Improving Health Through Interoperability and Information Sharing
Advancing Medical Innovation for a Healthier America

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BIPARTISAN POLICY CENTER
**Introduction**

Electronic information sharing—supported by interoperable health information technology (IT) systems—plays a critical role in improving health outcomes, lowering health care costs, and improving the patient experience of care.

Much of the information about a patient’s health and health care resides in the many settings in which care and services are delivered. This includes offices of primary care physicians and specialists, clinics, health plans, hospitals, laboratories, pharmacies, and radiology centers, as well as patients themselves. This information must be delivered in a usable format to the clinician and the care team to deliver high-quality, cost-effective, coordinated, patient-centered care. Information sharing can help clinicians avoid duplicative tests, identify and address gaps in care, and avoid medication and other errors—all of which drive higher-quality and more cost-effective care. Information sharing and interoperability also play a key role in rapidly emerging models of delivery and payment, advances in biomedical innovation, and empowering individuals as they manage their own health and health care.

While a majority of clinicians and hospitals are now adopting electronic health records (EHRs), largely due to more than $30 billion in federal investments brought about by the Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009, the level of interoperability and meaningful electronic information sharing across different organizations is still fairly low.

Public and private sector leaders alike have taken many actions to improve interoperability and information sharing, but more collaborative action is needed if Americans are to reap the full benefits.

**The Need for Interoperability and Electronic Information Sharing**

The need for electronic information sharing and, therefore, interoperable systems, is driven by consumers who are using technology for nearly every other aspect of their lives and are demanding more from the health care system. It is also being driven by a rapidly evolving health care system that increasingly rewards value and outcomes over volume, as well as advances in biomedical innovation that promise to deliver new cures and treatments to patients and herald a new age of digitally driven, personalized care.

**Increasing Consumer Demands**

Americans use online, electronic, and mobile tools for nearly every aspect of life, including shopping for consumer goods, banking, travel, and social interaction. The U.S. health care system has been slow to move toward the information age when it comes to interacting with individuals about their health and health care.

A recent Nielsen survey released by the Council of Accountable Physician Practices and the Bipartisan Policy Center indicates that a majority of Americans would like to have better access to their health information. For example, 52 percent look forward to the day when they can access all of their health information in the same place. Achieving this important goal will require aggregation of an individual patient’s health information from across the health care system in one single place, to support patients as they manage their health and health care.
The survey—which polled more than 5,000 Americans ages 18 and over—also indicates that electronic access to health information and services is still relatively low. For example:

- 28 percent have had access to an electronic portal where they could log on and see their health information through their primary care doctor.
- 21 percent have had access to online appointment scheduling through their primary doctor.
- 29 percent have used or experienced electronic reminders for appointments, refills, or suggested care from their medical offices, pharmacies, or insurance companies.
- 11 percent have access to online submission of questions answered by a medical professional.
- 6 percent have access to email reminders about taking medications and/or other health measurements, while only four percent have access to text reminders regarding the same.
- Three percent have the ability to submit photos of a condition or symptom to receive phone or email consultation, while only two percent have access to video visits (e.g., telemedicine).

According to the survey, those most interested in gaining greater electronic access to health information and services included parents with children, chronically ill patients, patients with acute conditions, and adults under 35 years of age.

Another trend is driving the need for more electronic information sharing and interoperability of systems. Increasingly, consumers are bearing more responsibility for their health care-related costs. Today, 81 percent of workers with insurance pay an annual deductible for single coverage, compared to 55 percent in 2006. The average deductible nearly doubled from $584 to $1,135. This trend is expected to continue.

In an era of greater financial responsibility and increasing out-of-pocket costs for insured individuals, consumers will need to be able to obtain information about the quality and cost of their health care options to enable them to make rational health care decisions. Furthermore, transparency in cost and quality will also support public and private sector health care purchasers and payers who also have an interest in promoting higher quality, more cost-effective, patient-centered care.

Supporting the aggregation, analysis, and user-friendly presentation of data related to the cost/price and quality of health care options will require access to and interoperability of information drawn from EHRs, laboratory and pharmacy systems, administrative claims systems, and provider practice management (or financial) systems.

**New Models of Delivery and Payment**

Billions of dollars are being invested by federal, state, and private sector organizations in new health care delivery and payment arrangements that reward better cost and quality outcomes. These arrangements will require greater information sharing and interoperable systems. For example:

- Clinicians and care teams will need to have access to information about the patient—regardless of where care has been delivered—as well as clinical decision support tools, to inform coordinated, clinical decision-making at the point of care and between visits.
• New models of payment and delivery will require the aggregation and analysis of different types of data—including those derived from clinical systems, financial systems, administrative claims systems, medical devices, and consumer applications—to identify and predict where interventions are needed, monitor and provide feedback on progress, and measure outcomes and performance to support payment.

• Given the critical role of the patient in improving cost and quality outcomes, clinicians and care teams will need to engage, inform, and support individuals in managing their health, making informed health care decisions, and navigating the health care system.\(^7\)

Many types of data will need to be readily accessed—from across the health care system, while effectively managing patient privacy—and effectively aggregated, analyzed, and used.

| Allergy and problem lists | Immunization and vaccination histories |
| Care plan | Insurance eligibility and benefits |
| Cost data | Laboratory orders and test results |
| Demographic information | Medication lists |
| Discharge summary and instructions | Other providers involved in care |
| Family history | Patient and family needs and circumstances |
| Follow-up appointments, procedures, tests, and referrals | Patient preferences |
| Health status | Radiology or imaging test results |

Those data types identified as either very important or essential for transitions of care by a vast majority of clinicians surveyed by BPC and several physician-led organizations included medication lists, laboratory test results, and radiology test results.\(^8\) A majority of providers (largely from acute care settings) surveyed by KLAS in 2015, identified orders/results (59 percent) and transitions of care (52 percent) as priority areas of focus for sharing patient data.\(^9\)

The ability to effectively analyze and use data from multiple sources and disparate systems requires use of common standards for vocabulary, format, content, and structure; transport; security; and services. It also requires common and accurate methods for both identifying providers and identifying and matching patient data from across multiple systems. Achieving broad-based electronic information sharing and interoperability will also require agreement on policies and basic “rules of the road” to assure trust.

**Information Needs of Biomedical Innovation**

Improving the discovery, development, and delivery of drugs and devices—the focus of a recently released Bipartisan Policy Center (BPC) report, *Advancing Medical Innovation for a Healthier America,*—will require more effective methods of data collection, management, and analysis.

It costs approximately $2 billion and takes more than a decade to bring a new drug to the market.\(^10,11,12,13\) Clinical trials are the most critical and expensive phase of the drug development process, accounting for about $1.5 billion of the total amount spent.\(^14\)
Prior to approval, drugs and some devices are typically tested in several controlled settings using randomized controlled trials. The tightly controlled nature of these trials brings strong evidence, but only in a relatively small and narrowly defined population, limiting generalizability. Often missing from trials are representative samples of patients with multiple comorbidities, concomitant use of other drugs, varying races and ethnicities, ages at both the low and high ends of the spectrum, and different practice settings. Studies with relatively small sample sizes (e.g., 5,000-7,000 patients on average) and study durations that only allow for assessment of shorter-term outcomes further limit the evidence.

There is now considerable interest in using evidence gathered outside of carefully controlled trials—so-called “real-world evidence” captured from the actual experiences of patients during routine patient care—to significantly strengthen the evidence base for approval, safety, and effectiveness.

The introduction of real-world evidence into the clinical trials process is expected to:

- Improve the generalizability of research findings to broader populations and real world clinical settings.
- Support the earlier evaluation of effectiveness to help with decision-making associated with payment and value.
- Bolster methods for post-market surveillance.
- Improve confidence in methods designed to accelerate the development and approval of medical products, including those that fill serious, unmet medical needs.\(^\text{15}\)

The considerable increase in the use of EHRs in the clinical setting, combined with the surge in the number of Americans recording health information through wearable devices or other electronic health tools, is expected to improve the availability of real-world evidence to support pre-market and post-market decision-making. However, to effectively access and use such data will again require common standards for vocabulary, format, content, and structure; transport; security; and services.

Also, combining clinical information derived from EHRs and other clinical systems with patient-generated and genetic information, as well as information on environmental factors, will pave the way for “precision medicine” or more personalized and effective disease prevention and treatment. In early 2015, President Barack Obama launched the Precision Medicine Initiative, the goal of which is to leverage advances in genomics, emerging methods for managing and analyzing large data sets while protecting privacy, and health IT to accelerate biomedical discoveries.\(^\text{16}\)

Precision medicine seeks to redefine understanding of disease onset and progression, treatment response, and health outcomes through the more precise measurement of molecular, environmental, and behavioral factors that contribute to health and disease. This understanding is expected to lead to more accurate diagnoses, more rational disease prevention strategies, better treatment selection, and the development of novel therapies.\(^\text{17}\)

The Precision Medicine Initiative Working Group (“Working Group”) highlighted in its recent report the different types of data that would be needed for the creation of a research cohort of more than one million American volunteers, some of which would be voluntarily contributed by individual study participants (e.g., demographic information, terms of consent, self-reported measures, behavioral and lifestyle measures, sensor-based information, etc.) and some of which would be drawn from EHRs. The Working
Group highlighted the challenges of collecting data derived from EHRs, noting that such data are created in heterogeneous formats, frequently with institution-specific, nonstandard naming and coding conventions. Therefore, to use such clinical data for research, additional steps of data normalization would be needed that address both the syntax (structure) and semantics (common naming and coding practices) of the data.\textsuperscript{18}

### The Current State of Interoperability and Electronic Information Sharing

A majority of clinicians and hospitals have adopted EHRs largely due to the more than $30 billion in federal investments made through the Centers for Medicare and Medicaid Services (CMS) Medicare and Medicaid EHR Incentive Programs, often referred to as “Meaningful Use.” As of October 31, 2015, CMS paid incentives of $31.6 billion to more than 479,000 providers.\textsuperscript{19}

### Current Levels of Electronic Information Sharing Among Clinicians

The percentage of physicians who have adopted at least a basic EHR system increased from 22 percent in 2009 to 50 percent in 2014.\textsuperscript{20, 21}

The level of electronic information sharing with outside organizations among physicians is still relatively modest but growing. The percentage of physicians who reported electronically sharing health information grew from 39 percent in 2013 to 42 percent in 2014. The latest data available on physician information sharing is summarized below in Figure 1.\textsuperscript{22}

**FIGURE 1. Percentage of Physicians Who Reported Electronically Sharing any Patient Information with Other Types of Providers**

<table>
<thead>
<tr>
<th>Type of Provider</th>
<th>Percentage of Physicians Who Reported Electronically Sharing any Patient Information with Other Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unaffiliated Providers</td>
</tr>
<tr>
<td>Ambulatory care providers</td>
<td>26%</td>
</tr>
<tr>
<td>Hospitals</td>
<td>9%</td>
</tr>
<tr>
<td>Home health providers</td>
<td>n/a</td>
</tr>
<tr>
<td>Behavioral health providers</td>
<td>n/a</td>
</tr>
<tr>
<td>Long-term care providers</td>
<td>n/a</td>
</tr>
</tbody>
</table>
There is little variability in the physician electronic information sharing by data type. Figure 2 below describes the level of information sharing by data type.\textsuperscript{23}

**FIGURE 2. Percentage of Physicians Who Reported Electronically Sharing Different Types of Clinical Information with Other Providers**

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Percentage of Physicians Who Reported Electronically Sharing Clinical Information with Other Providers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unaffiliated Providers</td>
</tr>
<tr>
<td>Laboratory test results</td>
<td>14%</td>
</tr>
<tr>
<td>Medication lists</td>
<td>12%</td>
</tr>
<tr>
<td>Medication allergy lists</td>
<td>13%</td>
</tr>
<tr>
<td>Patient problem lists</td>
<td>11%</td>
</tr>
<tr>
<td>Imaging reports</td>
<td>12%</td>
</tr>
</tbody>
</table>

The percentage of physicians who exchange secure messages with their patients has increased considerably, from 40 percent in 2013 to 52 percent in 2014. The percentage of physicians who give their patients access to view, download, or transmit their electronic health information also increased significantly, from 33 percent in 2013 to 47 percent in 2014.\textsuperscript{24}

**Current Levels of Electronic Information Sharing Among Hospitals**

The vast majority of hospitals have adopted an EHR system, with the level of adoption having increased from 12 percent in 2009 to 75 percent in 2014.\textsuperscript{25}

The level of electronic information sharing between hospitals and outside organizations also increased considerably over the last year. For example, the percentage of hospitals that electronically exchanged laboratory results, radiology reports, clinical care summaries, or medical lists with ambulatory care providers outside their organization increased from 57 percent in 2013 to 69 percent in 2014. The percentage of hospitals that electronically exchanged the same information with other hospitals outside their organization increased significantly from 40 percent in 2013 to 62 percent in 2014.\textsuperscript{26}

Also, hospitals increasingly have the ability to electronically find, send, receive, and use health information from other systems.\textsuperscript{27}

In summary:

- **Find Information from Outside Sources.** 48 percent of hospitals are able to find or electronically query patient health information from external sources.
• **Send Information to Other Organizations.** 78 percent of hospitals are able to send patient summary of care records to organizations outside their health care system using secure messaging within an EHR system or a provider portal, or via a health information exchange organization or other third party.

• **Receive Information from Other Organizations.** 56 percent of hospitals were able to receive patient summary of care records from outside their health care system using secure messaging within an EHR system or a provider portal, or via a health information exchange organization or other third party.

• **Use Information From Other Organizations.** 40 percent of hospitals are able to use (or integrate into their EHR without the need for manual entry) patient summary of care records from outside their health care system.

• **Conduct All Four Interoperable Exchange Activities.** 23 percent of hospitals are able to find or query information from outside sources as well as send, receive, and use patient summary of care records from outside their health care system (all four capabilities described above).

Finally, as of September 2015, 34 percent of hospitals attested to electronically providing a summary of care record for more than 10 percent of transitions of care or referrals (a Stage 2 Meaningful Use requirement).^28

**Barriers to Interoperability and Electronic Information Sharing**

Barriers to interoperability and electronic information sharing are well-documented and include lack of a business case, lack of a technical infrastructure for exchange, the costs associated with exchange, the lack of standards, and difficulty locating providers or accurately identifying or matching patients. A summary of the data associated with barriers is provided below.

• **Lack of a Business Case.** The U.S. health care system largely pays providers based on volume rather than value or outcomes, and therefore, to date, there has been little financial incentive to share information across settings to reduce costs or improve quality. This is expected to change, as new models of delivery and payment continue to proliferate.

• **Lack of a Technical Infrastructure.** In 2015, 24 percent of provider organizations indicated that the lack of health information exchange infrastructure is a barrier to exchange, with 20 percent identifying incompatible solutions/technical limitations as an additional barrier.^29,30

• **Costs Associated With Exchange.** According to a 2015 survey conducted by KLAS and CHIME, 28 percent of health care executives cited cost as a top barrier to exchange in 2015.^31 Stakeholders have characterized the fees associated with health information exchange interfaces as “prohibitive,” while “set-up costs for the required hardware and internet links along with subsequent system maintenance” have also been described as a problem.^32,33

• **Need for Standards.** Many stakeholders believe that more standards are needed, and that current standards need to be more explicitly defined.^34 Providers also cite the lack of a common provider directory and lack of standards for accurately identifying and matching patient data as common barriers.^35
Public and Private Sector Activities

Public and private sector leaders alike have taken action to improve the level of electronic information sharing and the interoperability of health IT systems. A summary of these activities is provided below.

Administration Initiatives

Interoperability Roadmap

In October 2015, the Office of the National Coordinator for Health IT (ONC) released Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap Version 1.0 (Interoperability Roadmap). The Interoperability Roadmap describes goals for the near-term, intermediate term, and long-term:

- **2015-2017**: Send, receive, find, and use priority data domains to improve health care quality and outcomes.
- **2018-2020**: Expand data sources and users in the interoperable health IT ecosystem to improve health and lower costs.
- **2021-2024**: Achieve nationwide interoperability to enable a learning health system, with the person at the center of a system that can continuously improve care, public health, and science through real-time data access.

Organized within three sections—including drivers, policy and technical components, and outcomes—the Interoperability Roadmap describes a set of milestones, commitments, and calls to action across 15 areas, summarized below.

**Figure 3: Interoperability Roadmap Areas of Focus**

<table>
<thead>
<tr>
<th>Drivers</th>
<th>• Supportive payment and regulatory environment.</th>
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<tr>
<td><strong>Policy and Technical Components</strong></td>
<td>• Shared decision-making, rules of engagement, and accountability.</td>
</tr>
<tr>
<td></td>
<td>• Ubiquitous, secure network infrastructure.</td>
</tr>
<tr>
<td></td>
<td>• Verifiable identity and authentication of all participants.</td>
</tr>
<tr>
<td></td>
<td>• Consistent representation of authorization to access electronic health information.</td>
</tr>
<tr>
<td></td>
<td>• Consistent understanding and technical representations of permission to collect, share, and use identifiable electronic health information.</td>
</tr>
<tr>
<td></td>
<td>• An industry-wide testing and certification infrastructure.</td>
</tr>
<tr>
<td></td>
<td>• Consistent data semantics.</td>
</tr>
<tr>
<td></td>
<td>• Consistent data formats.</td>
</tr>
<tr>
<td></td>
<td>• Secure, standard services.</td>
</tr>
<tr>
<td></td>
<td>• Consistent, secure transport techniques.</td>
</tr>
<tr>
<td></td>
<td>• Accurate individual data matching.</td>
</tr>
<tr>
<td></td>
<td>• Health care directories and resource location.</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td>• Individuals have access to longitudinal electronic health information, can contribute to that information, and can direct it to any location.</td>
</tr>
<tr>
<td></td>
<td>• Provider workflows and practices include consistent sharing and use of patient information from all available and relevant sources.</td>
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</tbody>
</table>
Broadly speaking, commitments fall into three primary areas:

- Helping consumers easily and securely access their electronic health information when and where they need it most;
- Enabling individual health information to be shared with providers; and
- Implementing federally recognized national interoperability standards and policies.

**Federal Health IT Strategic Plan**

In September 2015, the Office of the National Coordinator for Health Information Technology (ONC) released the *Federal Health IT Strategic Plan 2015-2020* (Strategic Plan).\(^37\) The Interoperability Roadmap aligns with the Strategic Plan’s mission of improving the health and well-being of individuals and communities through the use of technology and health information that is accessible when and where it is needed most. The Strategic Plan focuses on federal actions and strategies to broaden and modernize the nation’s health IT infrastructure to support three goals: advancing person-centered and self-managed health; transforming health care delivery and community health; and fostering research, scientific knowledge, and innovation.\(^38\)

**Medicare and Medicaid EHR Incentive Program and Related Standards and Certification Criteria**

The HITECH Act included in the American Recovery and Reinvestment Act of 2009 authorized CMS to provide incentive payments to eligible professionals and hospitals that adopt and “meaningfully use” EHRs. This program is the primary mechanism used by the Department of Health and Human Services (HHS) to encourage providers to exchange health information and to advance a minimum set of standards that must be included in certified EHR technology to facilitate exchange.

Program requirements have been outlined in three stages to progressively enable more advanced types of information exchange, which are being phased in over time.\(^39\)

Requirements for both electronic information sharing among providers and interoperability among certified EHR technology were modest under Stage 1 of the Meaningful Use program. Such requirements were expanded under Stage 2 of the program; however, to date there has been limited participation in Stage 2. Stage 3 requirements for electronic information sharing among providers and interoperability within certified EHR technology are significantly more robust. An overview of Meaningful Use requirements for all three stages is provided in Figure 4 below.\(^40,41\)
Policymakers have taken action in recent years on accelerating interoperability and electronic information sharing. Key legislative activity is summarized below.

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
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</thead>
<tbody>
<tr>
<td>Hospitals and eligible professionals (EPs) are required to provide a summary of care record for more than 50 percent of transitions of care or referrals (which need not be transmitted electronically).</td>
<td>Hospitals and EPs are required to provide a summary of care record for more than 50 percent of transitions of care or referrals (which need not be transmitted electronically). The summary of care record must be transmitted electronically for more than 10 percent of transitions of care and referrals. Hospitals and EPs must send at least one summary of care record electronically to a recipient that uses a different EHR vendor or a CMS-designated test EHR system.</td>
<td>Hospitals and EPs are required to provide a summary of care record, which is created using certified EHR technology and transmitted electronically, for more than 50 percent of transitions of care or referrals. Hospitals and EPs must receive or retrieve and incorporate summary of care record information received into the patient’s record for more than 40 percent of transitions or referrals and encounters for which the patient has not previously been seen. Hospitals and EPs must perform clinical information reconciliation for more than 80 percent of transitions or referrals received and new patient encounters.</td>
</tr>
</tbody>
</table>

**Legislative Activities**

Policymakers have taken action in recent years on accelerating interoperability and electronic information sharing. Key legislative activity is summarized below.

**Medicare Access and CHIP Reauthorization Act of 2015 (MACRA)**

Signed into law in April 2015, the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) included recommendations and metrics for achieving a national objective of widespread, nationwide interoperability by December 31, 2018. The law also directs the HHS Secretary to take steps to prevent information blocking by requiring certain professionals and hospitals to attest that they have not taken action to limit or restrict the compatibility or interoperability of their certified health IT systems.

**The 21st Century Cures Act**

Passed nearly unanimously by the U.S. House of Representatives in July 2015, the 21st Century Cures Act (H.R. 6), included several provisions to advance interoperability, based on legislation authored by Rep. Michael Burgess (R-TX). Specifically, Section 3001 of the Act.
• Defines standards for interoperability.
• Requires the Health IT Policy Committee—a federal advisory committee—to incorporate policies for updates to interoperability standards.
• Requires the HHS Secretary to enter into contracts with health care standards development organizations who will provide recommendations for interoperability standards and multiple methods for testing such standards.
• Requires the HHS Secretary to report on the status of interoperability by no later than July 1, 2017.
• Requires the HHS Secretary to publish in the Federal Register the following: (1) status against interoperability goals; (2) a list of qualified EHR vendors and their compliance or non-compliance with adopted standards; and (3) actions to be taken related to non-compliant vendors.
• Requires that ONC certification include interoperability standards by January 1, 2018.
• Requires that as of January 1, 2018, any vendors offering qualified EHRs, must attest that they have performed the following and authorizes the HHS secretary to decertify qualified EHRs if certain criteria are not met.
• Authorizes the Inspector General to investigate claims associated with violations related to various provisions.
• Authorizes the HHS Secretary to offer hardship exemptions to eligible professionals and hospitals in relation to compliance with the Meaningful Use program for situations in which such providers’ EHRs become decertified.

Transparency Ratings on Usability and Security to Transform Information Technology Act of 2015

Introduced by Senator Bill Cassidy (R-LA) and Senator Sheldon Whitehouse (D-RI) in October 2015, the Transparency Ratings on Usability and Security to Transform Information Technology Act of 2015 (TRUST IT Act) aims to increase accountability for the performance of health IT systems in three key areas: security, usability, and interoperability. The legislation establishes a publicly available health IT rating system that incorporates stakeholder feedback and enables consumers to compare certified health IT products. Health IT products receiving a one-star rating may be decertified under some circumstances. In addition, the legislation also authorizes the HHS Office of the Inspector General to investigate claims that vendors and/or health care providers are engaged in information blocking, and provides that each act of information blocking may result in a fine of up to $10,000.

Private Sector Actions

A number of private sector actions are also underway to accelerate interoperability and electronic information sharing, as summarized below.

• Carequality is a public-private, multi-stakeholder collaborative that aims to enable seamless connectivity across all participating networks, focusing on common rules, well-defined technical specifications, and a participant directory.
• CommonWell Health Alliance is a not-for-profit association of health IT vendors working to create and execute a vendor-neutral platform with common standards and policies.
• The Argonaut Project is a collaborative effort to develop a first-generation application program interface (API) and core data services specifications that facilitate expanded health information sharing based on the Fast Healthcare Interoperability Resources (FHIR) specifications developed by HL7.
Public and Private Sector Actions Needed

Rapidly emerging delivery and payment models, advances in biomedical innovation, and increasing consumer needs all demand greater electronic information sharing and interoperability of health IT systems. There is still room for greater consensus on the specific actions that Congress, the Administration, and the private sector can and should take to effectively advance interoperability within the U.S. health care system.

BPC recommends the following actions to advance interoperability in the U.S. health care system:

• Public and private sector purchasers and payers should continue and increase incentives for greater electronic information sharing. New models of delivery and payment advanced by the federal government, states, and private sector entities that promote higher quality, more cost-effective, coordinated, patient-centered care offer significant incentives for accelerating information sharing and interoperability. The federal government can also use the existing CMS Medicare and Medicaid EHR Incentive Programs, related standards and certification criteria, and procurement practices to provide incentives for interoperability and electronic information sharing.

• The federal government should adopt standards for health IT, including those related to content, format, and structure; vocabulary; transport; security; provider identification; and accurate methods for identifying and matching patient data from across systems. Any standards adopted by the federal government should be developed by an organization with voluntary consensus attributes as defined by the National Technology Transfer and Advancement Act and OMB Circular A-119, tested prior to adoption, and established through formal rulemaking, to assure public input and transparency.45,46

• Key stakeholders, including those who deliver and pay for care, as well as individuals, should collaborate on identifying a common set of health information needs for both improving health and wellness of individuals and supporting high quality, cost-effective, patient-centered care; to prioritize efforts around interoperability and electronic information sharing.

• EHR and other clinical software developers should commit to working together, with guidance from providers, to both adopt a common set of technology standards and security requirements and pursue a technology and vendor neutral trust process. This will enable clinicians with appropriate patient consent to be able to query, retrieve, send, and use essential patient data from any clinical software system.

Conclusion

The United States spends more than $3 trillion annually on health care.47 Considerable investments in health IT have been made by both the federal government and the private sector to promote health and improve the quality, cost, and patient experience of care and as a result, a majority of clinicians, hospitals, and other health care organizations are now adopting EHRs. Actions must now be taken to accelerate electronic information sharing and interoperability in order to derive the full value from these federal investments. BPC will continue to engage public and private stakeholders to inform the development of policy that will advance an IT infrastructure that will support improvements in health and health care in the United States.
End Notes


Leadership

Senator William H. Frist, MD
Former U.S. Senate Majority Leader
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Co-Chair, Bipartisan Policy Center Initiative on FDA: Advancing Medical Innovation

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Former Member, U.S. House of Representatives
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About the Initiative on FDA: Advancing Medical Innovation

The Bipartisan Policy Center’s initiative on FDA: Advancing Medical Innovation is developing viable policy options to advance medical innovation and reduce the time and cost associated with the discovery, development, and delivery of safe and effective drugs and devices for patients in the United States. Former Senate Majority Leader William H. Frist, MD and former U.S. Representative Bart Gordon co-chair this initiative. Janet Marchibroda, BPC’s Health Innovation director, serves as the staff director for the effort.

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Disclaimer

The findings and recommendations expressed herein do not necessarily represent the views or opinions of the Bipartisan Policy Center’s founders or its board of directors.
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