and technical teams. The creation of the OECC allowed the XOC to focus only on technical systems. The OECC works closely with the call centers that receive information from consumers and issuers about problems, then feeds the information back to the systems operators at the XOC. The OECC keeps an "open bridge" telephone line with the XOC and determines how consumers and issuers might be affected by technical problems.

Second open enrollment was complicated by the need for reenrollment of existing plan holders, requiring new website functions and communication to consumers. As previously stated, CMS had to implement new technology for the second open enrollment that enabled existing plan holders to reenroll, either in their prior plan or a new plan by December 15, 2014.[103] Existing plan holders could access the site to compare and consider selecting a different plan for their second year, but CMS officials wanted an automated reenrollment process that could also redetermine whether the plan holder was eligible to receive Federal financial assistance. This would be convenient for consumers who did not want to reapply to stay enrolled in their current, or equivalent, plan and continue to receive financial assistance. Auto-reenrollment would also reduce the number of users on the HealthCare.gov website, therefore reducing capacity needs, which had been such a problem during the first open enrollment period.

> 66
> _Year two was arguably tougher than year one because of the complexity of adding reenrollment. –CMS staff_

Reenrollment and redetermination of existing plan holders raised other complexities beyond the technical development; existing plan holders would require different information from CMS than did new consumers. Updated regulations required the Federal Marketplace to send notices to all individuals who received financial assistance and describe the annual redetermination process for financial assistance.[104] During summer 2014, CMS provided enrollees with the benefits of each option, (i.e., automatically reenrolling or reviewing plan options) by letter and email. This information explained that if a consumer's income or household size had not changed, then they could choose to do nothing and HealthCare.gov would automatically renew their coverage. (Changes in income or household size could result in new monthly premium rates or changes to eligibility for financial assistance.) Several media reports criticized CMS for encouraging consumers to do nothing. Eventually, CMS leadership came to believe that consumers would be best-served by logging back into HealthCare.gov to

decide whether to change plans. In October 2014, CMS revised its message on the website and in other materials to emphasize that consumers would benefit from updating their personal information on the website and reconsidering health plan options.[105]

Timeframes were tight for final website improvements, but CMS execution was much improved in comparison to 2013. In addition to addressing the new challenge of auto-reenrollment, CMS made other changes, including improving the waiting room system during heavy-use periods. CMS also implemented changes to accommodate two States (Nevada and Oregon) that began using the Federal Marketplace for certain functions and one State (Idaho) that left the Federal Marketplace to build a State marketplace.[106] (Thirty-seven States used the Federal Marketplace during the second open enrollment.[107]) Other aspects of the HealthCare.gov operations were still in flux weeks before the second open enrollment period, and contractors conducted some system testing behind the original schedule. For example, testing was delayed for the new function to notify issuers whether their existing plan holders would be automatically reenrolled in their previous health plan or chose a different plan through HealthCare.gov; this testing was delayed from August to October 2014, just a month before the second open enrollment period. To handle the additional tasks, CMS augmented its staff in the final weeks before second open enrollment, including adding staff to the call center and redirecting some technical staff from other divisions, as in 2013.

CMS management of the project leading up to the second open enrollment period again stood in contrast to the 2013 launch. Project documentation indicated that in 2013, CMS and contractors were frantic to establish basic website functionality. As a result, they pushed forward faulty and untested functionality and hoped to fix it after the launch. Project documentation indicated that in 2014, CMS maintained a more disciplined project schedule, meeting deadlines with a goal to implement only technology that had what project documentation referred to as "perfect execution." When this standard could not be met in time, CMS identified problems more quickly to allow time to employ contingency plans. For example, the new account creation and identity verification system, SLS, was deemed unready in late summer 2014, so CMS and contractors re-engineered a portion of the existing system, EIDM, to serve as a dedicated account creation and identity verification system called Insurance Marketplace Authentication System (IMAS).

> App 2.0 went into production 30 days early so we could see it in the wild (during special enrollment). It was very successful. –CMS staff

One of the causes of problems with the EIDM in 2013 was that it was designed to provide identity management services to multiple CMS programs rather than exclusively for HealthCare.gov. CMS technical staff and contractors re-engineered IMAS specifically for HealthCare.gov so that it allowed consumers to create an account, but avoided the EIDM entry bottleneck. IMAS was in testing by September and complete by October 2014. CMS continued to develop and test the SLS, launching it in February 2015 and completing the transition in March 2015. CMS also deferred a new tool called Plan Compare 2.0, which was designed to provide a more comprehensive comparison of health plans and premiums than the temporary shopping tool established after the launch. CMS suspended work on Plan Compare 2.0 in summer 2014 to focus on what they perceived to be more critical: the new streamlined App 2.0 consumer application. CMS conducted a "soft launch" of App 2.0 to special enrollment period consumers in September 2014, then used App 2.0 for all new

consumers during second open enrollment with high performance results, according to CMS documentation. As an illustration of improved planning and organization, CMS made the decision to defer a portion of Plan Compare 2.0 fully 5 months before second open enrollment began as compared to a decision regarding the similar "anonymous shopper" tool that CMS deferred 11 days prior to first open enrollment.

CMS focused increasingly on consumer outreach and assistance, including improvements to the navigation and content of HealthCare.gov. Leading up to and during the second open enrollment period, CMS placed greater focus on expanding outreach to eligible consumers and to assisting consumers with enrollment. "There is less happening now on the policy side, so our focus can be on consumers," explained a CCIIO official. The direction for these efforts was led in part by feedback CMS received from navigators and call center representatives, and from information gleaned by HHS and CMS officials from stakeholders such as issuers, community organizations, and the public. CMS OC also conducted market research to identify barriers to enrollment.

Strategies differed for existing HealthCare.gov plan holders and potential new consumers. CMS sent existing plan holders letters, email, texts, and telephone calls to encourage re-review of plan options, and remind them of the auto-reenrollment process to take place on December 16, 2015 and other key dates. CMS also reached out directly to consumers who started applications on the website but left them incomplete, encouraging them to return to the website to purchase plans. To encourage new consumers, CMS conducted public enrollment events, many featuring the HHS Secretary and other officials, purchased advertising, and invested further in local navigators. In addition to information about the Federal Marketplace and HealthCare.gov, these efforts sought to address needs in consumer health literacy, such as instruction in health plan and coverage terminology. In interviews, CMS senior leadership indicated this was in part to increase enrollment in the marketplaces but also to improve overall public knowledge of health care and insurance, regardless of where it is purchased. As a senior CMS official observed, "We could be a resource for 300 million people, not just 10 million."

To improve the usefulness of the HealthCare.gov website, CMS sought to sharpen its visual appearance, navigation, and content. For example, CMS improved navigation tools to engage consumers to access additional information without leaving the home page. CMS also replaced question-based categories ("Am I enrolled?") with simpler topic-based labels to reduce confusion. The HealthCare.gov home page also clarified what actions consumers could take immediately and on key future dates, and updated these instructions (e.g., from "Get Ready" steps prior to open enrollment to "Act Now" steps during open enrollment). CMS sought to improve website navigation in particular for complicated households, such as blended families covered in part by employer insurance or government programs, and added substantially to HealthCare.gov website content, including more thorough explanations of coverage, improved tools to compare plans, and consumer case

> *Year one we focused on fixing the technology, for year two we focused on the consumer.*
> *—CMS marketing staff*

> *"Now that operations are stable, that frees us up to do more."*
> *—CMS consumer staff*

examples. CMS also launched the SHOP website, which enables small businesses and their employees to browse plan offerings and enroll in coverage online, to apply for Small Business Health Care Tax Credits, and to obtain personalized assistance.[108]

HealthCare.gov homepage encouraging consumers to get ready for the second open enrollment period, October 3, 2014.
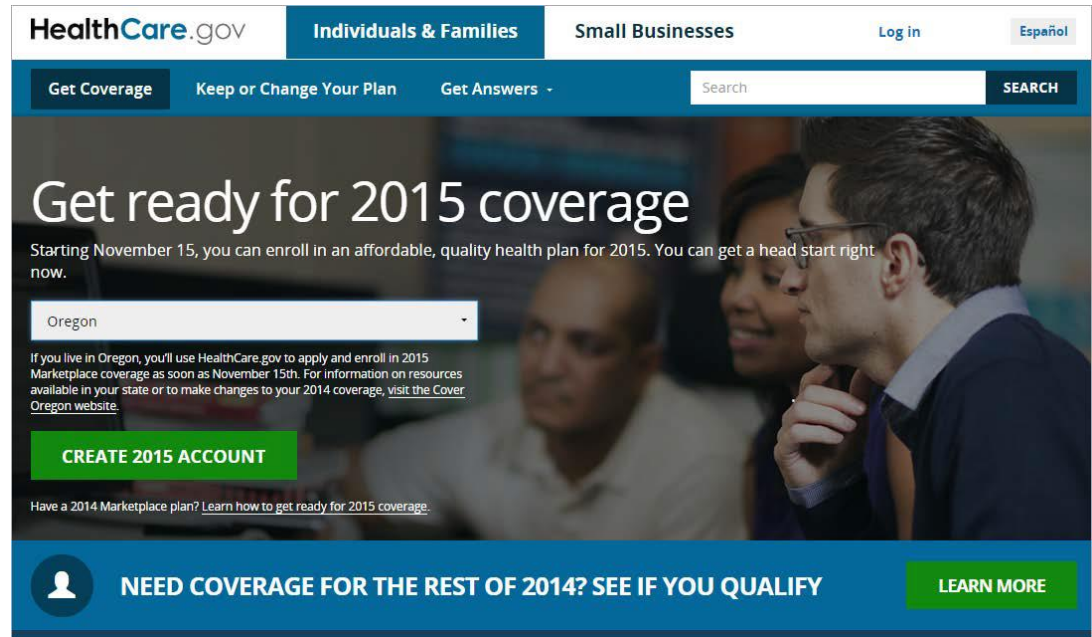
CMS also sought to address prior difficulties that many consumers had regarding premium tax credits. CMS regional office staff reported increasing communication in 2014 to make consumers aware of the importance of making updates to their income estimates. Early external reports indicated that the income estimates of half of consumers were too low during the first year of enrollment and these consumers consequently owed income taxes for 2014 following the first year of reconciling estimated to actual income.[109] In interviews, a sample of navigators indicated that they were not equipped to field questions regarding the tax implications of enrollment decisions, and that CMS could have provided more information and guidance about tax-related issues.[110,111] Also, according to the navigators, CMS did not provide consumers with adequate guidance about the need for consumers to update their income information.

Second open enrollment operations of HealthCare.gov ran smoothly, with high use and no CMS system outages. The second open enrollment period began November 15, 2014, and CMS documentation indicated the technical aspects of the website and supporting systems performed well, with no system outages and few consumer reports of problems applying or selecting plans. On the first day of second open enrollment, the website had approximately 34,000 accounts created, approximately 60,000 applications submitted, and over 650,000 unique visitors.[112] HealthCare.gov response times were also quicker with a 3.21 second median time for logging in during the second open enrollment compared to 18.46 seconds during the first open enrollment. [113] The highest number of users on a single day to

HealthCare.gov during second open enrollment was 1.86 million,[114] with capacity to support a high of 250,000 concurrent users without an outage. See Figure 5 for a comparison of selected statistics for HealthCare.gov between first and second open enrollment.

Figure 5: Comparison of selected HealthCare.gov statistics.
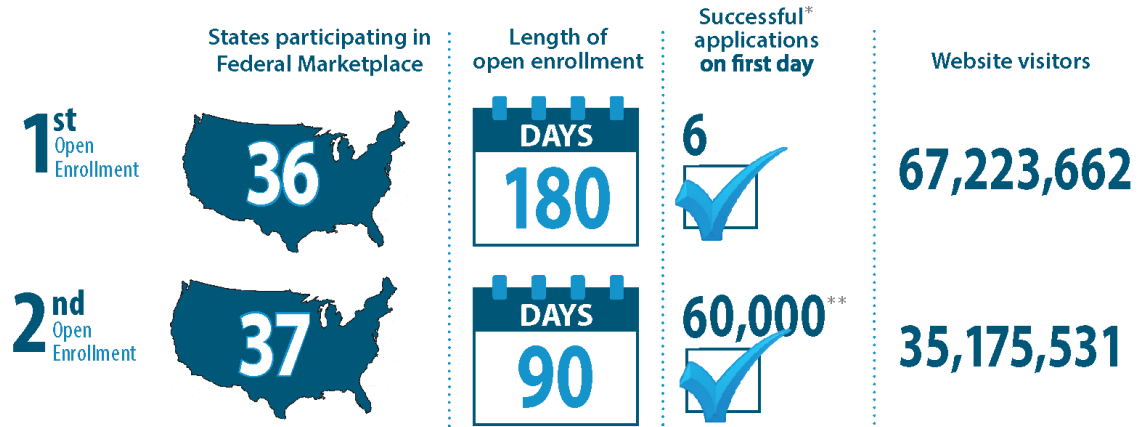
Source: CMS and HHS project management timelines and benchmark reports.
* Successful applications are those accepted by the issuer.
** Approximate number.

CMS highlighted what it considered key successes across the first two open enrollments. A June 2015 analysis showed that approximately 9.9 million consumers had signed up and paid the premium for a health plan on HealthCare.gov or a State marketplace during second open enrollment, surpassing the Department's revised projections of 9 million enrollees but falling short of the Congressional Budget Office's projection of 13 million enrollees.[115] During that same period, CMS reported that increased competition in the Federal Marketplace provided consumers, on average, with 25 percent more health plans to choose from while minimizing premium increases to 2 percent for the benchmark plan in each State used to calculate premium tax credits.[116]

Changes made by CMS during preparation for second open enrollment also focused on longer-term improvements to the Federal Marketplace and throughout CMS

CMS further formalized HealthCare.gov project leadership. Improved technical execution was due in part to changes made by CMS to Federal Marketplace management. CMS continued its contract with QSSI as technical systems integrator in September 2014, and the CMS Administrator sustained daily, hands-on leadership through mid-2014. In June 2014, the agency hired a Principal Deputy Administrator who had served as a key contracted manager during the website recovery period and was knowledgeable about the project and its responsible staff.[117] The responsibilities of the position extended beyond HealthCare.gov, but interviews with the then-new Principal Deputy Administrator indicated a focus on HealthCare.gov through the second open enrollment period. In August 2014, CMS hired a formal "Marketplace CEO," selecting the former director of a State marketplace.[118] These new officials, in conjunction with the CMS Administrator, coordinated Federal Marketplace tasks across CMS divisions responsible for various aspects of CMS's functions, such as OIS for

information technology, OC for communications, and OAGM for contracting. In interviews, a senior CMS official described this as a "re-boot" of its prior "enterprise" (organization-wide) management strategy that relies on sharing services across the organization and its programs. The CMS COO reflected that the prior enterprise strategy itself was not faulty, given the need for specialization across a large, complex organization, but in this case, the unclear leadership and communication across divisions had diminished its effectiveness, made worse by the lack of integration among multiple contracted entities. Other CMS officials and staff stated similar views, contending that the success of the enterprise structure is dependent on leaders managing projects globally across functions so that they can assess overall progress and identify gaps.

CMS renewed its focus on contract management, particularly emphasizing the agency and contractor relationship. HHS and CMS changed core contracting policies that had compounded problems with contract management to work more closely with contractors and better ensure project tracking and performance. To improve its management of contracts, HHS instituted in April 2014 new acquisition planning guidance and is amending the HHS Acquisition Regulation, the Department's rules for conducting acquisitions, with the goal of improving efficiency and effectiveness of various phases of the acquisition process.[119] CMS officials reported several changes to its contract procurement and oversight strategy, including better defining individual roles and responsibilities and transitioning to a "program management" structure for managing all IT-related investments, including the FFM. This structure requires program managers to maintain responsibility for the overall success and management of the IT systems that support the program.[120] According to CMS, the goal of the policy is to develop a program management culture that ensures everyone involved is working to meet the needs of the project and organization. CMS had already addressed another key problem in contract management: adding to the scope of the contract ("unauthorized commitments"); prior to the first open enrollment period in April 2013, the Director of OAGM issued a guidance memorandum in response to CMS staff having modified the scope of contractor work without authority to do so.

Part of CMS's problem in managing contracts before the launch may have been a lack of understanding by CMS staff regarding the agency-contractor relationship. According to interviews and correspondence, some CMS staff were reluctant to work too closely with contractors for fear of violating Government contracting rules. For example, CMS staff working on the website sometimes requested that contractors not participate in meetings or receive information. These actions resulted in a sense that CMS and contractors were not a team working toward the same goals and hampered the agency and contractor relationships that would promote communication and progress. As one CMS official noted, "We had to change the mindset without changing good governance . . . [to

> *"We had to change the mindset without changing good governance . . . [to emphasize that you need] good relationships with contractors."*
>
> —CMS official

emphasize that you need] good relationships with contractors." To achieve this, CMS leadership more clearly instructed staff who were coordinating technological work and supervising contracts about rules and provisions related to contracted work, and also instructed contractors to work more collaboratively with each other and the CMS divisions. For an agency in which much of the work is performed through contractors, this represented more of a cultural shift than a change in policy.

Communication improved among CMS divisions as the agency focused on merging policy with operations, and encouraging identification of problems and sharing bad news. CMS management focused on better blending the policy and technical components of CMS with a greater sense of what CMS leaders called "the physics of operations" or "operational awareness." Policymakers acquired a better understanding of the effort required to effectuate policy decisions, both in terms of time and resources, so that those considerations could better inform decisionmaking. According to interviews with long-time staff members, CMS has always had a bifurcation between operations and policy, but during our report period, leadership appeared to be changing this. One long-time staff member observed: "[CMS] leadership now is more focused on how to think of the end-to-end process."

> *"You can't over communicate. Over communication is never a problem."* —HHS official

This close interaction between CMS officials and staff also required a willingness to solicit and accept bad news, such as negative assessments of progress and performance. CMS officials recognized that they needed to actively look for problems, and CMS employed a policy of encouraging staff and contractors to do so. CMS staff shifted from following known processes to continually assessing outcomes and progress. For example, CMS identified a number of problems in the lead-up to the second open enrollment through "deep dives," assigning staff to scrutinize the performance of a specific area or function (such as eligibility) and bring to CMS leadership their assessments of weaknesses. This approach provided a way for staff to move bad news to leadership and provided a more formal record of problems to better ensure resolution. Seeking bad news and changing course as needed takes, according to one CMS senior leader, "a conscious effort" with buy-in and follow-through from all levels.

Another change in approach was to conduct financial budgeting for the Federal Marketplace project as a single process rather than manage separate budgets across the various CMS divisions and functions. Leading up to the launch of HealthCare.gov, CMS had separate budgets for the policy and technological work in the two key divisions of CCIIO and OIS. This led to confusion over which division covered which costs and responsibilities and resulted in inefficiencies. In preparation for the second open enrollment period, the Federal Marketplace budget was combined into a single process, meaning that both IT and non-IT costs and benefits would be more clearly assessed together, and each division better understood the activity of the other and potential tradeoffs for decisions and additional expenditures. As a CMS financial officer noted, "If the call centers needed more money, we could push back on some IT activities."

CMS management focused on realistic alignment of project goals and resources, and straightforward measurement of outcomes to avoid "artificial progress." Two key aspects of CMS's operational strategy during this period were to more carefully align project needs with organizational resources and to monitor use of resources and progress more closely. CMS officials spoke in interviews of avoiding the prior problems of CMS staff and contractors working at cross-purposes and on tasks that did not clearly promote core objectives. They observed that the prior approach created an environment of "artificial progress" that created unwarranted optimism and masked problems. "[We are] outcome driven . . . [meaning] no hiding," noted a CMS official.

> " *If we have a challenge, we talk about it daily. If we have a really big challenge, we talk about it twice a day.*
> —CMS official

QSSI, the systems integrator, played a large role in increasing rigor in aligning project goals and resources. QSSI continually assessed project progress and weak points and connected with staff to resolve discrepancies or potential breakdowns. As a CMS official reflected, "[QSSI] lifted up the specifics to flag problems and bring them to leadership, preventing silos and poor communication. People don't always want to take problems to [leadership], so the systems integrator did so." CMS officials credited QSSI with easing the process of executive decisionmaking when decisions required the input of CMS leadership. QSSI handled much of the "executive reporting" function previously held by CMS division leaders, which saved time for those working on various pieces of the website and program, and also provided an easier and more objective method for bringing forth problems.

> *"People don't always want to take problems to [leadership], so the systems integrator did so."*
> —CMS official

CMS senior leadership was actively involved in daily project work for HealthCare.gov, easing aspects of project management but likely not sustainable over time. Another noteworthy difference in project management during this period was the degree to which senior CMS executives handled day-to-day operations for the Federal Marketplace. The CMS "C Suite" of Administrator, Principal Deputy Administrator, COO, CIO, Chief of Staff, and other leaders routinely attended Federal Marketplace meetings. Senior leaders alternated as the Executive On Call, serving 24-hour shifts to make decisions more rapidly, regardless of the time of day. As a result, even specific problems reached the top; for example, an issue that concerned a single health plan in one State was raised to the Administrator and resolved within hours. For the most part, CMS staff touted the senior-level involvement as positive and welcome, enabling quicker decisionmaking and greater unity across divisions. CMS senior leadership and staff also noted that this involvement likely raised the sense of urgency to collaborate and to complete tasks timely and well. As one CMS official noted, "If people know that problems will be elevated to the top levels quickly, the incentive to reach consensus and move forward is very high."

> *"If people know that problems will be elevated to the top levels quickly, the incentive to reach consensus and move forward is very high."*
> —CMS official

CMS officials reflected that there were also drawbacks to such concentrated involvement by senior CMS leaders and that it was likely not sustainable indefinitely. A few officials and staff expressed concern that CMS senior leadership had overcorrected their prior lack of involvement, and that continued heavy involvement could lead to a narrow focus on daily chores and "managing to a punch list" at the expense of broader organizational needs such as strategy and goal-setting. As one official stated, "We got a more granular operational awareness, but sometimes at the expense of a broader view." CMS officials noted an awareness of this drawback and indicated they would reassess the level of senior leadership involvement as the Federal Marketplace system matured. As one CMS official reflected, "When you have the problems we had, you are going to see more time and depth of senior leadership involvement. As we move to a more mature program, we will see less of that."

> *"We got a more granular operational awareness, but sometimes at the expense of a broader view."*
>
> —CMS official

CMS expects its restructuring to improve operations across the organization. CMS changed its organizational structure in February 2015 to improve governance (oversight of processes) and make more efficient use of resources. These changes included segregating IT operations and governance to preserve impartiality in making IT decisions, promoting shared use of services such as IT and contracting, and elevating the usefulness of its data analytics functions. To preserve impartiality in making IT decisions and governing those decisions, CMS divided two functions from OIS into separate groups: IT operations (e.g., networking and hardware) and IT governance (e.g., software architecture and security). The new Office of Technology Solutions is responsible for IT operations while the broader Office of Enterprise Information is responsible for IT governance, under the leadership of the CMS CIO. Also, CMS established an information security team under the CIO that monitors and tracks corrective plans for security vulnerabilities and ensures the plans are completed.[121,122]

> *Marketplace has quickly become an incubator wherein we lead change to other areas of the organization.*
>
> –CMS official

To promote the enterprise structure and sharing use of services such as IT and contracting, CMS leadership formed a Strategic Planning and Management Council comprised of five workgroups: appeals, eligibility and enrollment, plan oversight, security and privacy, and workforce planning. The workgroups include leaders from each of CMS's programs with the goal of mapping out operational similarities and developing opportunities to share resources. For example, several CMS programs, including the Federal Marketplace, provide support for beneficiaries, providers, and suppliers to appeal coverage and payment decisions. The appeals workgroup outlined similar appeals processes across programs and combined operations where appropriate. Finally, CMS placed its new Chief Data Officer and data analytics and research group within the Office of the Administrator to further integrate the use of data into CMS management and decisionmaking.[123]

Challenges remain for CMS in operating HealthCare.gov, with public scrutiny high and the website and other automated functions not yet complete

Public scrutiny of HealthCare.gov is still high, and periodic problems continue to raise concern from stakeholders. Public attention to the performance of HealthCare.gov diminished even before the start of the second open enrollment period. The website was perceived as working well, but criticism of the launch and the cost of recovery remains in the public dialogue. Some CMS officials reflected this was likely due in part to the continuing political contention over the ACA and marketplaces. An April 2015 Kaiser Family Foundation poll found that the public's opinion of the ACA remains divided, but the overall view turned favorable for the first time since November 2012 with 43 percent reporting a favorable view of the law and 42 percent an unfavorable view. [124] The margin between positive and negative views remains slight; January 2016 results from the same survey indicated that overall public opinion turned negative again, with 44 percent reporting an unfavorable view and 41 percent a favorable view.[125]

> *"We are in a fishbowl. In the private sector, no one knows your mistakes, but everything we do is visible."* —CMS official

Much of the public dialogue has surrounded the extent to which Government officials and contractors should be held accountable for mistakes leading up to and at the launch. There were calls from Congress and the media for Government officials to be fired over the website failures. Most notably, CGI Federal lost its role as the primary contractor for the FFM.[126] Additionally, some HHS and CMS officials and staff did resign or retire following the launch, and others were reassigned to different positions or their responsibilities were revised. CMS staff reported that these changes were due to a range of factors, including differences in approach regarding the project's direction and management, concerns about poor performance, exhaustion following the intense work leading up to and following the launch, and changes that occur in the normal course of business during a reorganization. CMS officials indicated in interviews that the fact that more CMS staff involved in the launch did not leave their positions immediately was due in part to CMS's need to implement post-launch corrections and retain already low staffing levels.

CMS continued through 2014 to face issues related to HealthCare.gov, which led to substantial media interest and congressional inquiry. Most were resolved, although they likely led to some continued public concern about HealthCare.gov operations. For example, in mid-2014, a hacker breached a HealthCare.gov test server, causing CMS and observers to question security, although there was no known compromise of private information.[127] In another example, media discovered that CMS allowed third-party content providers, hired by CMS to monitor consumer use of HealthCare.gov, to share personal information of HealthCare.gov users with other entities.[128] Although CMS contended that this was a fairly common practice for public websites, the agency curtailed sharing of information in response to the concern. Errors also continued to occur in providing enrollment and other data to stakeholders. The most publicized of these errors was an overstatement by the CMS

Administrator in testimony to Congress in September 2014 of the number of individuals enrolled in health plans, an error that CMS later attributed to a staff error in interpreting the data. And in early 2015, the FFM sent incorrect tax forms, later corrected, to thousands of consumers who received tax credits, prompting the IRS to provide more time for consumers to file their taxes.[129] These errors resulted in questions about the accuracy of HealthCare.gov enrollment figures overall and more stakeholder inquiry.[130]

CMS has not fully implemented the Federal Marketplace automated financial management functions. The most significant technical challenge facing CMS is completing implementation of the automated financial management system. CMS planned to complete the automated system prior to the first open enrollment period, then delayed the system's projected completion date several times to prioritize other aspects of the Federal Marketplace project. OIG audits found that with the manual system CMS used in the interim, CMS could not confirm the accuracy of payments at the individual, policy-based level[131] and could not ensure that payments are made only for enrollees who paid their premiums.[132]

CMS has continued work on the automated system, now called Enrollment and Payment System (EPS). When fully implemented, EPS will automate all financial functions of the Federal Marketplace, including tracking effectuated (paid) enrollments, managing payments to issuers for financial assistance and premium stabilization, and managing user fees. In January 2016, CMS transitioned most issuers to the portion of EPS that calculates payment amounts and enrollment numbers, replacing the manual calculation method with a more precise, policy-based method.[133] CMS continues to add issuers to the automated system as they meet the agency's criteria for readiness to transition. The agency plans to complete the remaining EPS functions within 2016, hoping to make financial management of the Federal Marketplace more efficient and lower cost, and to improve the accuracy of payments and data. Even with the full automation, CMS staff acknowledged in interviews that there will always be some need for data reconciliation between Federal Marketplace and issuer data to ensure that issuers have accurate consumer information. CMS reported that it plans to continue conducting internal validation checks to ensure issuers submit accurate information.

In addition to completing the website build, CMS must continue to address technical and operational challenges. CMS has continued to correct technical problems with the website, some dating back to the original 2013 framework. As with earlier problems, changes to the system still require development of business requirements, technical development, website performance and security testing, and reconfiguration of monitoring and operations, such as website capacity. In interviews, CMS officials indicated they perceived the third cycle of open enrollment as the "first full enrollment period" because this is the first open enrollment period for which they will have data to predict consumer use of the website for both first-time enrollees and re-enrollees. These estimates of website user behavior should allow for more precise measurement of needs for

> _"The complexity of the systems is surprising. . . . You could have a Ph.D. in [Federal] Marketplace data file transfer."_
> —CMS technology official

website capacity and consumer support. There are other, ongoing challenges, such as improving the transfer of account information to issuers and consumers. As one CMS technology official who was new to the project noted, "The complexity of the systems is surprising. . . . You could have a Ph.D. in [Federal] Marketplace data file transfer." Depending upon the data issue, this task is shared by CMS policy and technical staff, with CCIIO focused on conducting outreach and casework with issuers and consumers, and the Office of Technology Solutions focused on data transmittal. CMS reported that it also hopes to continue increasing enrollment among eligible consumers who have not purchased health plans. Prior to the third open enrollment period, an estimated one-third of eligible consumers had enrolled in health plans through the Federal or State marketplaces.[134]

CMS must also improve the accuracy of critical Federal Marketplace functions such as determining who is eligible and amounts paid to issuers. Previous OIG work based on data from the first open enrollment period concluded that CMS should strengthen its internal controls for determining eligibility for enrollment and Federal financial assistance, and for resolving inconsistencies in enrollment information submitted by applicants.[135] In response, CMS reported that it works continuously to ensure that the Federal Marketplace accurately determines eligibility and resolves inconsistencies, including making regular updates to the system to resolve issues. As an example, CMS created a new "pop-up" message in the HealthCare.gov application to encourage consumers to enter a Social Security number on the application, which CMS believes should decrease the number of data-matching issues from that of the first open enrollment.

Open enrollment for the third coverage year of the Federal Marketplace was originally to begin on October 1, 2015 (see Figure 6 for open enrollment dates);[136] CMS moved the start date by 1 month to November 1, 2015, in order to complete the build of additional functionality and for new issuers to submit and refine plan data. CMS also extended the end date of open enrollment to January 31, 2016, to provide 3 months, the same duration as the second open enrollment period.[137] CMS plans to continue open enrollment for annual 3-month periods, unfolding a multi-year IT approach to continue improvement, such as enhancing plan selection tools for consumers.

Figure 6: Periods of first–third open enrollment for the Federal Marketplace, 2013–2016.

Source: 45 CFR § 155.410.

KEY FACTORS CONTRIBUTING TO RECOVERY

› **RUTHLESS PRIORITIZATION**

Because the timeframe and resources available to prepare for the second open enrollment period were fixed, CMS focused on reducing scope to meet deadlines. The day after first open enrollment closed, CMS leadership met to employ "ruthless prioritization" of tasks to focus on the most urgent needs and functionality. These decisions and resulting changes were then locked down and measured for progress and results. CMS was not able to deliver some functionality as planned, with full automation of the financial management system still in development at the end of second open enrollment. Ruthless prioritization served, though, to align goals with the resources available, guide daily work and accountability, and temper unrealistic expectations about results.

› **QUALITY OVER ON-TIME DELIVERY**

CMS adopted a project management approach of going live with website functionality only when it could ensure what one CMS official called "perfect execution." This was in contrast to the launch of HealthCare.gov, wherein CMS delivered what it knew was faulty functionality, planning to improve the website later. In the case of the new HealthCare.gov consumer application, App 2.0, delivery was tested through a "soft launch" prior to open enrollment. As with the prioritization process, this approach meant that CMS did not always deliver according to schedule. For example, CMS did not launch its new account creation system as planned when problems arose. CMS leaders and contractors said in interviews that this policy of requiring optimal functioning before delivery led to improved practices overall, such as targeting earlier deadlines for delivery and imposing stricter testing standards.

› **SIMPLIFYING PROCESSES**

Large organizations are vulnerable to creating unneeded organizational structures that can cause staff to lose sight of project goals. During the 2013 launch of HealthCare.gov, CMS divisions, particularly policy and technical teams that were responsible for various pieces of the project, operated separately and did not communicate well with other teams. This led to delays and lack of accountability. CMS simplified both technical aspects of the build and the organizational structure of the agency itself by closely monitoring progress and results with daily reports and close communication with contractors. This made the work more transparent and aided in prioritizing goals, reducing the common problem of "artificial progress" that large, complex projects have—many parties completing tasks, but not moving forward toward the project goals. Reduced complexity in tasks and organizational structure made it easier for CMS to identify those responsible for carrying out tasks and to track progress toward goals.

› **CONTINUOUS LEARNING**

A culture of continuous learning encourages open communication and active monitoring of performance and progress, allowing for a change in course as the facts dictate. In preparation for the second open enrollment period, much about the HealthCare.gov project was still unfolding. For example, CMS did not know how much website capacity consumers would require, and it was still developing and testing new and improved functionality in the final weeks before open enrollment. Given that the design and proportion of the project was evolving, it was critical to CMS's success that the organization continuously learn as the project progressed. As the HealthCare.gov project matured, CMS's knowledge and experience became more concrete and its planning more effective, but the project continued to require adaptation.

CALL FOR CONTINUED PROGRESS

Does real change require a crisis?

We asked this of CMS officials, and the general consensus was that change does not require a sentinel event, but that the website breakdown expedited organizational changes already underway. Still, some thought the high visibility of the breakdown was critical to prompting change, such as the CMS senior official who stated, "Sometimes an organization has to get a wake-up call."

CMS continues to face challenges in implementing the Federal Marketplace, and in improving operations and services provided through HealthCare.gov. As of February 1, 2016, CMS reported that over 9.6 million consumers had selected a health insurance plan through the Federal Marketplace or had their coverage automatically renewed.[138] As CMS moves forward, challenges include improving the website and systems as planned, such as completing the automated financial management system and improving consumer tools to select plans. CMS must also continue to address areas OIG has identified in past reports as problematic or needing improvement, including contract oversight, the accuracy of payments and eligibility determinations, and information security controls.

CMS's experience with HealthCare.gov provides lessons for HHS and other organizations in navigating program implementation and change. These lessons comprise core management principles that, had they been applied earlier, could have avoided problems in execution. CMS's use of these principles following the breakdown enabled the organization to recover the website and improve management and culture.

Given CMS's large organization and complex mission, prior management problems could resurface and new problems could emerge. CMS placed intense organizational focus on the Federal Marketplace during the recovery of the website. This level of focus will, by necessity, change in the face of new challenges and priorities within CMS, and inevitably officials and staff with key expertise and deep knowledge of the Federal Marketplace will leave CMS or the project. Such changes in priorities and resources reinforce the need for CMS to fully embed core management principles in its daily work. CMS's continued application of these lessons will promote further improvement to the Federal Marketplace and also foster future success in managing other large projects and CMS programs.

OIG calls for CMS to continue applying lessons from the HealthCare.gov recovery in its management of the Federal Marketplace and broader organization

LESSON 1   **Assign clear project leadership to provide cohesion across tasks and a comprehensive view of progress.**

CMS's failure to assign a project leader below the Administrator hobbled the preparation and launch of HealthCare.gov. Personnel across CMS were needed, including policy, technical, contracting and communications staff, and a range of contractors. Lack of clarity about roles and the absence of a clear project structure led to staff working at cross-purposes and to managers and leaders receiving poor and incomplete information. Clear visibility, what one of the ad hoc team of technical experts called "viewing through a single pane of glass," is central

to leadership. This requires that leadership have a view that includes all functions, and that it have the authority to implement and enforce changes when needed.

To enable this single view and authority during recovery, the CMS Administrator stepped into the role of Federal Marketplace leader, attending detailed briefings and making large and small decisions about correcting the website's management. Later, an experienced new CMS Principal Deputy Administrator largely filled that role. Finally in August 2014, 3 months before the start of the second open enrollment period, CMS hired a Marketplace CEO to serve in that role and also as Director of CCIIO. The program CEO structure was unusual for CMS, but it answered the call for a single leader to manage across the various project operations.

LESSON 2   **Align project and organizational strategies with the resources and expertise available.**

Sound planning for a major project begins, at its earliest stages, with an analysis of project needs and how best to align them with the organization and resources. In its planning stages, the HealthCare.gov project faced considerable challenges, including a fixed deadline and uncertain funding. However, in developing policy and establishing goals early in the Federal Marketplace project, CMS did not adequately assess the technical and operational tasks required. Poor early decisions included underestimating operational requirements, selecting technical components not previously tested on a similar scale, and not securing technology capable of increasing website capacity. CMS was continually correcting for problems, using resources to make up ground rather than move forward.

The lack of effective planning was caused in part by project uncertainties. The Department invested substantial time resolving policy issues that reduced time for the website build. CMS reported that funding uncertainties made it difficult to determine and prioritize scope in contracting, in staffing, and in providing overall direction to the project. Government projects commonly face funding uncertainty given the nature of Federal budget decisions. Thus, it is imperative to develop management strategies and contingency plans to account for these uncertainties.

In the crisis of the recovery period, CMS prioritized getting the website functioning well enough to enroll consumers in time for them to gain coverage. Immediately after the first open enrollment period ended, CMS made a systematic effort to assess and prioritize operational needs, further develop contingency plans, tie policy to operations through establishment of the XOC and OECC, and deploy resources to meet goals for the second open enrollment period. CMS's effort to align resources with needs and ruthlessly prioritize was critical to improving problems with HealthCare.gov. Improvement required leadership to gain clear and accurate information about costs and benefits, and make well-informed use of the limited time and resources available and embed prioritization decisions in all aspects of planning, execution, and measuring results.

LESSON 3

Identify and address factors of organizational culture that may affect project success.

Developing the Federal Marketplace within CMS's enterprise structure both helped and hindered the project. It was useful to gain the expertise of policy and technical staff across divisions, but difficult for a new program to establish the needed relationships and lines of communication. When the project was placed in CMS, insufficient attention was paid to the cultural shift required to facilitate a new type of program and development approach. CMS's cultural preference for established structures, contained groups, and inflexible procedures was often at odds with the needs of a major technological start-up project, which required more creativity and flexibility. Also, divisions among CMS staff and between CMS staff and contractors inhibited collaboration and slowed progress.

Once CMS established clear project leadership, it made a cultural shift toward improved communication and transparency, quick assessment of problems, and openness to change. A key to success was incorporating these values in daily work, such as encouraging a badgeless, titleless culture that allowed CMS staff and contractors to work together regardless of their employer or rank, and the use of data to define results, so that information was tangible and objective. This horizontal structure extended to CMS leadership as officials became more deeply engaged with daily staff and contractor work. CMS documentation and interviews indicated a deliberate effort by leadership to engage with all parties, create organizational unity, and increase interaction between CMS leadership and staff. Maintaining this movement toward a more open work environment will require CMS to continually assess cultural factors and seek feedback from staff and other stakeholders as the project matures, CMS takes on new tasks, and the organization continues to evolve.

LESSON 4

Seek to simplify processes, particularly for projects with a high risk of failure.

Large and complex IT projects need constant attention to simplify design and operations. From inception, nearly every aspect of the Federal Marketplace project was complex and the risk of failure was high. CMS's missteps further complicated the project both conceptually and technologically. Conceptual examples included placing policy and technical staff in separate CMS divisions and using many contractors and subcontractors to complete aspects of the website build. Technological examples identified by experts included use of an unsuited, inefficient identity management system and an overly complex application process, as well as employing poor coding practices and using multiple entities to monitor different aspects of the website's performance while not communicating with each other.

In contrast, CMS leadership, staff, and contractors emphasized simplicity during the recovery. CMS established a single, comprehensive command center with robust and accessible monitoring tools. CMS also simplified processes when developing new systems. For example, App 2.0, the new application process, reduced the maximum number of web pages required to submit an application from 72 to 16. The new Scalable Login System for identity management was built exclusively for the Federal Marketplace project and therefore did not need to include functionality for other purposes that had made the EIDM difficult to modify and repair when needed.

LESSON 5 | **Integrate policy and technological work to promote operational awareness.**

Throughout the development of HealthCare.gov, progress was thwarted by changing policy and business decisions. This began in the early stages with problems and delays in issuing program regulations and guidance and continued as CMS policy and technical staff revisited decisions throughout the website build. Further, CMS policy and technical staff and contractors often did not communicate decisions and problems promptly, resulting in later complications.

In the preparation for second open enrollment, CMS systematically determined and prioritized desired functionality and quantified the labor required. This led to a more even distribution of work with greater efficiency and less need for rework. CMS also sought to more effectively communicate to program staff what was required technologically to execute policy changes. For example, the XOC and OECC enabled policy and technical staff to identify and solve problems together during the second open enrollment period.

LESSON 6 | **Promote acceptance of bad news and encourage staff to identify and communicate problems.**

Key officials failed to recognize the enormity and range of problems with the HealthCare.gov website's development and execution. Communication was fragmented, meaning that not all officials received the same information at the same time, but warnings were significant enough to warrant further inquiry and action. However, CMS leadership became desensitized to bad news. CMS's history of overcoming problems likely increased the desensitization. Despite tasking multiple entities to assess the project's status, many of whom reported potential failure, CMS leadership did not collectively take action or share that with the technical staff who might have been able to correct the problems. CMS staff who were aware of problems were reluctant to sound the alarm bell to leadership because they overestimated their ability to correct the problems and meet project deadlines.

During the website recovery, CMS leadership and staff moved to solicit bad news from all levels at CMS and contractors. CMS staff and contractors were encouraged to find and communicate problems. More straightforward communication enabled leaders to better assess needs and problems. It also enabled leaders to set more practical and realistic goals for progress, prioritize problem areas, and to better align resources with project needs.

LESSON 7 | **Design clear strategies for disciplined execution, and continually measure progress.**

At several junctures, CMS was made aware of problems with the development of HealthCare.gov and attempted to take corrective action, but these efforts were largely unsuccessful because they were not fully executed. For example, after criticism that there was not clear leadership, the CMS Administrator assigned its COO to head the Federal Marketplace project, but the assignment was not formally announced, the position was not supported by clear responsibilities, and the designee had an already very large scope of responsibility. The action was taken, but was not executed successfully. As another example, several key officials and entities advised CMS to use a technical systems integrator. CMS's solution was to continue serving as its own systems integrator, but it did not sufficiently

delineate or execute this role. In both cases and in other examples, CMS made decisions with incomplete information, inadequate execution, and insufficient monitoring of results.

During the website recovery, CMS took steps toward establishing clearer strategies and higher standards for execution, and also implemented routine and objective monitoring. CMS rectified key deficiencies by hiring a systems integrator. CMS also revamped its organization, staffing, and monitoring of the website at the XOC, and created stronger lines of communication between responsible parties in policy, technical, and communications divisions. This interconnectedness and commitment to measurement led to greater accountability for completed tasks and a sense of shared ownership critical to execution and success.

LESSON 8 | **Ensure effectiveness of IT contracts by promoting innovation, integration, and rigorous oversight.**

The most publicly discussed aspect of the HealthCare.gov launch in its aftermath may have been the perception that HHS and CMS did not contract and hire for the degree of technological expertise required for such a large and complex project. For HealthCare.gov, IT procurement decisions limited the number of companies that CMS solicited for contract proposals, and CMS may have over-specified technological approaches in the contracts that resulted in use of technology that was poorly matched to the project. CMS did not fully assess the project's IT needs and did not strategize in a way that emphasized innovation and current practices; CMS's contract management failed to assess the effectiveness of technological decisions, comprehensively plan for coordinating technological work across contractors, and sufficiently react to late and deficient products.

In contrast, in fixing the website, CMS management promoted communication and integration among its team of technical experts, CMS, and contracted staff. In addition, CMS redesigned its command center, the XOC, to implement cutting-edge monitoring tools and methods of detecting and resolving problems. CMS also made changes to its management and oversight of contracts by establishing new acquisition planning guidance that more clearly defined responsibilities of the CMS contracting office and staff; CMS pursued a program management culture that ensures that work meets the needs of the project and organization.

LESSON 9 | **Develop contingency plans that are quickly actionable, such as redundant and scalable systems.**

Problems with complex projects are likely inevitable, yet contingency planning for HealthCare.gov was almost nonexistent prior to the breakdown and was late in some aspects during and after the website recovery. This lack of planning meant that CMS had few options when HealthCare.gov failed. Contingency planning enables a realistic assessment of work to be completed, and better ensures meeting program objectives, despite problems. Contingency plans are only effective, though, if they are practical, evolve as a system matures, and are adequately funded for speedy approval of contract changes and other costs.

Following the launch, CMS more rigorously prepared to mitigate potential problems by considering contingencies, building redundant systems, and increasing capacity. Additional

contingency planning should include clear and actionable plans, stakeholder communication strategies, and also funding, given that the process for approving additional funds is often delayed and may not be available mid-project due to budget fluctuations.

LESSON 10 | **Promote continuous learning to allow for flexibility and changing course quickly when needed.**

HealthCare.gov was a novel and complex project that operated with multiple, sustained uncertainties. As CMS moved through development and launch of HealthCare.gov, it relied on an existing management and operations structure that could not easily incorporate new information and strategies. CMS staff and contractors continued to carry out plans made early in the process, and change did not begin until lack of progress on the project made the status quo untenable. At that point, changes were made in haste, without careful consideration, and too late in the process. CMS leadership neither recognized that changes were needed nor employed strategies to change course quickly and thoughtfully.

Following the launch, CMS and contractors were faced with an urgent need for widespread and deep change to processes and technology. CMS adopted a more open culture of continuous learning and quicker acceptance of change, using the website breakdown as an inflection point to create a new path. Leaders also redefined the project scope to set more realistic expectations and continued to revise scope as they prepared for the second open enrollment period, better ensuring that staff and contractors could execute tasks effectively. An environment of continuous learning is especially important when course correction is so integral to the project results.

AGENCY COMMENTS AND OIG RESPONSE

CMS concurred with OIG's call for continued progress in applying the lessons that CMS learned from the HealthCare.gov recovery in its management of the Federal Marketplace and CMS's broader organization. CMS stated that since the OIG review, it has implemented several initiatives to improve its management, striving to incorporate principles aligned with this report's lessons learned in its culture, operations, and daily work. These principles include a focus on leadership and accountability, continuous reevaluation of priorities and how the project could be more efficient, program measurement, and a flexible and evolving IT strategy aligned with policy requirements. Additionally, CMS stated that it is further developing a culture wherein it embraces bad news to help identify and address risks. CMS notes that these guiding principles are likely applicable for other large organizations—private or public— that undertake large, complex projects with limited time and resources.

APPENDIX A

U.S. Department of Health and Human Services (HHS): The ACA tasked HHS to develop the Federal Marketplace.

> **OCIIO**—OFFICE OF CONSUMER INFORMATION AND INSURANCE OVERSIGHT: responsible for overseeing implementation of ACA provisions related to private insurance, coordination between HHS, issuers, and other Federal and State partners, and development of the Federal Marketplace. OCIIO dissolved in January 2011 when HHS moved the Federal Marketplace project to CMS.

Centers for Medicare & Medicaid Services (CMS): In January 2011, HHS transferred responsibilities of the marketplaces to its largest operating division, CMS, which also administers Medicare and Medicaid.

> **CCIIO**—CENTER FOR CONSUMER INFORMATION AND INSURANCE OVERSIGHT: responsible for establishing Federal and State marketplace policies and developing business requirements for the website build.

> **OAGM**—OFFICE OF ACQUISITION AND GRANTS MANAGEMENT: responsible for developing and overseeing CMS acquisition efforts and awarding and administering Federal Marketplace contracts.

> **OC**—OFFICE OF COMMUNICATIONS: responsible for CMS internal and external communications, including managing call-center operations and HealthCare.gov design and appearance.

> **OIS**—OFFICE OF INFORMATION SERVICES: responsible for coordinating the technical aspects of the HealthCare.gov website build and for implementing and supporting IT needs and enterprise (organization-wide) services throughout CMS. During the January 2015 reorganization, CMS divided OIS responsibilities for IT operations (e.g., computer networks and hardware) and IT governance (e.g., software architecture and security) into two separate groups rather than placing both in OIS. The Office of Technology Solutions now has responsibility for IT operations and the Office of Enterprise Information has responsibility for IT governance.

Contractors: CMS relied extensively on contractors for most of the design, development, testing, software licensing, IT security, and support services in the development of the Federal Marketplace. Key contractors included:

> **Accenture**—ACCENTURE FEDERAL SERVICES, LLC: responsible for developing the Federally-facilitated Marketplace (FFM), in January 2014, including the FFM's three components, Eligibility and Enrollment, Financial Management, and Plan Management, as well as website support and operations, from January 2014–present.

> **CGI Federal**—CGI FEDERAL SERVICES, INC.: responsible for developing the FFM from award of the initial contract through the launch and early months of the first open enrollment period, September 2011–early January 2014, then serving as consultants to Accenture for the FFM, January–March 2014.

> **QSSI**—QUALITY SOFTWARE SERVICES, INC.: responsible, from September 2011–present, for developing the Enterprise Identity Management System (EIDM) that enables consumers to create accounts and verify their identities on HealthCare.gov and the Hub that routes information requests from the Federal Marketplace to other Federal agencies. Also became the HealthCare.gov systems integrator following the launch, from October 2013–October 2015.

> **Terremark**—TERREMARK FEDERAL GROUP, INC.: responsible, from November 2012–present, for ensuring adequate computing capacity and for hosting the infrastructure of large components of the Federal Marketplace, including the FFM and the Hub.

APPENDIX B

TIMELINE OF KEY EVENTS IN CMS IMPLEMENTATION OF THE FEDERAL MARKETPLACE, 2010–2015

2010 **March 23** ACA signed into law

April 19 HHS created OCIIO

July 1 HHS launched HealthCare.gov Plan Finder website

2011 **January 26** HHS moved Federal Marketplace from OCIIO in the Office of the Secretary into CMS

September 30 CMS hired CGI Federal to build the FFM and QSSI to build the Hub

2012 **January 3** CMS notified CGI Federal of the selection of MarkLogic in a TDL

June 18 CMS hired QSSI to build the EIDM

June 28 Supreme Court upheld ACA individual mandate

September 7 TurningPoint issued first of 11 assessment reports

December 14 Deadline for States to submit plans to operate a State marketplace

2013 **January 1** Deadline for CMS to approve or conditionally approve State marketplaces

March 22 CMS CIO signed 3-year ATO for the EIDM

April 30 CMS finalized HealthCare.gov application and released to States

May CMS requested CGI Federal deliver Account Lite

July 26 HealthCare.gov technical managers requested assistance from other divisions

July 30 Failed launch of Account Lite

August CMS conducted onsite review of CGI Federal and found poor management practices

August 20 CGI Federal presented snapshots of software rather than a live demonstration

August 20-23 CMS meeting to reduce scope of HealthCare.gov including CuidadoDeSalud.gov

September 6 CMS CIO signed 3-year ATO for Hub

September 20 CMS meeting to reduce scope of HealthCare.gov including anonymous shopper tool

September 26 CMS requested double computing capacity

September 27 CMS Administrator signed 6-month interim ATO for the FFM

October 1 Beginning of first open enrollment; HealthCare.gov launch

October 1–16 Government shutdown

October 24 CMS hired QSSI as technical systems integrator

December 1 CMS improved HealthCare.gov performance

2014

January 11 Accenture Federal Services began work as FFM contractor

March 12 CMS CIO signed 1-year ATO for FFM

March 31 End of first open enrollment

April 8–10 CMS meeting to prioritize elements most important to build for second open enrollment

June 20 CMS hired new Principal Deputy Administrator

August 5 CMS identified concerns at XOC

August 26 CMS hired Marketplace Chief Executive Officer

September CMS created OECC

September 7 CMS soft launch of Application 2.0 for most enrollment consumers

September 27 CMS launched IMAS

October 7 Pens Down for technical system changes; CMS began end-to-end testing of the FFM

November 15 Beginning of second open enrollment

December 16 Beginning of auto-reenrollment

2015

February CMS made substantial organizational structure changes

February 15 End of second open enrollment

February 21 CMS launched SLS

March 15–April 30 CMS provided a SEP to consumers who did not understand implications of tax penalty

June 25 Supreme Court allowed premium tax credits for insurance purchased through all marketplaces

November 1 Beginning of third open enrollment (closed January 31, 2016)

Listed Acronyms

ACA: Patient Protection and Affordable Care Act

ATO: Authorization to Operate

CMS: Centers for Medicare & Medicaid Services

HHS: Department of Health and Human Services

Hub: Data Services Hub

EIDM: Enterprise Identity Management

FFM: Federally-Facilitated Marketplace

IMAS: Insurance Marketplace Authentication System

OCIIO: Office of Consumer Information and Insurance Oversight

OECC: Open Enrollment Coordination Center

SLS: Scalable Log-In System

SEP: Special Enrollment Period

TDL: Technical Direction Letter

XOC: Exchange Operations Center

APPENDIX C

GLOSSARY OF SELECTED FEDERAL MARKETPLACE TERMS

Term	Definition
Account Lite	System used to create accounts in HealthCare.gov prior to the first open enrollment period
acquisition strategy	An overall plan for satisfying the project mission in the most effective, economical, and timely manner
ad hoc technology team	Group of technology experts recruited by the White House to help repair problems with HealthCare.gov after the October 1, 2013 launch
Advance Premium Tax Credit (APTC)	Tax credit for qualifying marketplace consumers, paid monthly to the issuer by the Federal Government to offset a portion of the enrollee's premium cost
agile development	Method of software development that breaks larger tasks into smaller increments that are then completed and tested
Affordable Care Act (ACA)	Legislation that required establishment of a health insurance exchange for each State
anonymous shopper tool	Tool enabling consumers to view some health plan information on the HealthCare.gov website without creating an account
Authorization to Operate (ATO)	Declaration stating publicly that the launching organization (e.g., CMS) has deemed functionality of a system to be sufficient and is accepting any associated risk to the organization's operations or to others involved
badgeless culture	Term used by CMS to signify that all CMS and contracted staff operate as a team regardless of their job titles or employer status
breakdown	Timespan from passage of the ACA in March 2010 through the HealthCare.gov launch on October 1, 2013
business requirements	Provisions that articulate to developers the program goals, processes, and functionality needed for an IT project such as a website
Change Control Board	Group comprised of representatives across CMS divisions who review and approve project changes submitted by CMS staff and contractors that could alter the project cost, scope, or schedule of work
Contract Change Order	Written order, signed by the contracting officer, directing the contractor to make a change that may affect the cost, scope, schedule, or other conditions of the work
CMS senior leadership	Term used to collectively describe the highest leadership in CMS, including the CMS Administrator, Principal Deputy Administrator, Chief of Staff, Chief Operating Officer and Chief Information Officer, and in some cases division Directors
concurrent users	Website-reporting measurement indicating the number of simultaneous users accessing a website at a given time
consumer	Individual using the HealthCare.gov website to create an account, obtain information about health plans, apply for Federal financial assistance, and purchase a plan

Term	Definition
Corrective Action Plan	Contract management document that includes improvements required by contractors to meet deliverables with adequate quality and timeliness
cost-sharing reductions	Federal financial assistance for qualifying marketplace consumers that lowers out-of-pocket expenses for health care, including deductibles, coinsurance, and copayments
cost-plus-fixed-fee contract	Type of contract that pays the contractor a prenegotiated award fee amount, requiring the contractor to bill as it incurs additional labor and material expenses; typically selected when the tasks are so uncertain that accepting a contract on the basis of an end product would pose undue risks for contractors, but also thought to provide the contractor with less incentive to control costs and provide high quality products
CuidadoDeSalud.gov	Spanish translation of the HealthCare.gov website that operates at its own web address and contains separate provisions for functionality and capacity
data center	Physical location containing computer servers that provide data storage and processing capacity for HealthCare.gov
Data Services Hub (Hub)	System that routes information requests from the Federal and State marketplaces and Medicaid and CHIP agencies to other Federal agencies and back
effectuated enrollment	Number of individuals that are enrolled in marketplace health plans and have paid their first month's premiums
Enterprise Identity Management (EIDM)	System that enabled consumers to create accounts and verify their identities before they applied for Federal financial assistance and purchase a plan; used by CMS during first and second open enrollment of the Federal Marketplace
enterprise management structure	Management strategy that relies on sharing services, such as technology, financial management, and contracting services, across the organization and its programs
Enrollment and Payment System (EPS)	System designed to fully automate the financial functions of the Federal Marketplace, including payments to issuers for Federal financial assistance and premium stabilization
Exchange Operations Center (XOC)	Facility in Columbia, MD that serves as the primary HealthCare.gov technological command center, staffed by CMS and contractors to coordinate system development, operations, maintenance, and testing
Federal Marketplace	Marketplace operated by the Federal Government for consumers in States that do not operate a website for residents to enroll in qualified health plans
Federally-facilitated Marketplace (FFM)	System that serves as the core of the Federal Marketplace system, including three subsystems that (1) determine consumer eligibility for health plans and Federal financial assistance and facilitate enrollment in health plans (Eligibility and Enrollment); (2) manage health plans with issuers (Plan Management); and (3) track and facilitate payments to issuers, including any insurance affordability payments (Financial Management)
functionality	Range of operations that can be performed on a computer or other system; examples of HealthCare.gov functionality include operations that enable consumers to obtain information about health plans, apply for Federal financial assistance, and purchase a plan

Term	Definition
HealthCare.gov launch	Date on which CMS first opened HealthCare.gov for consumer use to enroll in health plans and apply for Federal financial assistance, October 1, 2013
Indefinite Delivery Indefinite Quantity (IDIQ) contract	Type of contract that provides for an indefinite quantity of services for a fixed time period and is used when the Government cannot determine above a specified minimum the precise quantities and/or delivery times of supplies or services that it will require
Insurance Marketplace Authentication System (IMAS)	Re-engineered portion of the EIDM that served as a dedicated account creation and identity verification system during second open enrollment
Issuers	Insurance companies that offer health plans to consumers through HealthCare.gov
letter contract	Written preliminary contractual agreement that authorizes a contractor to begin immediately manufacturing supplies or performing services
marketplace	Health insurance exchange wherein individuals can obtain information about health plans, apply for Federal financial assistance, and purchase a plan
Medicare Part D	CMS program to subsidize the costs of prescription drugs and prescription drug insurance premiums for Medicare beneficiaries; Medicare Part D was implemented in 2006
minimum essential capabilities	HealthCare.gov functionality that CMS considered necessary for the first open enrollment period, including allowing consumers to create an account, obtain information about health plans, apply for Federal financial assistance, and purchase a plan
Model-Driven Architecture (MDA)	Approach to software development that uses models to automatically generate computer code for system development; typically used in conjunction with developer-written code to save time and reduce human error
navigators	Individuals or organizations, funded through Federal grants, that help consumers enroll in health plans through the Federal Marketplace or State marketplaces, and provide guidance and education to raise awareness about the marketplaces
NoSQL database platform	Nontraditional, document-oriented database platform that uses nontabular records, unlike a relational database that uses tables to store and index data
Open Enrollment Coordination Center (OECC)	Subgroup within CMS CCIIO created by CMS in September 2014 to monitor and coordinate resolution of all open enrollment issues by translating information to and from the policy, technology, and operations teams
open enrollment period	Period of time during which individuals may enroll in a health plan; dates included: – First open enrollment: October 1, 2013–March 31, 2014 – Second open enrollment: November 15, 2014–February 15, 2015 – Third open enrollment: November 1, 2015–January 31, 2016
path dependency	Unfounded reliance on former ways of doing things that prevents adaptation to new conditions
pens down	Term CMS used for signifying the final date for technical staff to make system coding changes prior to testing

Term	Definition
Plan Finder website	Browsing website created in 2010 that provided health plan information to consumers but without the functionality to purchase plans or to apply for Federal financial assistance
qualified health plan (health plan)	Private health insurance plan offered through a marketplace and certified by CMS or States as meeting certain standards and that cover a core set of benefits, including doctor visits, preventive care, hospitalization, and prescriptions
rate review	Analysis by experts to ensure that proposed rate increases of marketplace health plans by issuers are based on reasonable cost assumptions
recovery	Timespan from October 1, 2013 through the end of second open enrollment
refactor	Technique used to restructure existing computer software code in order to correct and streamline the code
reprioritization meeting	Meetings held prior to the first open enrollment period in summer 2013 to further reduce the scope of the HealthCare.gov build to deliver only essential functionality
ruthless prioritization	Method for determining the most critical elements of a project to be completed, given the available time and budget; used to make dramatic cuts to the HealthCare.gov project scope in preparation for the second open enrollment period
Scalable Login System (SLS)	New account creation and authentication system created exclusively for HealthCare.gov to improve website performance and its ability to accommodate large changes in number of users (replaced EIDM)
Small Business Health Option Program (SHOP)	Program that provides health plan selection and enrollment for employees of companies with fewer than 50 full-time-equivalent workers
sole source contract	Contract used when an agency's need for certain supplies or services is of such an unusual and compelling urgency that the Government would be seriously injured unless the agency is permitted to limit the sources from which it solicits bids or proposals
special enrollment period	Time period outside of normal open enrollment period during which consumers who experience certain life changes or other circumstances can purchase health insurance
start-up	Type of work environment or culture that encourages creativity and flexibility over rigid management methods and an established hierarchy
State marketplace	Marketplace operated by a State for its residents to obtain information about health plans, apply for Federal financial assistance, and purchase a plan
statement of work	Contract management document that includes contractor work to be performed; location of work; period of performance; schedule for completion (delivery) of work; applicable performance standards; and any special requirements (e.g., security clearances, travel)
technical direction letter (TDL)	Technical guidance provided to a contractor that is meant to clarify, define, or give specific direction within the scope of the contract as written; does not result in changes to the cost, terms, or conditions of the contract

Term	Definition
technical specifications	List of the exact functions, derived from the business requirements, that are used by developers to write software code that creates and supports the website systems
technical systems integrator	Entity that coordinates operations, ensuring that those responsible for various technical aspects of the project communicate their activities, schedules, and needs to each other and that work aligns with project goals
testing environment	Computing and data storage resources devoted to website system testing
towers	CMS teams that include staff and contractors from various offices working together regarding a particular aspect of the project
unauthorized commitment	Contract agreement that is not binding solely because the Government representative who made it lacked the authority to enter into that agreement on behalf of the Government
waiting room	Website function used when HealthCare.gov website traffic overloaded capacity; consumers placed in a waiting room were unable to navigate further in the website until website traffic had reduced

Source: HHS and CMS project management documentation and correspondence, 2015.

APPENDIX D

DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

200 Independence Avenue SW
Washington, DC 20201

OCT - 7 2015

TO: Daniel R. Levinson
Inspector General

FROM: Andrew M. Slavitt
Acting Administrator

SUBJECT: Office of Inspector General (OIG) Draft Report: "Breakdown and Recovery of Healthcare.gov: CMS Management of the Federal Marketplace" (OEI-06-14-00350)

The Centers for Medicare & Medicaid Services (CMS) appreciates the opportunity to review and comment on the Department of Health and Human Services (HHS) Office of Inspector General's (OIG) draft report on CMS's implementation and management of HealthCare.gov. In the five years since the passage of the Affordable Care Act, CMS has worked hard to implement the law. That hard work has paid off – more than 16 million Americans have gained health coverage, and the uninsured rate has decreased by about one-third since October 2013, which is the largest decline in decades. Millions of Americans now rely on the health and financial security that comes from affordable coverage obtained through the Marketplaces.

CMS appreciates the thorough review and documentation of the challenges of the first Open Enrollment period, the turnaround and recovery effort, and how the lessons learned were applied for the second Open Enrollment period. As the draft report describes, in part because the team embraced the challenges and worked collaboratively, CMS was able to execute significant improvements within two months of launch. By the end of the first Open Enrollment period, the website was handling over 125,000 concurrent users and overall nearly 5.5 million people were able to select a plan using HealthCare.gov. Those improvements continued through the second Open Enrollment period when over 8.84 million people were able to select a plan or automatically reenroll using HealthCare.gov.

CMS appreciates the detailed accounting of the challenges and also appreciates the recognition of the efforts of the talented and dedicated public servants who worked tirelessly as a team and created the path to the successes that followed.

As CMS' mission requires us to frequently take on ambitious projects of significant complexity and tight timeframes, we must continue to be committed to high levels of accountability, execution, and continuous improvement. This can best happen in an environment when challenges can be publicly acknowledged and criticism can be acted upon. Overcoming challenges and delivering results in this transparent manner will continue to make CMS a stronger agency. CMS is committed to continuing to meet challenges head on in our aim to exceed the expectations of the millions of Medicare, Medicaid and Marketplace beneficiaries we serve every day.

Page 2 - Daniel R. Levinson

OIG's recommendation and CMS' response is below.

OIG Recommendation
The HHS OIG recommends that CMS continue to apply lessons from the HealthCare.gov recovery in its management of the Federal Marketplace and broader organization.

CMS Response
CMS strongly concurs with this recommendation. As the HHS OIG noted in its draft report, CMS's application of the management lessons and principles arising from HealthCare.gov's recovery enabled the organization to make a strong turnaround, not only successfully re-launching HealthCare.gov but also improving agency management and culture.

Since the HHS OIG conducted their review, CMS has implemented several initiatives to improve its management. The ten lessons the HHS OIG describes in the draft section, "Call for Continued Progress," are closely aligned with the core principles CMS strives to embed in its culture, operations and daily work. Those principles include a focus on leadership and accountability, continuous prioritization and streamlining, strong program deliverables and measurement, and a flexible and evolving IT strategy aligned with policy requirements. Finally, both through leadership and circumstance, CMS is further developing a culture where bad news is actively solicited and risks are identified and addressed.

As a final note, CMS would like to thank the HHS OIG for its collaboration during this investigation, during which, as the HHS OIG notes, HHS made more than 80 personnel available for interviews and provided approximately 2.5 million documents and communications for review and quotation. The result of this transparency, cooperation, and collaboration have been a report with important guiding principles for CMS and any large organization – private or public—who undertakes a large, complex project with limited time and resources.

ACKNOWLEDGEMENTS

ENDNOTES

[1] P.L. No. 111-148 (Mar. 23, 2010), as amended by the Health Care and Education Reconciliation Act of 2010, P.L. No. 111-152 (Mar. 30, 2010), collectively referred to as the Affordable Care Act (ACA).

[2] Ibid. §§ 1501, 1513.

[3] Ibid. § 1311(a), (b).

[4] Ibid. § 1321(c).

[5] Private health insurance plans certified as meeting certain standards and covering a core set of benefits including doctor visits, preventive care, hospitalization, and prescriptions.

[6] ACA §§ 1401, 1402.

[7] The Henry J. Kaiser Family Foundation, *State Decisions on Health Insurance Marketplaces and the Medicaid Expansion*, December 17, 2015. Accessed at http://kff.org/health-reform/state-indicator/state-decisions-for-creating-health-insurance-exchanges-and-expanding-medicaid/ on January 6, 2016. CMS, *Hawaii: For 2016 insurance coverage, use HealthCare.gov to apply and enroll*. Accessed at https://www.healthcare.gov/hawaii-2016/ on January 6, 2016.

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[11] Ibid.

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[15] *King v. Burwell,* 135 S. Ct. 2480 (June 25, 2015).

[16] 76 Fed. Reg. 4703 (Jan. 26, 2011).

[17] HHS, *HHS Fiscal Year (FY) 2016 Budget in Brief*. Accessed at http://www.hhs.gov/about/budget/fy2016/budget-in-brief/index.html#overview on August 14, 2015.

[18] ACA §§ 1411, 1412.

[19] Fox News, "26 States Join Suit Against Obama Health Law," January 19, 2011. Accessed at http://www.foxnews.com/politics/2011/01/18/states-join-obama-health-care-lawsuit-fla/ on August 14, 2015. The New York Times, "House Votes to Send Bill to Repeal Health Law to Obama's Desk," January 6, 2016, Accessed at http://www.nytimes.com/2016/01/07/us/politics/house-votes-to-send-bill-to-repeal-health-law-to-obamas-desk.html?_r=0 on February 16, 2016.

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[21] ACA § 1103.

[22] CMS, "HHS Launches New Consumer Focused Health Care Website www.HealthCare.gov," July 1, 2010. Accessed at http://wayback.archive-it.org/3926/20131018160711/http://www.hhs.gov/news/press/2010pres/07/20100701h.html# on September 14, 2015.

[23] OIG, *Oversight of Private Health Insurance Submissions to the HealthCare.gov Plan Finder*, OEI-03-11-00560, April 2013.

[24] 75 Fed. Reg. 20364 (April 19, 2010).

[25] These regulations were often tri-department regulations issued in conjunction with other Federal agencies.

[26] 45 CFR part 155 and part 156 generally describe marketplace establishment standards and functions and issuer standards and responsibilities.

[27] CMS, Technical Implementation Letters. Accessed at https://www.cms.gov/CCIIO/Resources/Technical-Implementation-Letters/ on August 14, 2015.

[28] 76 Fed. Reg. 4703 (Jan. 26, 2011).

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[30] Congressional Budget Office, *Updated Estimates of the Effects of the Insurance Coverage Provisions of the Affordable Care Act, February 2014*. Accessed at https://www.cbo.gov/sites/default/files/cbofiles/attachments/45010-breakout-AppendixB.pdf on February 8, 2016.

[31] The Departments of Labor, HHS, and Treasury published joint regulations relating to group health plans and health insurance issuers in the group and individual markets.

[32] Section 1302(b) of ACA directs the Secretary of Health and Human Services to define essential health benefits. Non-grandfathered plans in the individual and small group markets both inside and outside of the marketplaces, Medicaid benchmark and benchmark-equivalent, and Basic Health Programs must cover the essential health benefits beginning in 2014. Section 1302(b)(1) provides that essential health benefits must include items and services within at least the following 10 categories: (1) ambulatory patient services; (2) emergency services; (3) hospitalization; (4) maternity and newborn care; (5) mental health and substance use disorder services, including behavioral health treatment; (6) prescription drugs; (7) rehabilitative and habilitative services and devices; (8) laboratory services; (9) preventive and wellness services and chronic disease management; and, (10) pediatric services, including oral and vision care.

[33] Kaiser Health News, "Rollout Resembles Some of the Problems of Medicare Part D," July 12, 2013. Accessed at http://khn.org/morning-breakout/health-reform-implementation-and-outreach/ on August 26, 2015.

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[36] ACA § 1321.

[37] Office of the Governor of the State of Alabama, Press Release, *Governor Bentley Declines Decision on ACA Component; Cites Lack of Proper Options & Information*, October 1, 2012. Accessed at http://governor.alabama.gov/newsroom/2012/10/governor-bentley-declines-decision-on-aca-component-cites-lack-of-proper-options-information/ on August 21, 2015.

[38] U.S. House of Representatives Committee on Ways and Means, Subcommittee on Health, *Hearing on Implementation of Health Insurance Exchanges and Related Provisions,* September 12, 2012. Accessed at http://waysandmeans.house.gov/hearing-on-implementation-of-health-insurance-exchanges-and-related-provisions/ on August 14, 2015.

[39] 78 Fed. Reg. 65046 (Oct. 30, 2013).

[40] The deadline for States to submit a Blueprint application for State marketplaces was December 14, 2012. *See* CMS Technical Implementation Letters, *Letter to the Governors on Exchange Blueprints*, November 9, 2012. Accessed at https://www.cms.gov/CCIIO/Resources/Technical-Implementation-Letters/Downloads/exchange-blueprint-letter.pdf on August, 21, 2015.

[41] OIG, *CMS Did Not Always Manage and Oversee Contractor Performance for the Federal Marketplace as Required by Federal Requirements and Contract Terms*, A-03-14-03001, September 2015. Interviews with CMS staff and CMS correspondence.

[42] OIG, *Federal Marketplace: Inadequacies in Contract Planning and Procurement*, OEI-03-14-00230, January 2015.

[43] Ibid.

[44] Ibid. Although CMS's contracting approaches were permitted under Federal regulations, its procurement decisions may have limited the number of qualified companies that competed for contracts and the number of technically acceptable proposals from which CMS could choose.

[45] Ibid.

[46] Ibid.

[47] Federal Acquisition Regulation (FAR) § 34.004.

[48] OIG, *Federal Marketplace: Inadequacies in Contract Planning and Procurement*, OEI-03-14-00230, January 2015.

[49] FAR § 16.306(a).

[50] CMS, *Active Contributors*. Accessed at https://www.cms.gov/Research-Statistics-Data-and-Systems/CMS-Information-Technology/SystemLifecycleFramework/downloads/ActiveContributors.pdf on August 10, 2015.

[51] FAR § 1.602. See also HHS Acquisition Regulation (HHSAR), 48 CFR subpart 342.70. See also CMS, *Active Contributors*. Accessed at https://www.cms.gov/Research-Statistics-Data-and-Systems/CMS-Information-Technology/SystemLifecycleFramework/downloads/ActiveContributors.pdf on August 10, 2015.

[52] FAR §§ 1.602-2(d), 1.604.

[53] FAR § 43.102(a).

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[58] FAR § 1.602-3(a).

[59] FAR § 1.602-3. HHSAR 301.602-3.

[60] 78 Fed. Reg. 12834 (Feb. 25, 2013); CMS, *Guidance on State Alternative Applications for Health Coverage,* June 2013. Accessed at https://www.medicaid.gov/Federal-Policy-Guidance/Downloads/SHO-06192013.pdf on January 22, 2016.

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[62] Entity that coordinates operations, ensuring that those responsible for various aspects of the project communicate their activities, schedules, and needs to each other.

[63] U.S. House of Representatives, House Energy and Commerce Committee, *PPACA Implementation Failures: Answers from HHS,* October 30, 2013. Interviews with CMS staff and CMS correspondence.

[64] A Corrective Action Plan is a contract management document that includes improvements required by contractors to meet deliverables with adequate quality and timeliness.

[65] U.S. House of Representatives, Committee on Oversight and Reform, *Behind the Curtain of the HealthCare.gov Rollout*, September 17, 2014, p. iii. Accessed at http://oversight.house.gov/wp-content/uploads/2014/09/Healthcare-gov-Report-Final-9-17-14.pdf on August 24, 2015.

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[89] HHS, ASPE, *Health Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period*, May 1, 2014. Accessed at http://aspe.hhs.gov/sites/default/files/pdf/76876/ib_2014Apr_enrollment.pdf on October 9, 2015.

[90] An inconsistency does not mean that an applicant provided incorrect information or is receiving Federal financial assistance inappropriately.

[91] OIG, *Marketplaces Faced Early Challenges Resolving Inconsistencies with Applicant Data*, OEI-01-14-00180, June 2014.

[92] Without the ability to resolve inconsistencies, the marketplace cannot ensure that an applicant meets each of the eligibility requirements for enrollment in a health plan.

[93] CMS reported that although not fully automated, the eligibility system was completed in May 2014 and that contractors then began processing the outstanding inconsistencies. CMS reported that by September 2014, they had resolved the majority of inconsistencies and sent coverage termination notices to the 115,000 individuals who failed to submit supporting documentation.

[94] OIG, *Not All of the Federally Facilitated Marketplace's Internal Controls Were Effective in Ensuring That Individuals Were Properly Determined Eligible for Qualified Health Plans and Insurance Affordability Programs*, A-09-14-01011, August 2015.

[95] CMS concurred with OIG's recommendation that CMS take action to improve the Federal Marketplace's internal controls related to verifying applicants' eligibility and resolving and expiring inconsistencies. CMS replied that it has an extensive resolution process in place to resolve data matching issues and is continuously improving and refining those processes. For example, even when a consumer is not legally required to provide a Social Security number (SSN), CMS highly recommends to consumers that they provide an SSN as part of the application process for everyone on the application who has one, since providing an SSN enables the FFM to use more efficient electronic verification processes. This should decrease the number of data matching issues.

[96] HHS, ASPE, H*ealth Insurance Marketplace: Summary Enrollment Report for the Initial Annual Open Enrollment Period*, May 1, 2014. Accessed at http://aspe.hhs.gov/sites/default/files/pdf/76876/ib_2014Apr_enrollment.pdf on October 9, 2015.

[97] OIG, *Federal Marketplace: Inadequacies in Contract Planning and Procurement*, OEI-03-14-00230, January 2015.

[98] Ibid.

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[100] Ibid.

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[104] 45 CFR § 155.335. See also CMS, *Guidance on Annual Redeterminations for Coverage for 2015*, June 26, 2014. Accessed at https://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/2014-0626-Guidance-on-annual-redet-option-2015-FINAL.pdf on September 21, 2015.

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[110] U.S. House of Representatives, Committee on Ways and Means, Subcommittee on Health, *Written Testimony of John A. Koskinen, Commissioner IRS*, September 10, 2014. See also JoAnn Volk, Sabrina Corlette, Sandy Ahn, and Tricia Brooks, The Center on Health Insurance Reforms, *Report from the First Year of Navigator Technical Assistance Project: Lessons Learned and Recommendations for the Next Year of Enrollment,* October 2014. Accessed at http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2014/rwjf416166 on August 14, 2015.

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