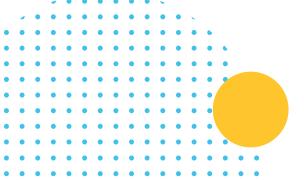


Public Policy Principles

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Introduction

The Healthcare Information and Management Systems Society (HIMSS) is a global advisor, thought leader and member association committed to transforming the health ecosystem. As a mission-driven non-profit, HIMSS offers a unique depth and breadth of expertise in health innovation, public policy, workforce development, research and analytics to advise leaders, stakeholders, and influencers from across the ecosystem on best practices.

HIMSS has served the global health community for more than 60 years, with focused operations across North America, Europe, the United Kingdom, the Middle East and Asia-Pacific in support of our vision and mission.

HIMSS Vision:

To realize the full health potential of every human, everywhere.

HIMSS Mission:

Reform the global health ecosystem through the power of information and technology.

Digital health solutions are driving advances in biomedical research, improved care delivery and access, wellness through disease prevention and management, early detection of disease, cost effectiveness and economic opportunity for the individual and organizations.

HIMSS developed Public Policy Principles to ensure that all governments, regardless of structure, payment system, or geography, have the tools to improve policy to support the rapid speed of innovation to address the growing complexity of health and delivery systems and meet the needs of their populace.

The HIMSS Public Policy Principles serve as guidance for policy development and analysis across all health domains in support of our foundational goals.

Foundational Goals:

Make Communities Healthier

Support Global Health Transformation

Increase Economic Opportunity

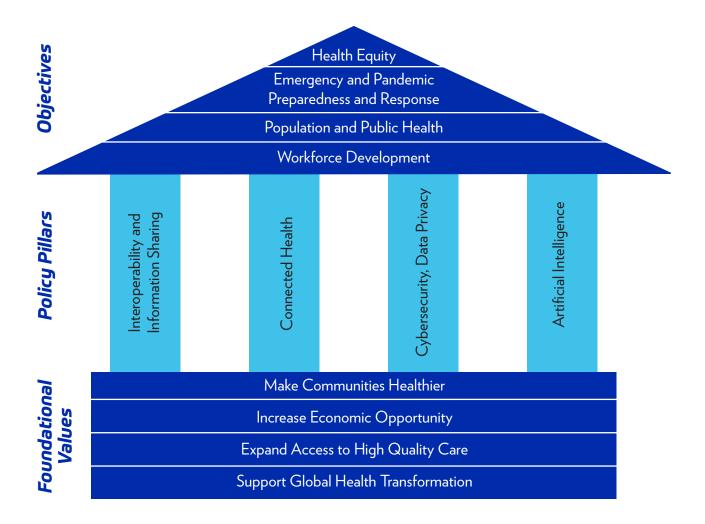
Expand Access to High Quality Care

Public Policy Principles

- Health Equity
- Data Privacy, Security, and Cybersecurity
- Interoperability, Health Information Exchange & Infrastructure
- Connected Health
- Quality, Value, Safety, and Outcomes
- Clinical & Administrative Efficiency

- Innovation & Research
- Patient Activation and Engagement
- Workforce Development and Economic Growth
- Population and Public Health
- Artificial Intelligence/Machine Learning (AI/ML) Technologies

The HIMSS public policy principles grow out of our foundational values, are fluid throughout the topical subject matter policy pillars, all to achieve out our overarching objectives tied to the HIMSS vision and mission.



Health Equity

- Communities, patients, caregivers, and providers should have equitable access to health information and technology tools regardless of social or economic status, such as race, gender, education, place of residence, or income.
- Marginalized communities (communities of color or low-income) are disproportionately impacted by numerous health conditions. Policy should support research and programs to pay particular attention to at-risk communities in order to advance health equity. Policy should address racism and discrimination as root causes and structural determinants of health, which leads to countless inequities and disproportionate morbidity and mortality risk.
- Health information and technology innovations, including the use of artificial intelligence, should be developed with the aim of reducing bias in healthcare.
- Policy should ensure members of underrepresented communities are included in the design of solutions, collection and analysis of data, clinical trials and policy decisions that affect at-risk communities.
- Social Determinants of Health (SDOH) data should be integrated into patient records and leveraged for care, while taking privacy and security into account.
- Policy should incentivize a diverse workforce at all levels to represent the communities served.
- Policies should account for diverse levels of digital literacy. For example, secure, user friendly voice or short message services (SMS) for telehealth should be reimbursed and supported to improve access to care.
- Data infrastructure should support timely and standardized collection as well as sharing of demographic data to identify and visualize

- existing health disparities in order to support intervention. This means race, gender, and other critical factors must be collected and shared securely.
- Policies should seek to bridge the digital divide through digital literacy education and improving access to broadband in at-risk communities, which will improve access to connected care, such as telehealth.

Data Privacy, Security, and Cybersecurity

- Develop a unified, global approach to health cybersecurity and information privacy. It may be achieved through the creation and adoption of voluntary, consensus-based, and industryled guidelines, best practices, methodologies, procedures, and processes with use cases and implementation guidance that is scalable for a wide range of healthcare organizations and inclusive of all provider levels.
- Develop and maintain a global transparent trust framework through awareness, management, enforcement, and refinement of uniform privacy principles and risk-based security practices which, consistent with responsible stewardship, allows for appropriate access and use, appropriate information flow in care delivery, and appropriate primary and secondary uses to promote a Learning Health System.
- Security and resilience of the global health sector should be supported through means which include, but are not limited to:
 - 1 intra-sector and cross-sector information sharing with government and private sector stakeholders,
 - 2 identification, awareness, and management of threats, vulnerabilities, and hazards,
 - **3** defense in depth.
 - **4** strong multi-factor authentication and complex passwords,
 - 5 robust encryption and key management
 - 6 supply chain integrity and security,

- **7** vendor and third party procurement and management,
- 8 situational awareness,
- **9** information superiority,
- 10 education and training,
- **11** detection, response, mitigation, and interdiction of threats and hazards,
- 12 risk assessments and risk management,
- 13 business continuity,
- 14 disaster recovery,
- 15 emergency preparedness,
- **16** organizational policies, procedures, standards, baselines, and quidelines,
- 17 authorized penetration testing,
- 18 mock exercises,
- 19 security research,
- 20 innovation,
- 21 mitigation of cyber-physical risks,
- **22** mitigation of information and communication technology risks, and
- 23 secure software development lifecycle.
- Maturing and advancing the state of the art for cybersecurity, information security, physical security, and information privacy across the global health sector should be supported to:
 - 1 protect the confidentiality, integrity, and availability of patient information and other sensitive information and assets of stakeholders.
 - 2 ensure the continued and effective delivery of patient care and coordination of care,
 - 3 protect patient safety and privacy, and
 - **4** further the delivery of safe, secure, and effective care delivery and coordination of care across disparate health systems.
- Governments should encourage market suppliers in the global supply chain to address the security of applications, sensors, actuators, interfaces, devices, and services during the design phase and throughout the entire lifecycle.
- Timely and proactive information sharing across the globe should be facilitated among security researchers, healthcare providers,

- vendors, suppliers, government agencies and others, on threats, vulnerabilities, and mitigation information.
- Barriers to global health information exchange should be minimized through harmonizing privacy and security laws, regulations, directives, and industry-led guidelines.

Interoperability, Health Information Exchange & Infrastructure

- Seamless, secure, and ubiquitous data access and interoperable health information exchange should ensure the right people have the right access to the right health information in a usable format at the right time.
- All stakeholders—including patients, caregivers, and healthcare providers—should find, store, use, reuse, send, and receive electronic health information in a manner that is appropriate, secure, timely and reliable to support health and wellness efforts for individual patients and population health.
- Policy advancements and program development across all levels should prioritize investments in health information and technology infrastructure to support care delivery, public health, medical research, and biomedical innovation.
- The community should demand integration between all interoperability approaches, entities, and trusted exchange frameworks, and support combining administrative and clinical data to enhance transparency and enable value-based care delivery for the public good.
- Stakeholders should agree to and follow a common set of standards, a minimum necessary set of business rules, services, policies, and practices, as well as adopt identity management approaches that facilitate

the appropriate exchange and use of health information nationwide, as well as facilitate the adoption of interoperability standards widely used internationally to pave the way for cross-border information exchange.

- Testing and certification programs should be incorporated into policy frameworks to increase market confidence in the interoperability and the safety of health information and technology products. These programs should be developed with extensive input from relevant stakeholders and focus on:
 - 1 accelerating the development and commercialization of technology;
 - **2** enabling developers and users to evaluate technical implementations;
 - **3** testing existing and emerging standards, use cases, and data formats for inconsistencies and unexpected behaviors among other issues; and
 - **4** and ensuring a comprehensive, integrated approach to care.
- As health systems continue to evolve, policy should address data sharing barriers, such as cost, time, data efficacy, variance in clinical documentation, conflicting goals, and data blocking.
- Healthcare infrastructure policies should foster investment in ubiquitous broadband technologies to ensure communities have access to health information, healthcare, and community services through connected care, such as telehealth and remote patient monitoring.

Connected Health

- Connected health and the Internet of Things (IoT) in healthcare, such as integrated wired, mobile, and wireless technologies, activates and empower patients, caregivers, and users.
 Connected health allows for a continuum of support and access to data and information between locations of care (e.g., from hospital, to skilled nursing facility, to the home). The use and innovation of mobile technologies must be encouraged and carefully regulated to further enable measurable outcomes of successful planning and transitions of care activities.
- The safe, effective, secure, and integrated application of wired, mobile, and wireless technologies must play a central role in advancing health outcomes and facilitating better care and disease management and prevention, regardless of location. In addition, the use of mobile technologies is essential to timely and effective response during emergency events and health crises.
- To support value-based patient centered health care, payment models should promote and incent the incorporation of connected health technology, where supported by data and evidence.
- Telehealth enhances equitable access to high-quality care for any patient in any setting, particularly for at-risk, underserved, and remotely located populations when face to face options are not available. The ability of clinicians and other providers in all healthcare settings to practice across designated state, provincial, or local borders with the same incentives as in-person care should be promoted to improve access to care.

 Universal access to broadband connectivity should be prioritized, as it is a critical enabler for widespread telehealth access as the locus of care delivery moves from a hospital-centric model to community and home-based care. Public policy should allow and support access to connected care wherever patients are located.

Quality, Value, Safety & Outcomes

- Continuous quality improvement of the provision of care must be supported by a scientific approach as well as standards of care determined by digital health industry model practices for the development, reporting, and continued use of clinical quality measures.
- All electronic clinical quality measures should be tested and field-tested to produce comparable and consistent results against the measure's intent, an accurate reflection of care delivered, and be actionable to drive meaningful improvements in care delivery before being incorporated into a value-based care delivery program.
- Real-time access to performance data on meaningful measurements of quality is the most effective technology driver for enhancing improvement in patient outcomes. Value-based care delivery programs should incentivize, either through additional reimbursement or scoring bonuses, the utilization of data visualization technology to determine opportunities for improving care.
- Quality data capture and reporting policies should reduce the implementation and data collection burden on providers, hospitals, and digital health technology developers by using information already collected for care and reducing the introduction of new inefficient workflows.

The development, implementation, and use
 of health information and technology systems
 should involve full consideration of related
 patient safety issues. Policies should promote
 a "culture of safety" within healthcare delivery
 organizations, including safe practices for
 implementation of new or optimized
 technologies and robust adverse event
 reporting.

Clinical & Administrative Efficiency

- Greater harmonization and simplification of clinical and administrative systems is essential to the coordination required among public and private-sector entities for controlling healthcarerelated costs, ensuring the broadest access to care, and the sustainability of health systems.
- Digital health should aim to reduce physician and clinical staff burden to minimize burnout by eliminating the unnecessary actions that occur during clinical practice.
- Clinical data elements should be collected as part of a normal clinical care delivery workflow, without significant disruption to the patient encounter. Data collected and reported for value-based care reimbursement must be meaningful, with a focus on measures that accurately reflect delivery of care proven to drive improved patient outcomes, without overt burden.
- Health information and technology systems
 must be modernized in order to support
 enhanced workflow processes and usercentered design principles to enable the delivery
 of efficient, cost-effective, as well as high quality
 care. These systems must efficiently coordinate
 high-quality care benefiting the patient,
 including improved outcomes as well as a
 seamless user experience.

Innovation & Research

- Healthcare innovation should be supported locally, nationally, and globally to increase quality of care and patient safety, while lowering costs.
- Policy initiatives must foster technological innovation in the development of new healthcare delivery models critical to improving quality of care, health outcomes, controlling costs, engaging/activating patients/caregivers/ consumers, and increasing access to care. Such policies should also be regularly tested and evaluated by government or independent entities.
- Smart health systems increasingly drive innovation in healthcare and technology-enabled delivery systems which produce a "Learning Health System." This "system" utilizes evidence-based clinical decision support, which encourages continuous clinical quality improvement. This, in turn, refines the learning of an organization and advances quality outcomes.
- Health information and technology bring about innovative solutions, but often create new legal challenges. As new technologies develop, guiding enforcement principles should be defined to ensure clarity, transparency, and predictability of the regulatory environment at all levels of government.
- Research and policy should address usercentered design principles for all health information and technology products by aligning regulatory and product development timelines through the complete product life cycle, including evaluation, selection, implementation, optimization, operational decisions, and governance.

Patient and Consumer Engagement

- Health information and technology systems
 must be designed to ensure patients and
 consumers are at the center of care delivery and
 obtain the right information at the right time to
 enable them to make accurate decisions about
 the delivery and coordination of their care
 and can seamlessly communicate with their
 providers.
- Patient and caregiver information and digital literacy should be prioritized. Education and appropriate messaging on health information and technology empower these stakeholders to access and direct their data and make informed decisions.
- Health information and technology and an enhanced data infrastructure enables bi-directional communication that empowers consumers, patients, caregivers, and communities through the use of EHRs, patient portals, application programming interfaces (APIs), mobile applications, and medical devices.

Workforce Development and Economic Growth

- To address workforce shortages and protect patients and personal health information, best practices in digital health training should be incorporated in workforce development plans, including professional development, certification programs, apprenticeships, and public-private partnerships.
- Partnerships across government, business, academic institutions, and technical schools are essential to driving demand and supply in the health information and technology workforce. It is imperative that this workforce includes opportunities that do not require advanced degrees.

- Health information and technology drives economic growth and should be cultivated to capitalize on innovative standards-based healthcare delivery. Such a system ensures a competitive marketplace that supports knowledge transfer across regions and economies.
- Health information and technology organizations must work cooperatively with policymakers to foster the growth of innovation labs and collaborative environments and ensure all communities have innovator-friendly economic policies.
- Governments must invest in the global public health surveillance enterprise by recruiting and retaining skilled data scientists to harness better, faster data in addressing chronic, emerging, and urgent threats

Population and Public Health

- Integrated health information and technology systems are essential to assess and track health and care utilization, quality, and cost metrics for populations.
- Health information and technology plays a significant role in care coordination across all settings, specialties, and types of providers.
- Value-based care models and population health management should be innovation drivers for health systems to design interventions that account for social and economic determinants of health.
- Governments must invest in the global public health surveillance enterprise with a focus on modernizing national and local health information and technology systems.

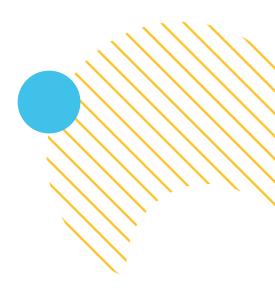
 Electronic case reporting can support coordination of public health initiatives such as immunization tracking, population level syndromic surveillance, management of outbreaks and disasters, as well as disease prevention and control.

Artificial Intelligence/Machine Learning (AI/ML) Technologies

- Generating genuine trust and transparency in AI/ML algorithms is core to fostering the engagement of the healthcare community in the use of AI/ML. Government agencies should collaborate with the AI/ML community to create and educate on standardized definitions of AI and ML to ensure consistent understanding among wide-ranging applications in healthcare.
- Plain language descriptions of the logic or rationale should be used by an algorithm so that it is more easily understood by an intended practitioner and the public.
- Access to high-quality and appropriate datasets should be facilitated to bolster the proliferation of AI/ML technologies.
- Robust research should be supported to develop high-quality datasets and environments for a wide variety of AI/ML applications and to enable responsible access to good datasets and testing and training resources.
- Open-source software libraries and toolkits should be promoted to accelerate the advancement of Al research and development.
- Data governance and stewardship models should be developed with access for secondary use of the data in mind.

 Privacy, disclosure, and consent standards specific to evolving AI/ML technologies should be developed to serve as explicit guidance for how individuals' information is shared and used. These standards should support the capacity of individuals to restrict the sharing of personal confidential information.

- Rigorous pre-release trials of AI/ML technologies should be completed to ensure that AI/ML will, at a minimum not amplify biases, and at best help to address any biases already inherent in healthcare access and delivery.
- Policymakers should consistently solicit feedback from public, private, and non-profit sectors to assess AI/ML technologies, where the legal and regulatory frameworks in the use of AI/ML create operational challenges and work in partnership with such groups to develop user-friendly legal guardrails that prevent harm and foster trust.



Summary:

The 2022 HIMSS Public Policy Principles are:

- Health Equity
- Data Privacy, Security, and Cybersecurity
- Interoperability, Health Information Exchange
 & Infrastructure
- Connected Health
- Quality, Value, Safety, and Outcomes
- Clinical & Administrative Efficiency

- Innovation & Research
- Patient Activation and Engagement
- Workforce Development and Economic Growth
- Population and Public Health
- Artificial Intelligence/Machine Learning (AI/ML) Technologies

These HIMSS Public Policy Principles serve as guideposts for our policy work involving digital healthcare. HIMSS supports our organizational vision to realize the full health potential of every human, everywhere. We seek to advance policy development that ensures these principles are reflected in public policy at all levels of government. Our principles are formally revisited biannually, and as necessary in the interim, to ensure their relevance in our rapidly changing environment.

