

e-Health Standards and Health Equity

SUMMARY OF WORK

Introduction & Purpose

The Minnesota e-Health Initiative (the Initiative), Minnesota Department of Health and their partners continue to look at the collection, use, and sharing of information to better understand and advance health equity. Health equity, as defined in the Advancing Health Equity Report¹, is the “a state where all persons, regardless of race, income, creed, sexual orientation, gender identification, age or gender have the opportunity to be as healthy as they can — to reach their full health potential.” The purpose of this document is to share the Initiative’s work on e-health standards for health equity. The following sections provide an overview of the e-health community’s work to compile the factors that influence health and the resources to identify the nationally-recognized e-health standards.

Factors that Influence Health

The term social determinants of health (SDHs) has long been used to understand health equity. To capture the full breath of research and understanding, we use the term “factors that influence health” which includes the commonly understood social determinants of health (race, ethnicity) but also acknowledges the changes in understanding of what affects health (place, structured racism). Figure 1 represents a list of factors that influence health compiled from two separate e-health activities focused on health equity – Standards and Interoperability Workgroup and the Minnesota e-Health Roadmap.

During 2014-2015, Minnesota e-Health Initiative Standards and Interoperability Workgroup developed a list of factors using the Institute of Medicine’s report *Capturing Social and Behavioral Domains and Measures in Electronic Health Records: Phase 2*². This list and related report (<https://www.health.state.mn.us/facilities/ehealth/standards/docs/determinants.pdf>) have been used to provide input to standards development processes and with Minnesota stakeholders.

Two years later, the Minnesota e-Health Roadmap for Behavioral Health, Local Public Health, Long-Term and Post-Acute Care, and Social Services (<https://www.health.state.mn.us/facilities/ehealth/roadmap/index.html>) identified Core Information Elements which includes factors that influence health. The Core Information

¹ Minnesota Department of Health. (2014). Advancing Health Equity in Minnesota: Report of the Legislature.

² IOM (Institute of Medicine). (2014). Capturing Social and Behavioral Domains and Measures in Electronic Health Records: Phase 2. Washington, D.C.: The National Academies Press.

<http://www.iom.edu/Reports/2014/EHRdomains2.aspx>

Elements, developed in 2016, engaged partners across the care continuum and included additional factors than the Standards and Interoperability Workgroup.

Figure 1. Aggregate List of Factors that Influence Health

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| 1. Alcohol use | 12. Language/ Preferred language including speak, read, and hear** |
| 2. Country of Origin/U.S. Born or Non-U.S. Born | 13. Marital status* |
| 3. Depression | 14. Military service* |
| 4. Education level including accommodation and behavior** | 15. Neighborhood and community compositional characteristics |
| 5. Employment status/industry and occupation* | 16. Physical activity |
| 6. Ethnicity | 17. Race |
| 7. Financial resource strain including food insecurity and housing insecurity/status** | 18. Religious affiliation* |
| 8. Functioning and disability* | 19. Sex* |
| 9. Gender Identity | 20. Sexual orientation |
| 10. History of incarceration/criminal justice system status* | 21. Social connections and social isolation |
| 11. Income source | 22. Stress |
| | 23. Tobacco use and exposure |
| | 24. Transportation* |
| | 25. Violence/ exposure to violence: intimate partner violence |

*Factors that influence health that were only identified by the Minnesota e-Health Roadmap.

** Minnesota e-Health Roadmap provided more detail for the factor

The list of 25 factors is not a complete list instead; it provides a starting point for identifying the e-health standards that relate to health equity.

e-Health Standards

E-health standards are necessary to be able to collect, use and share factors that influence health in a digital world. Three resources that provide guidance on what e-health standards relating to factors that influence health are listed below. More information on e-health standards and their role in interoperability can be found at <https://www.health.state.mn.us/facilities/ehealth/standards/docs/guidance.pdf>.

Interoperability Standards Advisory (ISA) a catalog of standards and implementation specifications for health, public health and research that support interoperability. It includes information on e-health standards including the standard process maturity, implementation maturity, adoption level, federally required, cost, and test tool available are listed. Any limitations, dependencies, and preconditions for consideration, applicable value sets and starter sets, and applicable security patterns for consideration are also included. The ISA is updated annually by the Office of the National Coordinator at <https://www.healthit.gov/isa>

Common Clinical Data Set (CCDS) is a required element of the 2015 Edition certification for electronic health records for the Meaningful Use program; EHRs are required to be able to transmit CCDS via open Application Programming Interface (API). An API is a set of programming protocols for accessing a software application online. The CCDS is to facilitate greater interoperability and enable health information exchange by focusing on representation of clinical data during exchange. The CCDS is at <https://www.federalregister.gov/documents/2015/10/16/2015-25597/2015-edition-health-information-technology-health-it-certification-criteria-2015-edition-base>.

Draft U.S. Core Data for Interoperability (USCDI) aims to support the goals set forth in the 21st Century Cures Act by expanding upon the CCDS to specify a minimum common set of data classes that are required for interoperable exchange. The USCDI is only in draft form but provides a glimpse into the future direction of securely exchanging electronic health information by including both the current USCDI data classes as well as candidate and emerging classes under consideration. In addition, it provides a brief description of each factor and the related standard, tool, or measure used. The Draft USCDI is at <https://www.healthit.gov/sites/default/files/draft-uscdi.pdf>.

Factors that Influence Health and Related e-Health Standards Resources

Figure 2 shows which resources include e-health standards for each of the factors that influence health in the aggregate list. The table shows were to find information on e-health standards related to a specific factor.

Figure 2. Factors that Influence Health and Related e-Health Standards Resources

Factor	Interoperability Standards Advisory (ISA)	Common Clinical Data Set (CCDS)	Draft U.S. Core Data for Interoperability (USCDI)
Alcohol use	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Alcohol Use	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Alcohol Use

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Factor	Interoperability Standards Advisory (ISA)	Common Clinical Data Set (CCDS)	Draft U.S. Core Data for Interoperability (USCDI)
Country of Origin/U.S. Born or Non-U.S. Born	None	None	None
Depression	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Depression	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Depression
Education level including accommodation and behavior	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Level of Education	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Education
Employment status/industry and occupation	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Industry and Occupation	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Employment Status Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Overall Financial Strain

E-HEALTH STANDARDS AND HEALTH EQUITY

Factor	Interoperability Standards Advisory (ISA)	Common Clinical Data Set (CCDS)	Draft U.S. Core Data for Interoperability (USCDI)
Ethnicity	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Race and Ethnicity	Race and Ethnicity	Draft USCDI Version 1 Data Classes: Ethnicity
Financial resource strain including food insecurity and housing insecurity/status	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Financial Resource Strain	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Overall Financial Strain
Functioning status and disability	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Functional Status and/or Disability	None	Draft USCDI Candidate Status Data Classes: Year 2019 (v2): Functional Status Draft USCDI Emerging Data Classes: Disability Status
Gender identity	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Sex at Birth, Sexual Orientation and Gender Identity: Gender Identity	None	Draft USCDI Candidate Status Data Classes: Year 2019 (v2): Gender Identity

E-HEALTH STANDARDS AND HEALTH EQUITY

Factor	Interoperability Standards Advisory (ISA)	Common Clinical Data Set (CCDS)	Draft U.S. Core Data for Interoperability (USCDI)
History of incarceration/criminal justice system status	None	None	None
Income source	None	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Overall Financial Strain
Language/preferred language including speak, read, and hear	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Preferred Language	Preferred language	Draft USCDI Version 1 Data Classes: Preferred Language
Marital status	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Social Connections and Isolation	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Social Connection/ Support and Isolation

E-HEALTH STANDARDS AND HEALTH EQUITY

Factor	Interoperability Standards Advisory (ISA)	Common Clinical Data Set (CCDS)	Draft U.S. Core Data for Interoperability (USCDI)
Military service	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Industry and Occupation	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Veteran’s Status/Military History Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Employment Status
Neighborhood and community compositional characteristics	None	None	None
Physical activity	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Physical Activity	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Physical Activity
Race	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Race and Ethnicity	Race and Ethnicity	Draft USCDI Version 1 Data Classes: Race
Religious affiliation	None	None	None

E-HEALTH STANDARDS AND HEALTH EQUITY

Factor	Interoperability Standards Advisory (ISA)	Common Clinical Data Set (CCDS)	Draft U.S. Core Data for Interoperability (USCDI)
Sex	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Sex at Birth, Sexual Orientation and Gender Identity: Sex	Sex	Draft USCDI Version 1 Data Classes: Sex (birth sex)
Sexual orientation	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Sex at Birth, Sexual Orientation and Gender Identity: Identified Sexual Orientation	None	None
Social connections and social isolation	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Social Connections and Isolation	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Social Connection/ Support and Isolation

E-HEALTH STANDARDS AND HEALTH EQUITY

Factor	Interoperability Standards Advisory (ISA)	Common Clinical Data Set (CCDS)	Draft U.S. Core Data for Interoperability (USCDI)
Stress	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Stress	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Stress
Tobacco use and exposure	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Tobacco Use (Smoking Status)	Smoking Status	Draft USCDI Version 1 Data Classes: Smoking Status
Transportation	None	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Overall Financial Resource Strain
Violence/exposure to violence: intimate partner violence	Section I: Vocabulary/Code Set/Terminology Standards and Implementation Specifications: Social, Psychological, and Behavioral Data: Violence (Intimate Partner Violence)	None	Draft USCDI Emerging Data Classes: Social, Psychological, and Behavioral Data: Exposure to Violence

Considerations for Implementation

In addition to identifying factors that influence health, the Standards and Interoperability workgroup identified additional components and principles relating to e-health and health equity. These were adapted and combined with recommendations from the Minnesota e-Health Roadmap into considerations for organizations electronically implementing the collection, use, and sharing of factors that influence health.

- Communicate effectively and frequently with staff by sharing a clear statement of the value of e-health standards for advancing health equity.
- Develop and/or implement policies, workflows and best practices for collecting and using factors that influence health in the EHR or other information systems. Train staff to utilize the best practices and workflows and assure consistency across the organization.
- Inventory sources of factors that influence health data and evaluate the potential use of the data. This can lead to integrating data from other data sources to provide proxy information for factors that influence health, such as geocoding the patient record and linking to demographic data.
- Monitor and engage in the development and implementation of new e-health standards relating to health equity. Feedback can be provided to the ISA on an ongoing basis or providing input to the Minnesota e-Health Initiative at mn.ehealth@state.mn.us.
- Engage the individual and family perspective in collecting, using, and sharing factors that influence health. This includes addressing the discomfort of reporting sensitive information and related privacy concerns.
- Increase diversity in workgroups and partnerships representation.
- Develop future-looking use cases for collecting, using, and sharing factors that influence health. Example use cases can be reviewed in the Minnesota e-Health Roadmap at <https://www.health.state.mn.us/facilities/ehealth/roadmap/index.html>.
- Engage IT vendors, including EHR vendors and HIE service providers, to assure the technology is capable of collecting, using, and sharing factors that influence health using nationally-recognized standards.
- Identify and address privacy and consent concerns – real and perceived – around collecting, using, and sharing factors that influence health. Review the Foundations in Privacy Toolkit (<https://www.health.state.mn.us/facilities/ehealth/privacy/index.html>) to help address many of the common legal and operational challenges of exchanging patient health information amongst different providers in Minnesota.

Conclusion

In summary, the work of the Initiative, MDH, and partners identified many opportunities to support the collection, use, and sharing of information to better understand and advance health equity and related e-health standards. Ongoing work in this area is needed and can strengthen the ability the e-health community to advance health equity and improve health and wellness of all individuals and communities.

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