DEPARTMENT OF HEALTH

Minnesota e-Health 2030 Planning Project: Recommendations for Improvement

Executive Summary

The Minnesota e-Health 2030 Planning Project's purpose was to recommend improvements that will help assure a more agile Initiative that can better lead, influence, anticipate, and respond to future challenges, opportunities, and uncertainties that are significant to e-health. A 10-member steering team reviewed and synthesized findings from a literature search, community input, discussion with the advisory committee, and more. The final recommendations are to adopt new vision, mission, and principles and to address additional improvements through an action plan. Next steps include developing and implementing the action plan and to provide quarterly updates to and request input from the Advisory Committee.

Introduction

The Minnesota e-Health Initiative (the Initiative), established in 2004, is guided by the legislatively authorized Minnesota e-Health Advisory Committee (Advisory Committee). The Initiative is recognized as a model public-private collaborative, providing guidance to the community and policy recommendations to the commissioner of health. The world of e-health is changing at a rapid pace therefore to assure that the Initiative is relevant into the future, the Minnesota e-Health 2030 Planning Project was established in 2017. The purpose was to recommend improvements that will help assure a more agile Initiative that can better lead, influence, anticipate, and respond to future challenges, opportunities, and uncertainties that are significant to e-health.

Approach

The 10 member 2030 Steering Team comprised of advisory committee members and coordinated by the Minnesota Department of Health (MDH), Office of Health Information (OHIT), led the planning project. The Steering Team met 4 times during 2017 providing input into the approach, serving as subject matter experts, and interpreting the findings. The work focused on recommending 1) actions for change to prepare for e-health 2030 and advancing health equity; 2) principles to guide future decision-making; and 3) updates to the Initiative's vision and goals, structure, function, and communication strategies. Recommendations considered likely scenarios with generally accepted assumptions and long-term trends. Several methods were used to collect information including a literature search, community input, building off previous work of the Initiative, and discussions with the advisory committee. The complete steering team charge, including membership, can be found in Appendix A.

Summary of Key Activities & Findings

Conducted a Literature Search

A search of the literature and web-based searches identified 29 resources including reports and articles from state and federal government, community organizations, and leaders in health and health care that focused on health, e-health, health equity, and future thinking. The analysis of the bibliography (Appendix B) identified a number of themes, assumptions and trends to consider for 2030 such as the difference in expectations of health and information between generations, strategies for "doing" health equity, and innovative and emerging technology and information sets. These findings were validated with the 2030 e-Health Steering Team and incorporated into the Themes and Implication Worksheet (Appendix C).

Sought Community Input

On June 14, 2017 at the 2017 Minnesota e-Health Summit, the lunch plenary session was facilitated by two Steering Team members and included three panelist discussing their thoughts and perspectives on 2030 e-health vision. Following the panelists, the Summit participants (270) were asked to discuss and submit their thoughts on three questions:

1. In the year 2030, what is the most significant health or health care challenge your community will face?
2. What solutions do you propose to address this challenge?
3. What resources do you need to implement those solutions?

The answers from 117 submitted responses were reviewed, categorized, and incorporated into the Themes and Implications Worksheet (Appendix C). Word clouds summarized the input on question 1 and 2.

Question 1: In the year 2030, what is the most significant health or health care challenge your community will face?

Question 2: What solutions do you propose to address this challenge?

Additional feedback was collected on November 15, 2017 from the Community Outreach Committee. This group of more than 20 consumers and legislative represented, coordinated by

Stratis Health, provided community input during a 45-minute discussion. The discussion focused on two questions:

- What is most impactful to your health and wellbeing?
- What would you like to see improved in the next 5 to 10 years to support your health and wellbeing?

The feedback was centered on:

- The frustration and need for individuals and their caregivers to have access to their information.
- The need for a single person-centered patient portal or way to coordinated health information for the individual.
- The lack of interoperability.
- The need for more accountability and incentives for change within health care.
- The need for technology to allow adult children to support aging parents in their care, their decisions, and their options.

Applied a Person-Center Lens Leveraging the Roadmap

The Minnesota e-Health Roadmap[1] was developed over 18 months, bringing together providers and caregivers from across the state. The work focused on developing and using eight priority use cases. The Steering Team reviewed and examined the eight use cases plus an additional use case to provide concrete, person-centered stories. This identified additional e-health implications for the Themes and Implications Worksheet (Appendix C). The priority use cases include:

1. Anderson Family has members with confirmed and suspected tuberculosis.
2. David has a history or substance abuse and privacy concerns that inhibit full disclosure of health history between the Veterans Health Administration and other providers.
3. Grace has uncontrolled juvenile onset diabetes with poor physical and mental health due to lack of care coordination.
4. Jasmine, a micro-preemie infant, has respiratory needs that require home care and equipment.
5. Kari is a teenager who needs support from and coordination between multiple health, school, and social services during her pregnancy.
6. Maria, with significant assistance from her daughter, is transitioning to an assisted living facility.
7. Mike is struggling to control his diabetes and depression and to find stable housing, healthy food options, and employment opportunities.
8. Sally, who has autism and lives in a group home, has recurring emergency department visits.
9. Family of four uses preventive and wellness care during the year.

[1] Minnesota Department of Health. Minnesota e-Health Roadmap for Behavioral Health, Local Public Health, Long-Term and Post-Acute Care, and Social Services. http://www.health.state.mn.us/e-health/roadmap.html August 2016.

Sought Advisory Committee Input

During the August 2017 advisory committee-planning meeting, participants discussed and provided input on the e-health vision, mission, and decision-making principles. Themes that emerged from the discussion are listed below:

Vision Themes

- Health/wellness for ALL people and neighborhoods/communities
- Blending of health and social services and other services
- Equity
- Lead through innovation/be a national leader
- Empower individuals, providers and communities through data and information

Mission Themes

- Support the triple aim + provider satisfaction
- Using info in more than one way and available to all at the right time/seamless
- Ethical use of health information
- Autonomous decision making
- Assuring patient preference and privacy
- Telling the e-health story better
- Design for e-health

Principles for Decision-Making and Collective Action Themes

- Support infrastructure/have infrastructure in place
- Manage the role of politics/don't get caught-up in politics
- Keep on the path/stay the course
- Build upon the intent of legislation/fed activity
- Support e-health equity to help the system mature.
- Use a method for assessing priorities/decisions and identify what should be the focus
- Person-centered

Recommendations for Improvement

The Steering Team and OHIT synthesized the key activities and findings into four recommendations. The advisory committee reviewed and discussed the recommendations during the February 2018 meeting. After minor edits, the following recommendations were endorsed by an advisory committee vote.

Recommendation #1: Minnesota e-Health Initiative Vision

Update the Minnesota e-Health Initiative vision to:

All communities and individuals benefit from and are empowered by information and technology that advances health equity and supports health and wellbeing.

Purpose: An aspirational description of what the MN e-Health Initiative would like to achieve by 2030. It is intended to serve as a clear guide for choosing current and future courses of action.

Past Vision (2004): Accelerate the adoption and use of health information technology in order to improve health care quality, increase patient safety, reduce health care costs and improve public health

Recommendation #2: Minnesota e-Health Initiative Mission

Explicitly state the Minnesota e-Health Initiative Mission as:

- Empower individuals, families, and caregivers to use information and technology to make informed health and wellness decisions.
- Promote research and implementation of evidence-based policies to support best practices and improve outcomes.
- Improve community and public health through timely and actionable information.
- Support providers, care teams, and services in the collection, use and sharing of information through technology and health information exchange.
- Use information to advance knowledge, wisdom, and practice by assuring:
  - Strong leadership and strategic collaborations that support innovation and stay informed of trends influencing health and technology.
  - Well-trained and educated e-health-savvy workforce.
  - Sustainable and adaptable resources for guidance and implementation.
  - Standards and policies for collection, use and sharing of information, including personal health and medicine and factors that influence health such as genetics, geography, and gender.
  - Protection of health information and patient access to health information.
  - Measurement of progress on the adoption and effective use of health information technology and health information exchange.

Purpose: The Minnesota e-Health Initiative mission statement is a clear, concise and useful tool that describes the “why” of the Minnesota e-health Initiative strategy. It defines in concrete ways what the effort does for individuals, communities, and stakeholders.

Past Mission (2004):

- Empower consumers with information to make informed health and medical decisions.
- Inform and connect healthcare providers by promoting the adoption and use of interoperable electronic health records and electronic health information exchange.
- Protect communities and improve public health by advancing efforts to make public health systems interoperable and modernized.
- Enhance the Infrastructure through:
  - Adoption of standards for health information exchange.
  - Policies for strong privacy and security protection of health information.
  - Funding and other resources for implementation.
  - Assessing and monitoring progress on adoption, use and interoperability.

Recommendation #3: Minnesota e-Health Initiative Guiding Principles

Adopt and use the Minnesota e-Health Initiative Guiding Principles:

The Minnesota e-Health Initiative takes collective action that meets the statutory requirements in Minnesota Statutes 62J.495 to advise the commissioner of health, provide guidance to the community, and

- Supports the vision and mission of the Minnesota e-Health Initiative.
- Ensures that decisions are objective and align with science and evidence-based research.
- Advances e-health equity and supports e-health across the care continuum.
- Values integrity, quality and collaboration.
- Considers all aspects of and factors influencing health and wellbeing.
- Leverages current resources and opportunities.
- Respects human dignity and promotes cultural competency.

After one year, the advisory committee shall reflect upon and reaffirm the Guiding Principles.

Purpose of Principles: Minnesota e-Health Initiative guiding principles are intended to provide brief value and ethical context statements that serve as a collective lens to apply to the discussions and collective action taken by the advisory committee. The Initiative works within these principles and uses them as parameters for work.

Current Principles: There are no explicit principles for decision-making and collective action.

Recommendation #4: Develop and Implement the 2030 Action Plan

Develop and implement the 2030 Action Plan to address structure and process improvements, create transparency, and align with the update vision, mission, and guiding principles.

This work will be led by OHIT with input (1-2 conference calls and 1-2 email reviews) from 3-4 advisory committee members (2-4 times in 2018) and updates to and input from the advisory committee at regular intervals. The action plan should include, but not be limited to, the following items (See Appendix D for more detail and Appendix E for draft framework graphic):

1. Inputs/Triggers such as respond to requests, gather input, and monitor and learn about emerging and unmet needs and issues.
2. Process such as decision-making process, vote/endorsement of recommendations, and application of vision, mission, and principles.
3. Outcomes such as documents, implementation of action, and communication.
4. Operational processes such as co-chairs, structure and role of workgroups, steering teams, and other functions, and education of new advisory committee members.
5. OHIT's role in research and development of options for action.

Next Steps

The Steering Team recommends the immediate next steps:

1. OHIT will communicate the 2030 Planning Project results including sharing at the Summit, updating materials, and finalizing the report.
2. Begin the development and implementation of the 2030 Action Plan with updates at the April and May Advisory Committee meetings.

Appendix

A: Minnesota e-Health 2030 Planning Project Charge

Context

Minnesota has been an e-health leader since the Minnesota e-Health Initiative (Initiative) and its vision and goals were established in 2004 (Figure 1). The resulting statewide collaboration, planning and thought leadership led to policy initiatives, legislative requirements, and education and funding opportunities that support e-health adoption and use. The e-health ecosystem is rapidly changing with health reform, increased awareness of individual and community needs, a focus on advancing health equity, and technical innovations. These changes place greater emphasis on the collection, use, and sharing of information from and for providers across the care continuum, payers, individuals and families, communities, and others. In addition to changes in the e-health ecosystem, Minnesota's population, demographics, economy, health system, and consumer's needs and expectations are rapidly changing. The Minnesota e-Health Initiative Advisory Committee seeks to assure an agile Minnesota e-Health Initiative that can continue to lead, influence, anticipate, and respond to future challenges, opportunities, and uncertainties that are significant to e-health.

Current Minnesota e-Health Initiative Vision and Goals

Vision

Accelerate the adoption and use of health information technology in order to improve health care quality, increase patient safety, reduce health care costs and improve public health.

Goals

- Empower consumers with information to make informed health and medical decisions.
- Inform and connect healthcare providers by promoting the adoption and use of interoperable electronic health records and electronic health information exchange.
- Protect communities and improve public health by advancing efforts to make public health systems interoperable and modernized.
- Enhance the infrastructure through:
  - Adoption of standards for health information exchange.
  - Policies for strong privacy and security protection of health information.
  - Funding and other resources for implementation.
  - Assessing and monitoring progress on adoption, use and interoperability.

Purpose

The Minnesota e-Health 2030 Planning Project purpose is to propose improvements to the Initiative that will help assure a more agile Initiative that can better lead, influence, anticipate, and respond to future challenges, opportunities, and uncertainties that are significant to e-health. This includes, but is not limited to, recommending 1) actions for change to prepare for

e-health 2030 and advancing health equity; 2) principles to guide future decision-making; and 3) updates to the Initiative's vision and goals, structure, function, and communication strategies. Recommendations should consider likely scenarios and generally accepted assumptions and long-term trends.

Approach (Proposed Tasks, Timelines, & Deliverables)

Phase 1: Define scope and finalize approach of project (January 2017 to April 2017)

1. Identify steering team
2. Develop purpose of the project
3. Finalize project approach
4. Develop questions for community engagement
5. Identify resources for annotated bibliography on topics relating to health, e-health, health equity, and future thinking
6. Finalize factors list

Deliverable: Decision on scope and approach including updating tasks, timelines, and deliverables

Phase 2: Collect information & Analyze Results (April 2017 to August 2017)

1. Conduct review/SWOT of Initiative
2. Compile and review projections and forecast for identified factors
3. Identify and analyzed specific scenarios
4. Develop and review annotated bibliography
5. Engage community
6. Evaluation and decision on next steps and timelines

Deliverable: Initiative SWOT summary, Factors summary, annotated bibliography, and summary of community input.

Phase 3: Develop recommendations (July 2017 to September 2017)

1. Develop draft recommendations for 1) actions for change to prepare for e-health 2030 and advancing health equity; 2) principles to guide future decision-making; and 3) updates to the Initiative's vision and goals, structure, function, and communication strategies

Deliverable: Draft Minnesota e-Health 2030 recommendations

Phase 4: Review, endorse, and finalize recommendations (August 2017 to December 2017)

1. Review and feedback on recommendations for workgroups and others.
2. Review, feedback and endorsement on recommendations from advisory committee

Deliverable: Final Minnesota e-Health 2030 recommendations

Phase 5: Minnesota e-Health 2030 Report (November 2017 to February 2018)

1. Finalized report and project output.
2. Develop communication plan for Minnesota e-Health 2030 Report.

Roles

Minnesota e-Health Initiative Advisory Committee: provide input at quarterly meetings, identify/offer opportunities for community engagement and feedback, and endorse the recommendations.

Steering Team: Advisory committee members and OHIT staff provide leadership and guidance to the overall project

- Alan Abramson, HealthPartners
- Sunny Ainley, Normandale Community College
- Constantin Aliferis, University of Minnesota
- Jennifer Fritz, Minnesota Department of Health
- Marty LaVenture, Minnesota Department of Health
- Bobbie McAdam, Medica
- Sue Severson, Stratis Health
- Meyrick Vaz, Optum Global Solutions
- Ann Warner, HealthEast Care System
- John Whitington, South Country

Office of Health Information Technology (OHIT): Kari Guida and Bob Johnson

B: Annotated Bibliography

Purpose

The purpose of the annotated bibliography is to collect, examine, and share key information and resources on health, e-health, health equity, and future thinking that support the Minnesota e-Health 2030 Planning Project. Each entry includes the link, source, and brief summary. The final section is "applicability" which contains pertinent information for the Minnesota e-Health 2030 Planning Project. Note that often the summary and applicability sections are taken directly from the article, report or other resource.

Bibliography

Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap

Link: https://www.healthit.gov/sites/default/files/hie-interoperability/nationwide-interoperability-roadmap-final-version-1.0.pdf

Source: ONC, 2015

Summary: The Roadmap was informed by stakeholders nationwide to coordinate collective efforts around health IT interoperability. It describes the policy and technical actions needed to realize the vision of a seamless data system. The Roadmap identifies near-term (i.e., by the end of 2017) actions and roles that health IT stakeholders should perform to make immediate progress and impacts with respect to interoperability. It also emphasizes that we should use and build on the technology and investments made to date, while continuing to seek out ways to support innovation and move beyond EHRs as the sole data source for electronic health information to a wide range of health information technologies used by individuals, providers, and researchers. Throughout the Roadmap, each section includes high-level historical context, a current state and a desired future state. Each section also includes milestones for each timeframe, indicating what should be achieved by when. Each section has a table associated with it at the end of the document that lists milestones by timeframe (reiterated from the main body), priority calls to action and priority commitments across three-, six- and 10-year timeframes. The calls to action and commitments support achievement of the milestone for each timeframe, and ultimately, each milestone supports the overarching goal of each timeframe.

Applicability: The overarching **goals** are listed below. The complete list of milestones and calls to action (which could be future action or goals for 2030) for the overarching goals are on pages 52 – 77 of the report:

- **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:** 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.

"Health IT Stakeholder" is very inclusive and can be used to assure perspectives are captured in 2030 Project:

- People who receive care or support the care of others
- People and organizations that deliver care and services
- Organizations that pay for care
- People and organizations (governmental) that support the public good
- People and organizations that generate new knowledge, whether research or quality improvement
- People and organizations that provide health IT capabilities
- People and organizations that govern, certify and/or have oversight
- People and organizations that develop and maintain standards

Principles which could be considered for future decision-making (part of deliverables of 2030 project):

1. Focus on value. Strive to make sure our interoperability efforts yield the greatest value to individuals and care providers. Improved health, health care and lower costs should be measurable over time and at a minimum, offset resource investment.
2. Be person-centered. Members of the public are rapidly adopting technology, particularly mobile technology, to manage numerous aspects of their lives, including health and wellness. However, many of these innovative apps and online tools do not yet integrate electronic health information from the care delivery system. Electronic health information from the care delivery system should be easily accessible to individuals and empower them to become more active partners and participants in their health and care.
3. Protect privacy and security in all aspects of interoperability and respect individual preferences. It is essential to maintain public trust that health information is safe and secure. To better establish and maintain that trust, stakeholders will strive to ensure that appropriate, strong and effective safeguards for electronic health information are in place as interoperability increases across the industry. Stakeholders will also support greater transparency for individuals regarding the business practices of entities that use their data, particularly those that are not covered by the HIPAA Privacy and Security Rules, while considering the preferences of individuals.
4. Build a culture of electronic access and use. Standards and methods for achieving interoperability must be accessible nationwide and capable of handling significant and growing volumes of electronic health information, to ensure no one is left on the wrong side of the digital divide.
5. Encourage innovation and competition. Demand for interoperability from health IT users is a powerful driver to advance our vision. The market should encourage innovation to meet evolving demands for interoperability.
6. Build upon the existing health IT infrastructure. Significant investments have been made in health IT across the care delivery system and in other relevant sectors that need to exchange electronic health information with individuals and care providers. To the extent possible, stakeholders should build from existing health IT infrastructure, increasing interoperability and functionality as needed.

7. One size does not fit all. Although interoperability requires technical and policy conformance among networks, technical systems and their components, it does not require that each stakeholder implement exactly the same technology. Stakeholders will strive for baseline interoperability across health IT infrastructure, while encouraging innovation that improves usability.
8. Simplify. Where possible, simpler solutions should be implemented first, with allowance for more complex functionality in the future.
9. Maintain modularity. A large, nationwide set of complex, scalable systems are more resilient to change when they are divided into independent components that can be connected together. Because medicine and technology will change over time, stakeholders must preserve systems' abilities to evolve and take advantage of the best of technology and health care delivery. Modularity creates flexibility that allows innovation and adoption of new, more efficient approaches over time without overhauling entire systems.
10. Consider the current environment and support multiple levels of advancement. Not every individual or clinical practice will incorporate health IT into their work in the next 3-10 years and not every practice will adopt health IT at the same level of sophistication. Stakeholders must therefore account for a range of capabilities among information sources and information users, including EHR and non-EHR users, as stakeholders advance interoperability. Individuals and caregivers have an ongoing need to send, receive, find and use their own health information both within and outside the care delivery system.

Federal Health IT Strategic Plan 2015-2020

Link: https://www.healthit.gov/sites/default/files/9-5-federalhealthitstratplanfinal_0.pdf

Source: ONC, 2015

Summary: Developed before the Connecting Health and Care for the Nation Roadmap, the Plan explains how the federal government intends to apply the effective use of information and technology to help the nation achieve high-quality care, lower costs, a healthy population, and engaged individuals. This Plan focuses on advancing health information technology (health IT) innovation and use for a variety of purposes; however, the use of health IT is not in itself an end goal. The work described in this Plan aims to modernize the U.S. health IT infrastructure so that individuals, their providers, and communities can use it to help achieve health and wellness goals. The infrastructure should support dynamic uses of electronic information: uses that facilitate and expedite the transformation of data to information, information to knowledge, and knowledge to informed action. Successful development and implementation of this infrastructure will fortify the cultural shifts necessary to strengthen the collaborative relationships for improving health, health care, research, and innovation.

Applicability: Federal HIT Vision, Mission, Goals & Principles:

Vision: High-quality care, lower costs, healthy population and engaged people

Mission: Improve the health and well-being of individuals and communities through the use of technology and health information that is accessible when and where it matters most

Each goal and objective has strategies for federal agencies to meet objective (pages 34-46)

Goal 1: Advance Person-Centered and Self-Managed Health

- Objective A: Empower individual, family, and caregiver health management and engagement
- Objective B: Foster individual, provider, and community partnerships

Goal 2: Transform Health Care Delivery and Community Health

- Objective A: Improve health care quality, access, and experience through safe, timely, effective, efficient, equitable, and person-centered care
- Objective B: Support the delivery of high-value health care
- Objective C: Protect and promote public health and healthy, resilient communities

Goal 3: Foster Research, Scientific Knowledge, and Innovation

- Objective A: Increase access to and usability of high-quality electronic health information and services
- Objective B: Accelerate the development and commercialization of innovative technologies and solutions
- Objective C: Invest, disseminate, and translate research on how health IT can improve health and care delivery

Goal 4: Enhance Nation's Health IT Infrastructure

- Objective A: Finalize and implement the Nationwide Interoperability Roadmap
- Objective B: Protect the privacy and security of health information
- Objective C: Identify, prioritize, and advance technical standards to support secure and interoperable health information and health IT
- Objective D: Increase user and market confidence in the safety and safe use of health IT products, systems, and services
- Objective E: Advance a national communications infrastructure that supports health, safety, and care delivery

Principles:

1. Focus on value. Federal health IT policy will continuously target solutions that improve health and care quality, efficiency, safety, affordability, equity, effectiveness, and access.
2. Be person-centered. Federal policies and activities support the accessibility and use of electronic health information by individuals, caregivers, providers, and researchers across products and organizations, in a timely and reliable way that protects personal privacy and upholds individual autonomy.
3. Respect individual preferences. Person-centered care embraces the values of the individual inside and outside the health system, where all entities honor individuals' personal health goals, needs, values, culture, and choices regarding their information, health, and care.
4. Build a culture of electronic health information access and use. Federal actions will help establish an environment where secure universal health information exchange and use are expected and accepted so that everyone benefits from simple, timely, equitable, efficient, and appropriate electronic access to and sharing of health information.

5. Create an environment of continuous learning and improvement. Federal policies and actions seek to strengthen feedback loops between scientific and health care communities to translate evidence into clinical practice and other settings, and learn how to perform better.
6. Encourage innovation and competition. The government's policies, guidance, and programs will support continued innovation and competition in the health IT marketplace to foster highly useful health IT solutions that lead to better health and care.
7. Be a responsible steward of the country's money and trust. The government seeks to use its resources judiciously. This means relying to the extent possible on private markets to accomplish important societal objectives, and acting to correct market failures when necessary. It also means developing health IT policies through open, transparent, and accountable processes.

The vision and expected **results** that guide the Plan are below

1. High-Quality Care
   A. Individuals care is patient centered, accessible, and safe, and interventions address behavioral, social, and environmental determinants of health (National Quality Strategy)
   B. Individuals benefit from improvement and innovation, and new knowledge is captured as part of care experience (Institute of Medicine)
2. Lower Costs
   A. Individuals, families, employers, and governments benefit from more affordable quality care through new delivery models (National Quality Strategy)
3. Healthier Population
   A. Individuals, families, clinicians, and communities focus on prevention and wellness (National Prevention Strategy)
4. Engaged Individuals
   A. Individuals are active in managing their health and partnering in their health care (ONC Person at the Center)

Public Health 3.0: A Call to Action to Create a 21st Century Public Health Infrastructure

Link: https://www.healthypeople.gov/sites/default/files/Public-Health-3.0-White-Paper.pdf

Source: HHS, 2016

Summary: This report summarizes key findings from regional dialogues and presents recommendations to carry PH3.0 forward. Public Health 3.0 refers to a new era of enhanced and broadened public health practice that goes beyond traditional public department functions and programs. Cross-sector collaboration is inherent to the PH3.0 vision, and the Chief Health Strategist role requires high-achieving health entities with the skills and capabilities to drive such collective action.

Applicability: The key findings are placed into 5 categories:

1. Strong leadership and workforce
2. Strategic partnerships
3. Flexible and sustainable funding

4. **Timely and locally relevant data, metrics, and analytics**
5. Foundational infrastructure

Timely and locally relevant data, metrics and analytics involves 1) addressing current data gaps and access challenges – going beyond data to local, state, and federal agencies to make data available to researchers and the community; 2) exploring new types of data – such as EHR; and supporting data sharing and analysis.

EHealth Initiative 2020 Roadmap

Link: https://www.ehidc.org/assets/eHealthInitiative2020RoadmapPart1-e7d2ab806d09265c2e2cf3db9755c9ec327c37d1ed7f54f619d1ffd90ea873c3.pdf

Source: eHealth Initiative, 2015

Summary: This document includes the first set of priorities and recommendations for the three focus areas: business and clinical motivators; interoperability; and data access and use. Executives contributed feedback through executive roundtables, webinars and written comments developed the priorities. An expert representative from among the eHealth Initiative membership led discussion around each focus area. Differences in the way priorities are displayed below reflect the different approaches each leader took to their particular focus area. Each focus area also includes a set of short-term goals for collaborative action. As expected, consensus was not reached in many areas and further work is needed. In 2015, eHealth Initiative will launch a series of "Consensus Groups" to dive deeper into these complex areas. The objectives of these groups are noted within each section.

Applicability: There are a lot of strategies, visions, and goals that are very hospital/clinic focused. The report seems to be turned an "activity"/being implemented. This document may need to be reviewed by others to identify applicability.

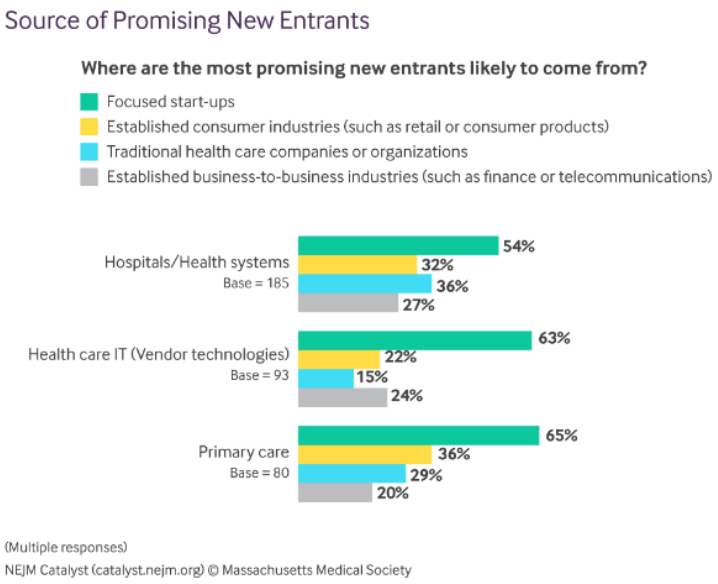
New Marketplace Survey: The Sources of Health Care Innovation

Link: http://catalyst.nejm.org/survey-sources-disruptive-innovation-in-healthcare/

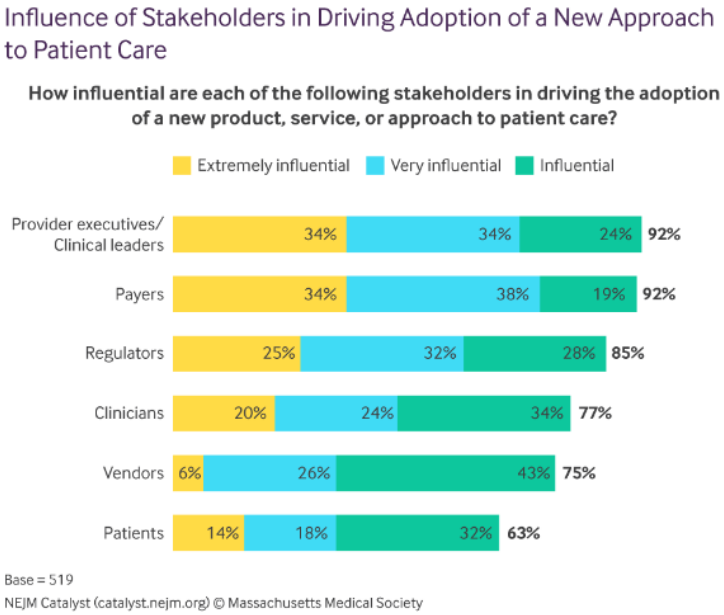
Source: Insights Report February 16, 2017

Summary: In NEJM Catalyst's most recent New Marketplace survey, our Insights Council members — comprising executives, clinical leaders, and clinicians — make it abundantly clear they believe innovation will come from beyond traditional health care organizations.

Applicability:



Surprisingly, 63% of respondents say change in health care IT will come from focused start-ups, not the many established companies in this sector. In addition, 54% of respondents say that disruptive innovation for hospitals and health systems will come from start-ups.



Patients, who arguably will be most impacted by these changes, are ranked last in influence (63%). Yet respondents say it is more important for innovation in provider organizations to improve patient outcomes/patient experience (99%) than it is to lower cost growth (96%).

Future Work Skills 2020

Link/Reference: http://www.iftf.org/futureworkskills/

Source: Institute for the Future, 2011

Summary: This report analyzes key drivers that will reshape the landscape of work and identifies key work skills needed in the next 10 years. It does not consider what will be the jobs of the future. Many studies have tried to predict specific job categories and labor requirements. Consistently over the years, however, it has been shown that such predictions are difficult and many of the past predictions have been proven wrong. Rather than focusing on future jobs, this report looks at future work skills—proficiencies and abilities required across different jobs and work settings.

Applicability: Watch for "signals" signal is typically a small or local innovation or disruption that has the potential to grow in scale and geographic distribution. A signal can be a new product, a new practice, a new market strategy, a new policy, or new technology. In short, it is something that catches our attention at one scale and in one locale and points to larger implications for other locales or even globally. Signals are useful for people who are trying to anticipate a highly uncertain future, since they tend to capture emergent phenomenon sooner than traditional social science methods.

The Six Drivers of Change

1. Extreme longevity: increasing global lifespans change the nature of careers and learning
2. Rise of smart machines and systems: workplace automation nudges human workers out of rote, repetitive task
3. Computational world: massive increases in sensors and processing power make the world a programmable system
4. New media ecology: new communication tools require new media literacies beyond text
5. Superstructure organizations: social technologies drive new forms of production and value creation
6. Globally connected world: increase global interconnectivity puts diversity and adaptability at the center of organizational operations

This report's layout could be a template for the 2030 Project final report – showing the factors of change and then the skills that the MN e-Health Initiative should have in place.

Summary of Key IT Provisions in the 21st Century Act

Link: http://www.himss.org/library/summary-key-health-it-provisions-21st-century-act-passed-house-11302016

Source: HIMSS, 2016

Summary: HIMSS summary of 21st Century Act. Areas of interest include 1) clarifying medical software regulation; 2) assisting docs and hospitals in improving quality of care for patients; 3) transparent reporting on usability, security and functionality; 4) interoperability; 5) information blocking; 6) levering EHR to improve patient care; 7) empowering patients and improving patient access to their electronic health information; 8) GAO study on patient marching; 9) GAO study on patient access to health information; 10) Medicare pharmaceutical and technology ombudsman; and 11) telehealth services in Medicare

Applicability: FYI only

Health care Industry or Consumer Leadership

Link: https://blogs.cerner.com/blog/healthcare-industry-or-consumer-health-industry/

Source: Cerner Blog 2017

Summary: Blog discussing some considerations of the consumer role in health care with regard to technology, where care is provided, trusted information sources, and more

Applicability: Factors mentioned are part of the current list or were added.

Achieving Health Equity: A Guide for Health Care Organizations

Link: http://www.ihi.org/resources/Pages/IHIWhitePapers/Achieving-Health-Equity.aspx

Source: Wyatt R, Laderman M, Botwinick L, Mate K, Whittington J. *Achieving Health Equity: A Guide for Health Care Organizations*. IHI White Paper. Cambridge, Massachusetts: Institute for Healthcare Improvement; 2016. (Available at ihi.org)

Summary: This white paper provides guidance on how health care organizations can reduce health disparities related to racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.

To inform this work, IHI reviewed selected literature, interviewed numerous experts, and conducted site visits to exemplary health care organizations working to improve health equity in their communities. The result, presented in this white paper, is a framework for health care organizations to improve health equity in the communities they serve. There are five key components of the framework:

1. Make health equity a strategic priority;
2. Develop structure and processes to support health equity work;
3. Deploy specific strategies to address the multiple determinants of health on which health care organizations can have a direct impact, such as health care services, socioeconomic status, physical environment, and healthy behaviors;
4. Decrease institutional racism within the organization; and
5. Develop partnerships with community organizations to improve health and equity.

The white paper also describes practical issues in measuring health equity, presents a case study of Henry Ford Health System, and includes a self-assessment tool for health care organizations to assess their current state related to each component of the framework.

Applicability: Use to ensure considerations for health equity in 2030 Project 1) how can e-health/MN e-Health Initiative support the 5 components of the framework and 2) recommend the MN e-Health Initiative adapt and use the IHI Health Equity Self-Assessment Tool for Health Care Organizations.

Minnesota State Demographic Center

Link: http://mn.gov/admin/demography/about/

Source: State of Minnesota, 2017

Summary: The Minnesota State Demographic Center (SDC), part of the Minnesota Department of Administration, is the main provider of demographic data and analysis for the state of Minnesota. The SDC assists policymakers, state and local governments, businesses, nonprofits, the media, and all Minnesotans locate and understand the demographic data they need to make smart decisions.

Applicability: This resource contains many of the population forecasts used for the 2030 project. See the Factors, Forecasts, and Implications Summary.

Atul Gawande

Link: http://atulgawande.com/

Source: Atul Gawande, 2017

Summary: Atul Gawande, MD, MPH, is a surgeon, writer, and public health researcher. He practices general and endocrine surgery at Brigham and Women's Hospital. He is Professor in the Department of Health Policy and Management at the Harvard T.H. Chan School of Public Health and the Samuel O. Thier Professor of Surgery at Harvard Medical School. He is also Executive Director of Ariadne Labs, a joint center for health systems innovation, and Chairman of Lifebox, a nonprofit organization making surgery safer globally.

Atul has been a staff writer for The New Yorker magazine since 1998 and has written four New York Times bestsellers: Complications, Better, The Checklist Manifesto, and most recently, Being Mortal: Medicine and What Matters in the End. He is the winner of two National Magazine Awards, AcademyHealth's Impact Award for highest research impact on healthcare, a MacArthur Fellowship, and the Lewis Thomas Award for writing about science.

Applicability: A variety of writings including patient perspective and no-value care.

Dr. Micho Kaku

Link: http://mkaku.org/home/

Source: M. Kaku, 2017

Summary: Dr. Michio Kaku is a theoretical physicist, bestselling author, acclaimed public speaker, renowned futurist, and popularizer of science. As co-founder of String Field Theory, Dr. Kaku carries on Einstein's quest to unite the four fundamental forces of nature into a single grand unified theory of everything.

Applicability: FYI only

Utah Health IT Vision, Principles, and Priorities: 2015-2020

Link: http://phi.health.utah.gov/wp-content/uploads/2015/12/Utah-HIT-Vision.Principles.Posted-0518201511.pdf

Source: Utah Department of Health, Center for Health and Data Informatics, 2015

Summary: Two-page document to support the statewide planning for using HIT to improve health for all Utahans.

Applicability: Our **statewide vision for health IT** is for Utah to be a place where the secure and efficient exchange and use of electronic health information will result in improved health status, better health care, lower cost and healthier communities."

In the last decade, we have made significant progress in the adoption of Electronic Health Records (EHR) and clinical health information exchanges. In the coming decade, we will move forward under following **guiding principles**:

- Continue to foster statewide collaboration with all partners
- Leverage the market and existing HIT infrastructures
- Encourage interoperability and portability across all care settings through multi-level or modular advancements
- Protect privacy and security afforded under the law
- Enhance consumer engagement through the empowerment and education of individuals
- Share meaningful health information among learning health systems to ensure innovation, quality, safety, and value in health care
- Support health reforms to strengthen health of individuals, families, communities and add value to Utah's economy
- Educate and promote the use of nationally developed standards.

Our **health IT priority** is to improve system interoperability and portability to support integration of physical and behavioral health care and improve population health for all Utahans.

Utah Health IT Strategic Plan 2016-2020

Link: http://phi.health.utah.gov/wp-content/uploads/2015/12/Utah-HIT-Strategic-Plan-2016-2020-V2-12.2016-revised.pdf

Source: Utah Department of Health, 2016

Summary: A Collaborative Planning Document that includes health and health IT visions, health IT principles, priority framework for health IT, summary of Utah Health IT, Health IT strategic goals and objectives, and projects that are supporting the goals and objective (multiple tables).

Applicability: Our **statewide health vision** is for Utah to be a place where all people can enjoy the best health possible, where all can live, grow and prosper in healthy and **safe communities.**

Our **statewide vision for health IT** is for Utah to be a place where the secure and efficient use and exchange of electronic health information will result in improved health status, better health care, lower cost and healthier communities.

Health IT **Guiding Principles**

- Continue to foster statewide collaboration with all partners
- Leverage the market and existing HIT infrastructures
- Encourage interoperability and portability across care settings through multi-level or modular advancements
- Protect privacy and security in all aspects of IT and its uses
- Enhance consumer engagement

- Share meaningful health information among learning health systems to ensure innovation, quality, safety and value in health care.
- Using health IT to strengthen health of individuals, families, communities and add value to Utah's economy.

Utah health IT priority is to improve system interoperability and portability to support integration of physical and behavioral health care and improve population health for all Utahans.

Utah Health IT Strategic Goals and Objectives in 2016 - 2020:

GOAL 1: ADVANCE THE HEALTH AND WELL-BEING OF INDIVIDUALS AND COMMUNITIES THROUGH PERSONCENTERED AND SELF-MANAGED HEALTH

OBJECTIVES:

1A. Increase use of individual health information for engagement and shared decision making as part of the team – Enable individuals to understand and act upon available cost and quality information

1B. Advance individuals' abilities to "access, control and amend" their health information, including public health (ex: immunization records)

1C. Increase adoption of patient portals and consumer-focused HIT available to patients

1D. Promote patient use of HIT tools for wellness and self-care

1E. Increase effective patient/consumer-mediated and generated exchange

GOAL 2: STRENGTHEN HEALTH CARE DELIVERY TRANSFORMATION

OBJECTIVES:

2A. Increase HIT functions to support transparency of and access to quality and cost information at the community and provider level to improve care

2B. Increase implementation of HIT functions to support innovative models of care that promote high-value health care – Medical Home, ACOs, Telehealth

2C. Increase use of electronic quality improvement tools and measurements that support provider adherence to evidence-based guidelines, improved outcomes and reduced waste

2D. Support the use of health IT to help providers and communities to better serve high-risk individuals and populations

GOAL 3: ENHANCE UTAH'S INTEROPERABLE HEALTH IT INFRASTRUCTURE

OBJECTIVES:

3A. Endorse basic guidelines for HIT standards that align with and strengthen national certification requirements, including interoperability, to increase effective health information exchange

3B. Protect privacy and security of electronic health information by increasing adherence to federal electronic health information security guidelines in independent facilities and practices

3C. Increase functionality and effectiveness of statewide HIE (cHIE) and support increased connections with other data sources including integrated delivery systems (IDS), HIEs, and providers.

3D. Increase ability to exchange public health information with providers through various exchange methods to improve population health

3E. Develop governance, access, and support for health data to be made available for analysis and use

3F. Increase Utah's influence on the national forums related to effective delivery of care through HIT

GOAL 4: SUPPORT INNOVATION AND APPLIED RESEARCH TO EFFICIENTLY IMPLEMENT STATEWIDE HEALTH IT INITIATIVES

OBJECTIVES:

4A. Promote collaborative innovation and research to advance implementation, utilization and improvement of health IT in public, private and academic settings

4B. Broaden statewide partnership and engagement in implementing the Utah HIT strategic plan

4C. Disseminate evidence-based best practices to enhance statewide adoption of technology solutions

Utah Health IT Strategic Goals and Supporting Projects to Objectives:

ID#	PROJECTS (STRATEGIES)	OBJECTIVES SUPPORTED					ACTION
GOAL 1: ADVANCE THE HEALTH AND WELL-BEING OF INDIVIDUALS AND COMMUNITIES THROUGH PERSON-CENTERED AND SELF-MANAGED HEALTH							
1.01	APCD (Price Transparency) & NRHI Total Cost of Care	1A	2A				Implementation
1.02	UtahHealthScape.org (Transparency for Consumers)	1A	2A				Implementation
1.03	HealthInsight's Patient & Family Advisory Council	1A	1C				Expansion
1.04	ePOLST Analysis and Implementation	1A	1B	1C			Planning
1.05	Planning project for 1D - Promote patient use of HIT	1D					Gap

Position Statement on Applying a Health Equity Lens

Link: http://opha.on.ca/getmedia/e19faab2-52d0-4aae-bde8-e4d9364aab3f/OPHA-Position-Statement-Applying-a-Health-Equity-Lens.pdf

Source: Ontario Public Health Association, 2014 or later

Summary: Whereas the mission of the Ontario Public Health Association (OPHA) is to provide leadership on issues affecting the public's health and to strengthen the impact of people who are active in public and community health throughout Ontario, OPHA is committed to action

around achieving health equity. OPHA recommends and supports the all-inclusive application of a health equity lens through the use of health equity focused tools, including health impact assessments, equity focused health impact assessments and health equity audits to help reduce health inequities.

Applicability: Incorporating a health equity lens to any work, in any field, will ensure that those systematic inequities are being addressed. As a minimum OPHA recommend that one asks the following questions before planning an initiative or policy.

- Could the planned initiative or policy approaches have a negative impact on some populations or communities? If so, how can the negative/inequitable impacts be mitigated?
- How do we consider the needs of disadvantaged individuals and communities, and priority populations?
- How will the planned initiatives or policy approaches address the social determinants of health?

The High Achieving Governmental Health Department in 2020 as the Community Chief Health Strategist

Link: http://www.resolv.org/site-healthleadershipforum/files/2014/05/The-High-Achieving-Governmental-Health-Department-as-the-Chief-Health-Strategist-by-2020-Final1.pdf

Source: RESOLVE, funding from RWJ, 2014

Summary: This paper was prepared by RESOLVE as part of the Public Health Leadership Forum with funding from the Robert Wood Johnson Foundation. The concepts put forth are based on several working group sessions focused on identifying key practices of the chief health strategist of the future.

Applicability: The following key practices are focuses on governmental public health but have implications for all providers.

Practices

1. Adopt and adapt strategies to combat the evolving leading causes of illness, injury and premature death.
2. Develop strategies for promoting health and well-being that work most effectively for communities of today and tomorrow.
3. Chief health strategists will identify, analyze and distribute information from new, big, and real time data sources.
4. Build a more integrated, effective health system through collaboration between clinical care and public health.
5. Collaborate with a broad array of allies – including those at the neighborhood-level and the non-health sectors – to build healthier and more vital communities.
6. Replace outdated organizational practices with state-of-the-art business, accountability, and financing systems.
7. Work with corresponding federal partners – ideally, a federal Chief Health Strategist - to effectively meet the needs of their communities.

2016 Report to Congress on Health IT Progress

Link:
https://www.healthit.gov/sites/default/files/2016_report_to_congress_on_healthit_progress.pdf

Source: ONC, 2016

Summary: The report 1) describes the specific actions that have been taken by the federal government and private entities to facilitate the adoption of a nationwide system for the electronic use and exchange of health information; 2) Describes barriers to the adoption of such a nationwide system; and 3) contains recommendations to achieve full implementation of such a nationwide system.

Applicability: HHS is focused on three priority areas:

1. Promoting **common standards** to facilitate the seamless and secure exchange of data, including through the use of standardized, open **application programming interfaces (APIs)**
2. Building the business case for interoperability, particularly through delivery system reform efforts that change the way the Centers for Medicare & Medicare Services (CMS) pay for care to reward quality over quantity of services
3. **Changing the culture around access to information** through: combating information blocking; ensuring that individuals know they have a right to access and transmit their health information and that health care providers know they must provide access to the individuals; and reminding health care providers that they are legally allowed to exchange information in the course of treatment or coordinating care.

Seamless flow of information is foundation to many national priorities:

- **Delivery System Reform:** Availability of electronic health information is essential for advancing the Administration's broader strategy to improve the health care system by paying health care providers for what works, unlocking health care data, and finding new ways to coordinate and integrate care to improve quality.
- **Precision Medicine Initiative**: Making usable electronic health information readily available and easily transferable for patients, health care providers, and researchers is fundamental to successfully assembling a research cohort of over a million participants, effectively analyzing that data, and returning results to individuals.
- **Cancer Moonshot**: The flow of electronic health information using the latest technology is critical to accelerating efforts to cure cancer by, for example, providing access to millions of cancer pathologies, genomic sequences, family histories, and treatment outcomes at once.
- **Opioids**: Prescription drug monitoring programs—state and municipal databases that help clinicians and pharmacists track controlled substances issued to their patients—must communicate more seamlessly and securely with the health IT systems used in clinical care to more effectively address the opioid epidemic.
- **Public Health**: Interoperability is critical to modernizing public health practice to emphasize actions across sectors – environmental, policy, and systems – that directly affect all of the

determinants of health. It is also instrumental for detecting, tracking, managing, and preventing communicable diseases.

- **Research and Innovation**: Interoperability is critical to creating an effective learning health care system in which the latest research and clinical trials inform clinical care and patient encounters; in turn, the results of clinical care and patient encounters inform subsequent research and scientific inquiry as well as the future of health and patient care.

Advancing Community-Level Core Measurement

Link: http://www.ncvhs.hhs.gov/wp-content/uploads/2013/12/CoreMeasuresWorkshop.pdf

Source: National Committee on Vital and Health Statistics, 2016

Summary: As part of its multi-year effort to support the Department of Health and Human Services (HHS) in furthering improvements in health through community-level action, the National Committee on Vital and Health Statistics (NCVHS) has initiated a project to advance community-level core measurement that includes but goes beyond health services delivery**.** NCVHS convened a workshop in November 2015 to receive input on development of a common measurement framework and a draft roadmap for advancing this effort. The Committee brought together more than 100 community and state leaders and innovators, public health experts, national thought leaders, and federal agency representatives to participate in this work. The Committee requested input from participants in response to a two-fold charge: 1) Identify a balanced and parsimonious set of domains through which multi-sectoral community partnerships can assess, measure, and improve local health and well-being. These domains must encompass the key determinants of health and be consistent across all geographic levels. 2) Draft a Roadmap for the Department of Health and Human Services (HHS) to advance well-informed, community-driven action by promoting such a set of domains, along with suggested measures, to facilitate greater availability and use of data within communities.

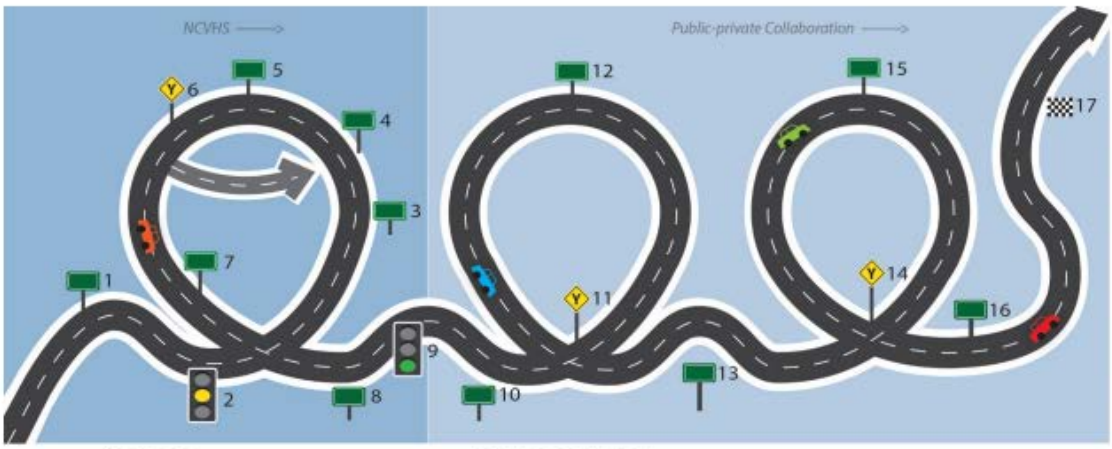
Applicability: Exhibit 1. Featured Participant Notes on “The Big Opportunity”

- Improving small area assessment capacity and pooling/changing data collection to decrease data burden, with the goal of increasing local stakeholders’ capacity to improve health and align resources
- Transitioning from sickness, disease and disparities to health, health equity, wellness and wellbeing of individuals and communities
- Measuring healthier lives and assessing the community’s well being
- Ability to mine disparate data stores to populate community-level metrics
- Aligned funding for health and across sectors. How to work together to share data at local level. Sharing data, work collaboratively. Clarity on data needs informing Health IT standards to benefit community efforts.
- Secondary use of existing multi-sector information systems; linked information exchange, with win-win for all
- Multi-sector coordinated action at the local level
- Spend time on improvement, not metric development
- Better health system engagement in community and upstream interventions

- Expanding collaborative approach across federal agencies; addressing constraints within agencies; greater access to agencies with funding
- Bring local-level relevance to national level initiatives and indicators (HP2020)
- Federal government commit resources to provide neighborhood level data

Domains under Consideration for Measures of Community Health
Outcomes: Life expectancy & Well-being
Modifiable factors: Obesity and relevant behaviors; Tobacco; Substance abuse (alcohol/drug); Air quality; Education; Poverty; Housing; Safety; Access to care; Preventable hospitalizations

Appendix 7. Roadmap to Community Level Health Measurement V2



Milepost	Course of Action
1	Vet straw core domains
	11/2015
2	Consensus?
3	Perform environmental scan of health and non-health sectors
4	Refine core domains
5	Identify measures accessible, collectible, or estimatable at subcounty level
6	Identify gaps
7	Present core domains from determinants, equity, and life course perspectives
8	Vet core domains
	09/2016
9	Consensus?
10	Curate menu of measures
11	Identify gaps
12	Develop methods to access, collect, and estimate at subcounty level
13	Catalog tools to support measrement at the subcounty level
14	Identify gaps
15	Develop tools to support measurement at subcounty level
16	Implement pilots
17	Capture successes and learnings

Healthy Minnesota 2020

Link: http://www.health.state.mn.us/healthymnpartnership/hm2020/

Source: Healthy Minnesota Partnership, 2012

Summary: Healthy Minnesota 2020 is a framework for creating and improving health throughout the state of Minnesota, based on the statewide health assessment, The Health of

Minnesota, and adopted by the Healthy Minnesota Partnership on July 30, 2012. The framework features three themes that reflect the importance of social and economic determinants for health: capitalize on the opportunity to influence health in early childhood, assure that the opportunity for health is available everywhere and for everyone, and strengthen communities to create their own healthy futures. The framework also identifies nine core indicators to monitor and provides examples of a range of strategies that relate to each of the three themes. The emphasis in Healthy Minnesota 2020 is on creating conditions that allow people to be healthy, conditions that assure a healthy start and that set the stage for healthy choices throughout life. Healthy Minnesota 2020 is not a program for any single agency or organization to implement, but is a guide for activity on many fronts. It does not spell out action to take on specific diseases or conditions, but hopes to expand understanding and encourage activity on creating the kinds of environments and opportunities for health that will make a difference for our individual and collective health in the end.

Applicability: Healthy Minnesota Partnership identified three key themes to guide future discussion and action for implementing health improvement strategies in Minnesota:

- A Healthy Start for All: Capitalize on the opportunity to influence health in early childhood.
  - Indicators: prenatal care, breastfeeding, and food security
- An Equal Opportunity for Health: Assure that the opportunity to be healthy is available everywhere and for everyone.
  - Indicators: graduation rates, racial and ethnic income inequities, and students feel safe
- Strengthen communities to create their own healthy futures.
  - Indicators: Small business, women, and minority owned businesses, home ownership, and incarceration rates.

Minnesota Department of Health Vision, Values, and Goals

Link: http://www.health.state.mn.us/about/mission.html

Source: Minnesota Department of Health, 2012

Summary: MDH's vision, values, and goals

Applicability: Mission: Protecting, maintaining and improving the health of all Minnesotans

Vision: The MDH vision is for health equity in Minnesota, where all communities are thriving and all people have what they need to be healthy.

Value Statements

Integrity: We are honest, trustworthy and transparent in all we do. We strive to do the right thing to achieve the best public health outcomes.

Collaboration: We value the diversity and unique contributions of our employees and partners. We develop positive relationships, foster innovative solutions, and strengthen our capacity to accomplish our mission.

Respect: We uphold a standard of conduct that recognizes and values the contributions of all. We foster a working environment in which listening to and understanding our differences is encouraged and confidences are protected.

Science: We use the best scientific data and methods available to guide our policies and actions to promote healthy living in Minnesota. We rely on the objective facts of evidence-based science to build a strong foundation to address health needs and concerns.

Accountability: We are effective and efficient managers of the public trust and public funds, and hold ourselves and others to appropriate high standards. We operate with open communication, transparency, timeliness, and continuous quality improvement.

Goals: See Healthy Minnesotans 2020

Futurist has dire news for healthcare

Link: http://www.healthcareitnews.com/news/futurist-brings-dire-news-healthcare

Source: Healthcare IT News, May 15, 2014, Bernie Monegain

Summary: Author, consultant and futurist Ian Morrison served up the opening keynote at the National Healthcare Innovation Summit on May 14 in Boston with a large dose of wit. However, he delivered a somber message concerning the urgent need for innovation in healthcare.

Applicability: Added the below observations to the Factors, Forecasts, and Implications.

- A move toward both public and private health exchanges for the purchase of health insurance.
- The country is learning to live on Medicare, which means reducing costs by 10 to 20 percent. "All the assets in the old model become liabilities in the new model," he said.
- Massive consolidation of hospitals continues with the expectation that there will be 100 to 200 large regional systems around the country. The accepted view is "you have to be big, and you have to be integrated," Morrison said, adding the question, "How do you get these behemoths to really innovate?" He later noted, "More of these large behemoth businesses are willing to take the risks. They are getting into the health plans."
- Employers, who have been purchasers of health insurance for their employees, are showing signs of an exit. "Every purchaser has become an activist about wellness – some would say 'Stalinist,'" Morrison said.

2017 and Beyond

Link: https://www.jimcarroll.com/category/trends/2017/

Source: Jim Carroll, January 23, 2017

Summary: Jim is one of the world's leading global futurist, trends and innovation experts, with a massive global blue chip client list. Over the last 20 years, more than 2 million people have shared his insight at his events.

Applicability:

"The modern day leadership dilemma? Heading towards the Jetsons when you have a bunch of Flintstones around!"

"I'm having quite a bit of fun watching the movie in which the Jetsons meet the Flintstones. Consider what is happening with the acceleration of the automotive industry: self-driving cars, intelligent highways, prognostic self-diagnosing vehicles. The industry will be barely

recognizable in 10 years! Cars tomorrow will be barely recognizable compared to what we drive today."

Questions from this blog were added to plenary session options.

Joe Flower

Link: http://www.imaginewhatif.com/about/

Source: Joe Flower

Summary: With over 37 years' experience, Joe Flower has emerged as a thought leader on the deep forces changing healthcare in the United States and around the world. He has spoken to or consulted with hundreds of clients ranging from the World Health Organization, the Global Business Network, the U.K. National Health Service, the U.S. Department of Defense, and Fortune 100 companies, to the majority of state hospital associations in the U.S. as well as many of the provincial associations and ministries in Canada, and an extraordinary variety of other players across healthcare in every sector.

Applicability: We all have to stop asking the wrong questions about healthcare – who pays for it – and we have all have to start asking the right ones – what we pay for – and what to do about that.

Changing the fundamental business model of most of healthcare will be difficult and painful for the industry. However, if we look to other countries and say, "Why do their systems cost so

much less than ours? Why can't we have what we want and need at a price we all can afford?" — This is the answer.

Change the way we pay for healthcare, not just who pays and we can rebuild the system to be at the same time better and far cheaper.

10 technologies changing the future of health care

Link: http://www.techrepublic.com/article/10-technologies-changing-the-future-of-healthcare/

Source: TechRepublic, September 4, 2017

Summary: From digital networks to wearables, the health care industry is undergoing massive technological changes. Here are 10 types of innovations changing its future.

Applicability: Here are 10 types of tech that are changing the course of health care.

1. Digital diagnostics
2. The cloud
3. Ultra-fast scans
4. Wearables
5. Health informatics
6. Digital therapy
7. Concierge medical services
8. Networks and coaching
9. Self-insurance
10. Hackathons

Health care tech: 10 new devices, apps, and inventions to watch

Link: http://www.techrepublic.com/pictures/health-care-tech-10-new-devices-apps-and-inventions-to-watch/

Source: TechRepublic, September 2014

Summary: 10 new devices, apps, and inventions to watch

Applicability:

1. Biosense uChek
2. Smart contact lenses
3. CellScope Oto
4. Robohand 3D print farm
5. AliveCor
6. Smart pills
7. Smart Patches
8. Medscape
9. Tremor tracking app
10. BioSport earbuds

Healthy Corridor for All

Link: http://www.policylink.org/sites/default/files/HEALTHYCORRIDOR_SUMMARY_FINAL_20120111.PDF

Source: PolicyLink, 2011

Summary: This document presents a summary of the key components of the full analysis for the Healthy Corridor for All Health Impact Assessment. The full report is at www.PolicyLink.org/HealthyCorridorforAllHIA.

Applicability: Good read and the layout starting on page 18 may be useful format for final report.

4 medical innovations to watch for in the next 100 years

Link: https://www.elsevier.com/connect/4-medical-innovations-to-watch-for-in-the-next-100-years?sf53396030=1

Source: Elsevier, 2017 (Stacy Hartung)

Summary: Healthcare leaders predict what medicine will look like in a century

Applicability:

1. Genomics and personalized medicine
2. Value-conscious patients and consumer/patient-centered care
3. Health information technology to gather patient data and allow patient self-management
4. The evolution of healthcare practitioner training and development through technology

What Health Care Gets Wrong About Millennials

Link: http://fortune.com/2016/12/16/healthcare-millennials/

Source: O'Connors Vos, Lynn. What Healthcare Gets Wrong About Millennials? Fortune. December 16, 2016.

Summary: Millennials are poised to become a major force in the $3 trillion a year healthcare market, and anyone working in the industry had better pay attention. Earlier this year, my team at ghg | greyhealth group partnered with our sister company Kantar Health to survey more than 2,000 millennials to discover how they really manage their own healthcare. We found that this generation is less likely to trust physicians and far more inclined to consult online experts and other informal sources for advice. They are eager for the system to meet their needs, yet, players in healthcare continue to cling to an old model: a primary care physician serves as a trusted advisor for patients and a trusted intermediary for pharmaceutical companies and insurers. Millennials reject that model, and the industry needs to keep up or lose out. Our study led us to possible solutions that apply not only to physicians, but to all players in the market.

Applicability: Here, then, are five rules for the healthcare industry in dealing with millennials:

Get on the same page. Today's young adults do not define health as simply the absence of disease, the way other generations do. For this generation, health goes way beyond The Merck Manual to include mental health, fitness, longevity, healthy lifestyles, and more. To millennials, exercise and nutrition are as essential to healthcare as antibiotics are to curing infection.

Gain their trust. Millennials have lived through the financial crisis, 9-11, skyrocketing academic debt and one of the most divisive and controversial elections in history. It is no wonder, then, that they tend to mistrust authority. In our survey, just 58% of millennials said they trust their physicians compared with 73% of all others. Millennials have opinions. We need to listen to them, build on their knowledge, and treat them with respect.

Be a team member. Taught to feel empowered, millennials view themselves as a part of the solution and not merely recipients of care. Only a minority (41%, vs 68% of non-millennials) view doctors as the single best source of information, and they are unlikely to rely on a doctor as their sole advisor. Professionals need to realize that when millennials arm themselves with reams of information from a variety of sources, they should not get defensive. Instead, ask them what they know and take it from there.

Bolster their confidence. Self-assured as they may seem, our qualitative research showed that millennials often struggle to make decisions. Paralysis of analysis is a widespread side effect of life in an information age. So open minded that they tend to question their own judgment, even after they appear to have settled a question, millennials need large doses of reassurance to go along with any prescription. "They have access to all the information in the world, but they're incredibly insecure," says Natasha Burgert, MD, a pediatrician from Kansas City. Millennials need partners to advise and support them, to refer them to reliable online sites and provide shortcuts through the maze of health information and bureaucracy.

Join the fold. As young people move away from religion and civic engagement, they still need ways to connect. Millennials crave contact with like-minded people who can reinforce and advance their interests, so much so that they think about health and fitness as something akin to a religion. In fact, many view their gyms and yoga studios as a kind of church, where they go for connection, comradery, spiritual fulfillment, and even fun. This hunger for association represents an opportunity for the healthcare industry to build different types of communities around healthy living.

Millennials' influence is growing. Nearly **30% of millennials are now parents,** and as they start becoming responsible for not only their own health but also that of their children, their influence will grow exponentially. By listening to millennials and helping them lead healthier lives, we will be supporting not only this generation but also the generation to come.

National Health Expenditure Projections 2016-2025 Forecast Summary

Link: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/proj2016.pdf

Source: CMS

Summary: National Health Expenditure Projections 2016-2025 Forecast Summary.

Applicability: Numbers added to Factors, Forecasts, and Implications.

Minnesota: Projecting Primary Care Physician Workforce

Link: http://www.graham-center.org/content/dam/rgc/documents/maps-data-tools/state-collections/workforce-projections/Minnesota.pdf

Source: Petterson, Stephen M; Cai, Angela; Moore, Miranda; Bazemore, Andrew. State-level projections of primary care workforce, 2010-2030. September 2013, Robert Graham Center, Washington, D.C.

Summary: The Robert Graham Center projected the Minnesota PCP workforce necessary to maintain current primary care utilization rates, accounting for increased demand due to aging, population growth, and an increasingly insured population due to the Affordable Care Act (ACA). Primary care use was estimated with 2010 Medical Expenditure Panel Survey (MEPS) data. Current active PCPs within Minnesota were identified using the 2010 American Medical Association (AMA) Masterfile, adjusting for retirees and physicians with a primary care specialty but not practicing in primary care settings. Minnesota population projections are from those produced by the state based on the 2010 Census**.**

Applicability: Numbers added to the Factors, Forecasts, and Implications.

What Is the Impact of Chronic Disease On America?

Link:
http://www.fightchronicdisease.org/sites/default/files/pfcd_blocks/PFCD_US.FactSheet_FINAL1%20%282%29.pdf

Source: Partnership to Fight Chronic Disease, What is the Impact of Chronic Disease on American.

Summary: Projected total cost of chronic disease 2016-2030 in America

Applicability: Numbers added to the Factors, Forecasts, and Implications.

C: Minnesota e-Health 2030: Themes and Implication Worksheet

Introduction

The Minnesota e-Health 2030 Planning Project purpose is to propose improvements to the Initiative that will help assure a more agile Initiative that can better lead, influence, anticipate, and respond to future challenges, opportunities, and uncertainties that are significant to e-health. This includes, but is not limited to, recommending 1) actions for change to prepare for e-health 2030 and advancing health equity; 2) principles to guide future decision-making; and 3) updates to the Initiative's vision and goals, structure, function, and communication strategies. Recommendations should consider likely scenarios and generally accepted assumptions and long-term trends.

The Themes and Implications Worksheet (the Worksheet) purpose is to collect 2030 themes and related e-health and MN e-Health Initiative implications. The number and type of themes and implications are indefinite and not all themes and implications can be identified. Therefore, the worksheet strives to capture enough information to be able to identify improvements to the Initiative in the three areas discussed above.

Methods

The Worksheet has three columns, Themes, e-Health Implications, and MN e-Health Initiate Implications. Each row has a Theme with its associated e-Health and MN e-Health Initiative Implications. The Themes and Implications were developed leveraging four sources:

Literature Search

A search of the literature and web-based searches identified 29 resources including reports and articles from state and federal government, community organizations, and leaders in health and health care that focused on health, e-health, health equity, and future thinking.

Community Input

On June 14t, 2017, at the 2017 Minnesota e-Health Summit, the lunch plenary session was facilitated by two Steering Team members and included three panelist discussing their thoughts and perspectives on 2030 e-health vision. Following the panelists, the Summit participants (270) were asked to discuss and submit their thoughts on three questions:

1. In the year 2030, what is the most significant health or health care challenge your community will face?
2. What solutions do you propose to address this challenge?
3. What resources do you need to implement those solutions?

The answers from 117 submitted responses were reviewed, categorized, and incorporated.

Additional feedback was collected on November 15, 2017 from the Community Outreach Committee. This group of more than 20 consumers and legislative represented, coordinated by

Stratis Health, provided community input during a 45-minute discussion. The discussion focused on two questions:

- What is most impactful to your health and wellbeing?
- What would you like to see improved in the next 5 to 10 years to support your health and wellbeing?

The feedback was centered on:

- The frustration and need for individuals and their caregivers to have access to their information.
- The need for a single person-centered patient portal or way to coordinated health information for the individual.
- The lack of interoperability.
- The need for more accountability and incentives for change within health care.
- The need for technology to allow adult children to support aging parents in their care, their decisions, and their options.

Minnesota e-Health Roadmap/Person-Center Lens

The Minnesota e-Health Roadmap[2] was developed over 18 months, bringing together providers and caregivers from across the state. The work focused on developing and using eight priority use cases. The Steering Team reviewed and examined the eight use cases plus an additional use case to provide concrete, person-centered stories. The priority use cases include:

1. Anderson Family has members with confirmed and suspected tuberculosis.
2. David has a history or substance abuse and privacy concerns that inhibit full disclosure of health history between the Veterans Health Administration and other providers.
3. Grace has uncontrolled juvenile onset diabetes with poor physical and mental health due to lack of care coordination.
4. Jasmine, a micro-preemie infant, has respiratory needs that require home care and equipment.
5. Kari is a teenager who needs support from and coordination between multiple health, school, and social services during her pregnancy.
6. Maria, with significant assistance from her daughter, is transitioning to an assisted living facility.
7. Mike is struggling to control his diabetes and depression and to find stable housing, healthy food options, and employment opportunities.
8. Sally, who has autism and lives in a group home, has recurring emergency department visits.
9. Family of four uses preventive and wellness care during the year.

[2] Minnesota Department of Health. Minnesota e-Health Roadmap for Behavioral Health, Local Public Health, Long-Term and Post-Acute Care, and Social Services. http://www.health.state.mn.us/e-health/roadmap.html August 2016.

Advisory Committee Discussion

During the August 2017 advisory committee planning meeting, participants discussed and provided input on the e-health vision, mission, and decision-making principles. Themes that emerged from the discussion are listed below:

Vision Themes

- Health/wellness for ALL people and neighborhoods/communities
- Blending of health and social services and other services
- Equity
- Lead through innovation/be a national leader
- Empower individuals, providers and communities through data and information

Mission Themes

- Support the triple aim + provider satisfaction
- Using info in more than one way and available to all at the right time/seamless
- Ethical use of health information
- Autonomous decision making
- Assuring patient preference and privacy
- Telling the e-health story better
- Design for e-health

Principles for Decision-Making and Collective Action Themes

- Support infrastructure/have infrastructure in place
- Manage the role of politics/don't get caught-up in politics
- Keep on the path/stay the course
- Build upon the intent of legislation/fed activity
- Support e-health equity to help the system mature/We all do better when we all do better.
- Use a method for assessing priorities/decisions and identify what should be the focus
- Person-centered

Theme	e-Health Implications	MN e-Health Initiative Implications
A. Care received in the home and by caregivers and non-traditional providers will increase.	1. Public health surveillance will change including what it is, who does it, and who pays for it. Leads to different needs and populations requiring access to information and HIE. 2. More and different services and virtual provided at home via telehealth, skype, and apps which leads to issues around consent, privacy, standards, knowing what is a good/safe/appropriate technology/software to use. This will require that everyone have internet and devices, if not how to address that disparity. 3. More durable medical equipment and home devices used with information to share with traditional and non-traditional providers (figuring out what is useful and by who). The devices will become smaller and more user friendly (like phones and computers) 4. HIE will be needed by community, individuals, and non-traditional providers – broadening our scope of who needs HIE and who will collect, use and share information and re-evaluate who needs better access to internet.	1. Provide guidance to MDH on what is needed for e-public health, what the future could look like with more. 2. Start to incorporate telehealth, virtual visits, skype in focus of work including best practices, guidance, standards needed, and reimbursement. 3. Request funds/program to support telehealth (tapering off) 4. Need a VA perspective/expert on AC or SME 5. Assure primary care provider on AC or as SME 6. Need DME/home devices perspective/expert on AC or SME 7. Need technology perspective/expert on AC or SME 8. Better/more communication with state and national leaders for around opportunities and needs for telehealth et al. This is an equity/disparity issue along with the internet/broadband. 9. Develop better understanding of internet/broadband issue – cost, outages, use, to allow for guidance, recommendations, collaboration. This is an equity/disparity issue. 10. Broader individual/consumer/community representation on workgroups and AC 11. Provide feedback on standards needed for interoperability.

Theme	e-Health Implications	MN e-Health Initiative Implications
		12. Direction will be needed on the large amounts of data that will need to be aggregated and analyze. This has policy, workflow, and workforce implications. 13. Need more/broader/diverse partnership with technology companies/experts. 14. Provide input on privacy and security implications.
B. Access to data/information/knowledge at fingertips is an expectation for both providers, communities, and individuals.	1. Consumers will be more focused on getting information on health, illness, treatment, and prevention on web and from apps or the next technology breakthrough – google glasses for diagnoses. 2. Consumers and providers will be trying to figure what do (use and share patient generated data. This is connected to patient engagement, accountability, and responsibility. 3. E-health and information will change how minors get access to services which may lead to more thinking on minor consent. 4. Data governance, transparency, privacy, and security for all the information at individual and community level will need to be updated. 5. Training and education on the increase of information to community, to support infrastructure and build partnership. Education programs will evolve to address the new types of careers associated with technology and medical devises.	1. Need to address or identify who should address ethical issues emerging around who owns and can use information – particularly patient generated information. 2. Consider expanding thinking around consent for patient generated data. 3. Assess strategies to evaluate patient generated information, provide guidance to the community 4. Provide more guidance on data analytics, data use is needed – more education and jobs for data analytics 5. Create understanding and strategies to address the e-health literacy gap. Infrastructure will need to be in place to address all care providers and the ability to share, use, see, and process data. 6. Create resources for individuals and communities on data governance, transparency, et al around e-health. 7. Provide guidance and support to MDH to

Theme	e-Health Implications	MN e-Health Initiative Implications
	6. More useable data for analytics of information for communities and individuals. 7. State, health systems may need to rethink how to respond to increase requests to use/understand data repositories by a wider range of people and organizations	provide consumer access to MIIC and other resources.
C. Millennials will seek information beyond their providers, less trust in their providers, and expect focus on health not treating illness.	1. Health literacy, health education, and addressing alternative facts will need to be more incorporated into communications on health or available so people/providers can better evaluate apps, devices, and more. 2. More need/desire for tools like savvy PHR/portal for people to not only get information but to hold information – articles on care, healthy recipes to use, things to remember	1. Get millennial perspective on the Initiative. 2. Look at how to use e-health to focus on health vs. illness 3. May lead to less need for providers as data will become more operational and automatic (gas station attendants). 4. Monitor and provide guidance on social networks providing health advice to assure standards and supporting MN's health needs.
D. Larger and different types of technology groups will be entering the marketplace.	1. Testing for TB and other disease via mail or blood drop into smart phone like 23 and me will be increasing which has implications for surveillance and greater need for health literacy and evaluation of new technologies. 2. Consumers and providers will be trying to figure what do (use and share patient generated data. This is connected to patient engagement, accountability, and responsibility and standards. 3. Ethical issues around can I sell my data or my son's data to a large tech company, what does my health status (DNA, lead blood levels) mean for family or	1. Need to address or identify who should address ethical issues emerging around who owns and can use information – particularly patient generated information or create outside traditional health system. What happens if companies or government uses a person's health information against them? It could affect mortgage, health insurance, life insurance, loans. 2. Provide feedback on standards needed for interoperability. 3. Need different tech perspective/expert on AC

Theme	e-Health Implications	MN e-Health Initiative Implications
	others in my community?	or SME. 4. Provide resources to individuals and community around information and e-health. 5. Support FDA funding and processes to verify/oversee new tech. 6. Consider the e-health implications of populations having their DNA sequenced and consider health equity implications for those not able to afford to sequence or take action.
E. Robotics, smart machines and systems, sensors, and artificial intelligence will play a bigger role in care.	1. Testing for TB and other disease via mail or blood drop into smart phone like 23 and me will be increasing which has implications for surveillance and greater need for health literacy and evaluation of new technologies. 2. How can providers/organizations/individuals evaluate new technology and its role in care? Who will guide this process at a state or national level? 3. Devices in our bodies transmitting to the EHR or PHR or my phone will result in a lot of data but not necessary improve care or provide information and knowledge.	1. Need to address or identify who should address ethical issues emerging around who owns and can use information – particularly patient generated information or create outside traditional health system. 2. Provide guidance on emerging technology. Robotics for surgery. What happens if a prominent figure needs surgery and robotics are compromised? How will those systems share data (could be beyond the internet)? How will we manage so much data and make interoperability safe? 3. Provide guidance/input on training the workforce for the future. Is college necessary for all future jobs? 4. Provide feedback on standards needed for interoperability. 5. Lots of learning opportunities for AC,

Theme	e-Health Implications	MN e-Health Initiative Implications
		Initiative, and Summit
F. Personalized and precision medicine and health will become more prominent.	1. Testing for TB and other disease via mail or blood drop into smart phone like 23 and me will be increasing which has implications for surveillance and greater need for health literacy and evaluation of new technologies. 2. Ethical issues around can I sell my data or my son's data to a large tech company, what does my health status (DNA, lead blood levels) mean for family or others in community? 3. More need/desire for tools like savvy PHR/portal for people to not only get information but to hold information – articles on care, healthy recipes to use, things to remember	1. Need to address or identify whom should address ethical issues emerging around personalize and precision medicine health. 2. Think about, plan for what does e-precision health look like? What is e-health's role in precision health? When will a person see a provider vs. a machine? 3. Focus on e-health tools that support precision health (learning topics, workgroup). 4. Develop framework for how to address new/emerging issues such as looking at SME, standards, guidance, legislation, ethical issues.
G. Change in how research is paid for and conducted (i.e. NIH).	1. How to evaluate and use patient generated data for studies. 2. Access to more (not necessarily better data) for research from EHR, patient generate data, et al. 3. Different protection/privacy issues around patient generated data and use of learning health system	1. Consider including research focus into the Initiative work. Who gets access to the research data? 2. Provide more guidance/support for learning health system
H. Point of care (how, when, and who "touches" the patient)	1. More and different services and virtual provided at home via telehealth, skype, and apps which leads to issues around consent, privacy, standards, and knowing what is a good/safe/appropriate technology/software to use. 2. Need for increased ability to see the flow/track individual and where they are getting information	1. Guidance on using EHR/technology for virtual visits/telehealth and other non-touch or non-doctor appointments 2. Standards to use for non-touch appointments and how those standards used and related data are verified, collected, used and shared.
I. Baby boomers' decreased role in workforce but	1. More assisted living/staying in home/aging-well technology will be used or need– particularly in	1. Need for standards, policy, and guidance on new technology for aging, senior population.

Theme	e-Health Implications	MN e-Health Initiative Implications
increased role in receiving care.	rural areas. This results in more information created, need for access to the internet and HIE by broader group of individuals and communities (not just traditional providers) 2. Possible opportunity to use HIT to replace the aging workforce 3. Kids and grandkids needing access to information and involved in decision making which will mean more individuals needing access to information, HIE, and internet. 5. More information flow between DHS and providers and caregivers as DHS serves the disable population which requires more standards especially disability. 6. Opportunity to use technology and standards to address social isolation in aging population through more home devices/technology.	2. Learn, address internet access issues 3. Provide guidance on addressing the workforce shortages using e-health to fill some gaps 4. Align with workforce activities from Rural Health Advisory Committee, State Community Health Services Advisory Committee and other MDH and DHS workgroups, focus on ensuring infrastructure to reduce disparities. 5. Compilation/sharing/requesting of top 10 lists for technology for seniors 6. Address/understand DHS information flow issues 7. Think HIE for all instead of just for providers and who gets to see what?
J. Growing need for more primary care and some specialty providers and better distribution (rural vs. urban).	1. Role of school health may increase as a tool to address shortages which means evaluation/understanding of FERPA in the e-health real. 2. More access to telehealth, skype, virtual visits as a tool to fill provider gaps and to understand provider gaps leads which leads to more standards, policy, and guidance. 3. Opportunity to use technology as a tool to train workforce or support in-home caregivers.	1. Stronger connection with Rural Health Advisory Committee, State Community Health Services Advisory Committee and other MDH and DHS workgroups to discuss using e-health to better address shortages, distribution issues. 2. Guidance/understanding on virtual visits, telehealth, skype, 3. Discuss and decide on words/language for virtual visits, telehealth, skype 4. Discuss/address strategies to use e-health to address workforce issues and training in-home

Theme	e-Health Implications	MN e-Health Initiative Implications
		caregivers.
K. Individuals and their families' role in care will increase.	1. Opportunity to us technology as a tool to train workforce or support in-home caregivers. 2. Education for non-providers will be needed to understand technology and patient generate data and its implications on health – should be more than just apps 3. Need to manage disparities between the involved and the uninvolved and those will families and without	1. Provide guidance on emerging technology to public vs. providers 2. Acknowledge and address we are creating barriers/disparities between the e-health literate and non-e-health literate and the involved vs. non-involved
L. Tentative national focus towards person-centered care and learning health system.	1. Thinking of the "continuous use of information" not "secondary use" 2. Incorporate environmental health into the learning health system – zip code matters	1. Update the circle graphic to person vs. consumer 2. Learning opportunity for AC, Initiative, and Summit around learning health system 3. Standards for environmental health indicators for both EHRs and research/surveillance. EH needs to be a national level, not just a state level.
M. Minnesota will be a more diverse state.	1. More international travel may result in more need for clinical decision support and standards for global diseases 2. Technology and standards will better need to account for/document/incorporate traditional/cultural health practices and context 3. E-health can be used to address structured racism – prescribing practices. 4. Information from e-health needs to be readable, clearer, address literacy issues.	1. Plan/prepare for next Ebola or opioids with EHR/CDS/ interoperable MDH/DHS/PMP 2. Continue support for collect, use and sharing SDH into EHR, HIE and PHR 3. Standards and policies for addressing structured racism 4. Health educator perspective on AC or SME
N. New communication tools	1. Organizations and providers need training as do	1. Health educator role/lens on AC or SME

Theme	e-Health Implications	MN e-Health Initiative Implications
will require new media literacies.	individuals and families on using e-health and new communication tools. 2. How can providers/organizations/individuals evaluate new communication tools and its role in care? Who will guide/provide guidance this process at a state or national level?	2. Guidance on evaluating information and communication tools
O. Climate change implications including increase frequency of severe weather events and change in spread of vector-borne diseases.	1. Access to clinical decision support and standards and other tools to better track, diagnosed, and treat uncommon vector-borne disease or others such as heat related, water-borne, and respiratory. 2. Access to tools to track, evaluate, do follow-up relating to the stress, mental health implications of above and other climate change events – floods, fires and more.	1. How to prepare for next Ebola or opioids or Zika with EHR/CDS/ interoperable MDH and DHS 2. Rapid response mode – how to address something quickly such as opioid outbreak or mass exposure to fracking accident 3. Provide guidance, standards on event tracking and needs – share with leaders
P. Increased understanding of health, health equity, and social determinants of health	1. Need more technology, standards, information to understand and address housing, transportation, and food security issues 2. More technology, standards to address health literacy and ESL issues 3. Incorporating school health to spectrum of care and need for technology and information 4. Greater need to use technology to meet our younger vets' needs	1. Use health equity lens and health equity in all policies ideals 2. Create a more diverse AC and workgroups make-up 3. Standards and guidance on collect use and sharing of SDH 4. Keep discussing health equity 5. Guidance on how health equity can be addressed using e-health 6. Engage school health as part of the spectrum of care 7. VA/vet SME on AC or Initiative or workgroups
Q. The health and health care	1. Technology, HIE, standards and internet to meet	1. Social services and school perspectives or SME

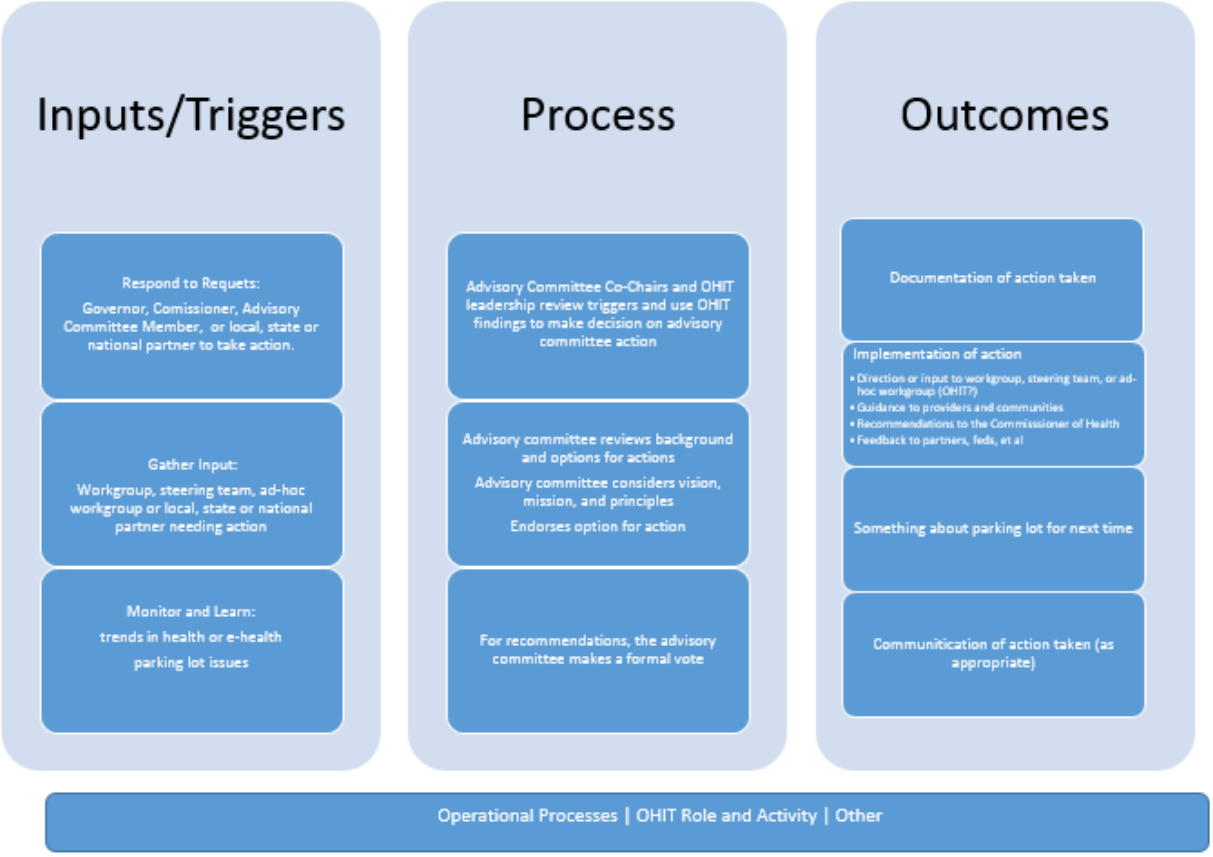
Theme	e-Health Implications	MN e-Health Initiative Implications
financing and delivery system will be different	social services, school health, and others on the spectrum of care that should be involved 2. Need for more information flow between DOD, VA, and other systems.	available 2. Decision making principles to address but not be stuck on this theme. 3. SME/perspectives of DOD, VA and other systems on AC or access to

Appendix D: Opportunities for Improvement (Detailed List)

1. Framework for decision-making and collective action that should incorporate and/or consider the following:
   a. Guiding principles
   b. Not be too detailed/restrictive
   c. Identify strategies to be considered in the future
   d. Include the how at the level of AC, WG, ST, AWG, and OHIT (probably should not use the acronyms….)
   e. Importance of documenting decisions and actions
   f. A tool for showing how work is done (transparency) and to engage others
   g. Health equity lens/health equity in all e-health policies
   h. What is e-health? So we know what is in and out of scope
2. Strategies to assure the Initiative has access to perspectives and expertise including but not limited to // broadening the sources of input and feedback// known community advisers
   a. Veterans Affairs/Veterans' Health/DOD
   b. Indian Health Services
   c. Tribal Health Services
   d. Primary Care
   e. DME and home devices
   f. Technology – emerging technology
   g. Consumer (see Consumer Action), specifically Millennial
   h. Rural Health
   i. SCHSAC
   j. Health Educator
   k. School Health
3. Clarifies and documents the function and structure of the Initiative's advisory committee, workgroups, steering teams, and ad-hoc workgroups focused on assuring the processes are improved, participation is increased, and opportunities for community input and discussion are maintained and methods diversified. Considerations include make-up, public vs. closed, role of co-chairs, OHIT's commitment and role, advisory committee commitment and role, and purpose.
4. Community input (get community input) at workgroups, advisory committee, and other formats.
5. Strategy for a simple, transparent process to identify which coordinated responses/RFIs to participate in and how the information collection will occur.
6. Align graphics and logos to updated vision, mission, and principles for decision-making and collective action. This should include updating the logo to individuals and families (update consumer), policy and research (same), public and community health (update public health), and providers and services (update clinical)
7. Address the definition of consumer, which is multifaceted, and identify how and at what level to engage and educate.

8. Strategy for the Initiative to provide more formal input, requests, and recommendations to MDH on what is needed for e-public and e-health. Future opportunities include:
    a. Consumer access to MIIC
    b. Substance misuse and overdose and other rapid response needs
    c. Climate change, extreme weather events, outbreaks, mass exposure
9. Strategies to address upcoming and ongoing issues. This should include how and when to address and what partners to engage (i.e., Rural Health Advisory Committee, State Community Health Services Advisory Committee).
    a. Telehealth and telemedicine
    b. Broadband access
    c. Ethical issues
    d. Patient generated information
    e. Data analytics
    f. Emerging technology
    g. Precision health
    h. Learning health system and research
    i. Workforce (e-health as a strategy to fill workforce gaps)
    j. Factors that influence health (aka social determinants of health)
10. Update the Advisory Committee handbook

Appendix E: DRAFT Minnesota e-Health Initiative Framework/Process for Collective



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