Leveraging Interoperability to Drive Health Equity in Cancer Care, Research, and Surveillance

January 27, 2022
Agenda

• Speaker Introductions
• Cancer and Health Equity
• Welcome to CodeX & Introducing mCODE™
• Making Clinical Trial Participation Easier and More Equitable
• Enhancing the Quality and Equity of Radiation Therapy
• Office of the National Coordinator (ONC) and Data Standards
• The Patient Perspective on Cancer Data Standards
• Discussion
Introductions (in order of appearance)

Su Chen, MD
MITRE/CodeX

Shaalan Beg, MD
UT Southwestern Medical Center

JaWanna Henry, MPH, MCHES
Office of the National Coordinator (ONC)

Chuck Mayo, PhD
U. Michigan Medicine

Jamil Rivers
The Chrysalis Initiative
What is Health Equity?

• Attainment of the highest level of health for all people
• Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address:
  • avoidable inequalities
  • historical and contemporary injustices and
  • the elimination of health and healthcare disparities.

Cancer and Health Equity

- Cancer is one of the most common and deadliest diseases in the United States.\(^2\)
- Disproportionately affects people of color and other populations:
  - **African American patients** have had the **highest all-cancer mortality rate** of any racial or ethnic group for the past 40 years
  - **American Indian and Alaska Native patients** have **higher likelihoods** of being first **diagnosed with cancer at advanced stages** than other populations
  - Compared to non-Hispanic whites, **Hispanic patients** have **disproportionately higher rates of disease** associated with specific kinds of cancers
  - **Populations living in nonmetropolitan rural counties** have higher annual, age-adjusted, **all-cancer mortality rates** than populations in metropolitan counties and nonmetropolitan urban counties

![Diagram showing different populations and their health equity issues]

- **Highest All-Cancer Mortality Rate**
- **Higher Risk of First Diagnosis at Advanced Stages**
- **Higher Rates of Specific Cancer Types**
- **Higher Mortality Rates than Urban Residents**

**Legend:**
- African American Patients
- American Indians/Alaska Native Patients
- Hispanic Patients
- Rural Residents
Welcome to CODEX™

• CodeX is a **member-driven community** accelerating interoperable data modeling and implementation

• CodeX **aims to drive substantial improvements** in health care and research in cancer and beyond

• CodeX:
  • Shares the latest developments on cancer data exchange
  • Learns from the experience of 160+ member organizations
  • Develops and shares best practices for clinical workflows, data modeling, and exchange
**CodeX™ / mCODE™ Community of Practice**

A group of health systems, specialty societies, government agencies, pharmaceutical manufacturers, researchers, EHRs and supporting organizations, participating in a monthly public forum focused on real-world applications of mCODE.

- Latest developments on mCODE, CodeX, and cancer data exchange
- Ask questions and learn from the experience of other community participants
- Develop and share best practices for clinical workflows, data modeling, and exchange

https://confluence.hl7.org/display/COD/mCODE+Community+of+Practice

- **45** Health Systems
- **7** Payers
- **4** Pharma
- **70** EHRs and other tech companies
- **12** Medical Societies and Consortia
- **10** Government Agencies
- **5** Research Organizations
- **7** Nonprofits/Foundations
- **2** Patient Advocacy Organizations
## CodeX Members (January 2022)

### CodeX Founders ★

- AMERICAN ASSOCIATION OF PHYSICISTS IN MEDICINE
- ASTRO
- UnitedHealthcare
- ALLIANCE FOR CLINICAL TRAITS ONCOLOGY
- MITRE
- ontada
- HL7 International
- Syntropy
- Pfizer

### PREMIER

- AMERICAN SOCIETY FOR RADIATION ONCOLOGY
- CANCER ACTION NETWORK

### PRINCIPAL

- AMERICAN CANCER SOCIETY

### BENEFACCTOR

- CIBMTR
- Telligen
- Trajectory

### GOVERNMENT AGENCY

- CDC
- MCSP MICHIGAN

### SPONSORED MEMBER

- CANADIAN ORGANIZATION OF MEDICAL PHYSICIANS
- OCPM
- SIIM

### DEVELOPER/IMPLEMENTER

- Cancer Insights
- MASSIVE BIO
- Mettle Solutions
- NeuralFrame
- Wemedoo

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The Potential of Data Standards for Promoting Health equity in Oncology

Su Chen, MD
MITRE/CodeX
suchen@mitre.org
M’s Cancer Journey: Community Clinic

Patient Visit to Receive Treatment or Service

- Lab
- Imaging
- Pharmacy
- Social Services

Incomplete or incompatible Data is Shared

- Academic Health System Patient Medical Record & Patient Portal
- Oncologist
- Payer
- Research
- Public Health

Time and Cost Burden Falls on Patient and PCP to Fill in Gaps

Some patients may have challenges taking time off work or affording transportation. Rescheduling appts can be a hardship.
M’s Cancer Journey: Community Clinic

Reduced Burden on Patient and PCP

DATA STANDARDS

mCODE

HL7 FHIR

gravity PROJECT

Academic Health System Patient Medical Record & Patient Portal

Oncologist

Payer

Research

Public Health
mCODE™

Minimal Common Oncology Data Elements

A growing, active community of oncology stakeholders prioritizing, building & executing use case pilots to demonstrate real world feasibility and value

mCODE STU2: http://hl7.org/fhir/us/mcode/
CodeX and mCODE in Health Equity

Better data means improved...

- Treatment quality
- Diversification in clinical trials
- Ability to analyze standardized RWD across populations
- Monitoring of safety and efficacy of approved therapies
- Public health surveillance
- Prior authorization processes in oncology
Call to Action

We are asking:

• Health systems and providers to request that EHR vendors adopt mCODE
• Payers to incentivize the reporting and collection of mCODE data
• Developers and cancer researchers to advocate for the adoption of mCODE and reporting of mCODE data

For more information on mCODE and CodeX, please contact:

Steve Bratt  
CodeX Program Manager  
sbratt@mitre.org

Kim Ball  
CodeX Deputy Program Manager  
kim.ball@pocp.com
Making Clinical Trial Participation Easier and More Equitable

Shaalan Beg, MD
UT Southwestern Medical Center
Pancreatic cancer
Clinical trial enrollment remains low

Eskander et al, Ann Surg Oncol, 2021
Equity Challenge: Barriers to Diverse Patient Participation in Clinical Trials

• Many cancer patients cannot enroll in trials at institutions where they are being treated
• Patients from economically disadvantaged, rural, and other underserved populations are particularly affected
• Moreover, their care teams cannot easily identify trials for their patients conducted outside of the institutions where they are being treated
• Fewer participants from diverse populations make it harder for clinical trials to demonstrate effectiveness of new cancer therapies
The mCODE Potential: Make It Easier to Match Diverse Patients with Cancer Trials

• Care teams can use clinical trial matching services using mCODE-based standards integrated into existing clinical workflows
• No need to use arduous manual entry and/or review of trials to match patients
• Integrated trial matching can be scaled to serve diverse populations all over the nation
• Potential: Diverse patients are matched to promising cancer trials and cancer trial research benefits from their participation
Leveraging Interoperability: The mCODE Approach to More Equitable Clinical Trial Matching

• Develop mCODE-based open data standards and open APIs to connect EHRs across the country with clinical trial matching services, matching patients to clinical trials that could help them

• mCODE leverages:
  • **Interoperability**: EHRs used by health care systems and patient data managers speak the same language
  • **Scalability**: Providers, patients, and others will not have to enter data manually for every trial-related service. They also will not have to review each trial for its fit to individual patients
  • **Accessibility**: Regardless of where a patient is receiving care, they can search for trials anywhere
  • **Efficiency**: Clinical trial matching is integrated into existing clinical workflows, meaning that it is performed as a routine aspect of cancer care rather than as a special step that requires extra effort and planning and time
Enhancing the Quality and Equity of Radiation Therapy

Chuck Mayo, PhD
University of Michigan Medicine

cmayo@med.umich.edu
Equity Challenge: Improve Radiation Therapy Treatment Quality for Diverse Patients

DATA FUELS INSIGHTS DRIVING ACTION

We need to:

• Standardize electronic data to improve large scale learning from past patients so that we can take better care of future patients

• Improve patient access, treatment quality and safety, especially in settings serving underserved populations

• Develop better, measured, outcomes-driven interventions to support underserved populations over the course of highly challenging treatment regimens
About Radiation Oncology & Data

- Radiation Oncology is highly specialized, requiring data-driven technologies to deliver treatment and models driving optimal treatment choices.

- Cancer care and follow-up is multi-disciplinary. A clinically relevant and effective treatment summary is needed for use by other medical professionals for patient care and coordination.

- Our professional societies (AAPM, ASTRO, ASCO) are leading in developing collective agreement within the community on how to standardize the categorization of radiation therapy concepts so they are represented the same way across different systems (e.g., which concepts are modalities, which are techniques).

- Broad adoption is crucial for equitable models.

UNBIASED DATA IS NEEDED FOR UNBIASED MODELS
The mCODE Potential: Share Radiation Therapy Treatment Data to Improve Quality and Equity

Share treatment information between radiation oncology information systems and EHR systems used by treating oncologists

Leverage electronic communication standards (HL7-FHIR) to make information interoperable across these systems

This could advance quality and equity by:

• Supporting care coordination
• Facilitating comparative effectiveness research across populations to develop and test new interventions
• Helping to ensure application of best practices across populations
• Inform effective interventions to support patient retention
Leveraging Interoperability: The mCODE Approach to Equitable Radiation Therapy Treatment

- Coordinate with professional societies in developing, testing and deploying open data standards
- Pilot use for interoperable, multi-purpose exchange of radiation therapy treatment summary data to demonstrate functionality/value
- Expand to other data elements to better coordinate care
- Use expanded, standardized aggregation to ensure quality across diverse populations and to support research to eliminate disparities

mCODE/CodeX + Professional Societies + Electronic Record Systems Vendors

POWERING BETTER INSIGHTS WITH BETTER DATA
Office of the National Coordinator for Health IT (ONC) Standards for Advancing Health Equity in Cancer Research

JaWanna Henry
SDOH Portfolio Lead
January 27, 2022
Agenda

• Overview of ONC
  • Technology and Health Equity
  • Addressing SDOH Data Gaps and Interoperability
  • ONC Interoperability Framework
• USCDI
  • USCDI v1: Race, Ethnicity, and Language Data
  • USCDI v2: SOGI Data
  • USCDI v2: SDOH Data
  • Draft USCDI v3 and USCDI+
• What’s Next for Standards?
• Closing
Office of the National Coordinator for Health Information Technology (ONC)

ONC is the principal federal entity charged with coordination of nationwide efforts to implement and use the most advanced health information technology and the electronic exchange of health information.

https://www.healthit.gov/topic/about-onc
ONC: Technology and Health Equity

• **Technology and Equity**: ONC recognizes the further potential of data-driven technologies, including certified health IT, to impact health equity.

• **Health Equity By Design**: ONC takes an equity-by-design approach to our work, advancing the use of interoperable, standardized data to represent social needs and the conditions in which people live, learn, work, and play.

• **Equity and Broader Health Data**: Health data, including data on race/ethnicity and social determinants of health, can help to identify health disparities and to inform efforts to improve health outcomes at an individual and population level.
Addressing SDOH Data Gaps and Interoperability Challenges

Gaps in available standardized SDOH data make it difficult to leverage available technology (EHRs, portals) to collect, share, and use it for individual and community health.

*Imagine if.....?*

Data captured at any point of care was structured and could be shared and reused by other service providers across community, state, and federal programs informing multiple patient care activities.

- Social determinant of health data sources could be leveraged and integrated with other data sets to provide more insights on improved outcomes and program effectiveness
- There were no obstacles for consumers in access to technology for virtual visits or for their health records
- Every community was fully resourced with sufficient infrastructure/technology
- Health and human services was fully integrated for holistic and equitable health and care
Using Health IT-enabled SDOH and Demographic Data

Ways to use health IT-enabled SDOH data to improve patient and population health in order to help eliminate disparities and improve health equity include:

- Identifying Social Risks, Needs, and Interventions
- Enabling clinical decision making, quality and outcomes measurement that are SDOH dependent
- Enhancing care coordination
- Coordinating with community organizations
- Increasing available data for research and analytics to help address gaps in care and services
STANDARDS AND DATA
Coordinate standards development, working closely with SDOs to identify and address gaps and emergent needs.

POLICY
Adopt standards, implementation specifications, and certification criteria to support priority use cases.

INFRASTRUCTURE
Work with federal partners, states, and the health IT community to invest in interoperable systems.

IMPLEMENTATION
Provide technical assistance, regulatory oversight, and governing support for national health care initiatives leveraging health IT.

ONC Approach to Support Interoperability
# Draft USCDI Version 3

## Allergies and Intolerances
- Substance (Medication)
- Substance (Drug Class)
- Reaction

## Clinical Tests
- Clinical Test
- Clinical Test Result/Report

## Health Status
- Health Concerns
- Functional Status
- Disability Status
- Mental Function
- Pregnancy Status
- Smoking Status

## Assessment and Plan of Treatment
- Assessment and Plan of Treatment
- SDOH Assessment

## Diagnostic Imaging
- Diagnostic Imaging Test
- Diagnostic Imaging Report

## Encounter Information
- Encounter Type
- Encounter Diagnosis
- Encounter Time
- Encounter Location
- Encounter Disposition

## Immunizations
- Immunizations

## Care Team Member(s)
- Care Team Member Name
- Care Team Member Identifier
- Care Team Member Role
- Care Team Member Location
- Care Team Member Telecom

## Clinical Notes
- Consultation Note
- Discharge Summary Note
- History & Physical
- Procedure Note
- Progress Note

## Goals
- Patient Goals
- SDOH Goals

## Laboratory
- Test
- Values/Results
- Specimen Type
- Result Status

## Health Insurance Information
- Coverage Status
- Coverage Type
- Relationship to Subscriber
- Member Identifier
- Subscriber Identifier
- Group Number
- Payer Identifier

## Medications
- Medications

## Patient Demographics
- First Name
- Last Name
- Middle Name (Including middle initial)
- Suffix
- Previous Name
- Date of Birth
- Date of Death
- Race
- Ethnicity
- Tribal Affiliation
- Sex (Assigned at Birth)
- Sexual Orientation
- Gender Identity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person’s Name
- Related Person’s Relationship
- Occupation
- Occupation Industry

## Problems
- Problems
- SDOH Problems/Health Concerns
- Date of Diagnosis
- Date of Resolution

## Procedures
- Procedures
- SDOH Interventions
- Reason for Referral

## Provenance
- Author Organization
- Author Time Stamp

## Unique Device Identifier(s)
- Unique Device Identifier(s) for a Patient’s Implantable Device(s)

## Vital Signs
- Systolic blood pressure
- Diastolic blood pressure
- Heart Rate
- Respiratory rate
- Body temperature
- Body height
- Body weight
- Pulse oximetry
- Inhaled oxygen concentration
- BMI Percentile (2 - 20 years)
- Weight-for-length Percentile (Birth - 36 Months)
- Head Occipital-frontal Circumference Percentile (Birth - 36 Months)
# USCDI Data Elements:
Patient Demographics – REL

<table>
<thead>
<tr>
<th>DATA ELEMENT</th>
<th>APPLICABLE VOCABULARY STANDARD(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>Both standards are required:</td>
</tr>
<tr>
<td></td>
<td>• The Office of Management and Budget Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity, Statistical Policy Directive No. 15, as revised, October 30, 1997</td>
</tr>
<tr>
<td></td>
<td>• CDC Race and Ethnicity Code Set Version 1.0 (March 2000)</td>
</tr>
<tr>
<td></td>
<td>Adopted at 45 CFR 170.207(f)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Both standards are required:</td>
</tr>
<tr>
<td></td>
<td>• The Office of Management and Budget Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity, Statistical Policy Directive No. 15, as revised, October 30, 1997</td>
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<td></td>
<td>Adopted at 45 CFR 170.207(f)</td>
</tr>
<tr>
<td>Preferred Language</td>
<td>Request for Comment (RFC) 5646, “Tags for Identifying Languages, September 2009”</td>
</tr>
<tr>
<td></td>
<td>Adopted at 45 CFR 170.207(g)(2)</td>
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# USCDI v2 New Data Elements: Patient Demographics – SOGI

<table>
<thead>
<tr>
<th>DATA ELEMENT</th>
<th>APPLICABLE VOCABULARY STANDARD(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sexual Orientation</strong></td>
<td>Sexual orientation must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:</td>
</tr>
<tr>
<td></td>
<td>• Lesbian, gay or homosexual. 38628009</td>
</tr>
<tr>
<td></td>
<td>• Straight or heterosexual. 20430005</td>
</tr>
<tr>
<td></td>
<td>• Bisexual. 42035005</td>
</tr>
<tr>
<td></td>
<td>• Something else, please describe. nullFlavor OTH</td>
</tr>
<tr>
<td></td>
<td>• Don’t know. nullFlavor UNK</td>
</tr>
<tr>
<td></td>
<td>• Choose not to disclose. nullFlavor ASKU</td>
</tr>
<tr>
<td></td>
<td>Adopted at 45 CFR 170.207(o)(1)</td>
</tr>
<tr>
<td><strong>Gender Identity</strong></td>
<td>Gender Identify must be coded in accordance with SNOMED CT® and HL7 Version 3 Standard, Value Sets for AdministrativeGender and NullFlavor, attributed as follows:</td>
</tr>
<tr>
<td></td>
<td>• Male. 446151000124109</td>
</tr>
<tr>
<td></td>
<td>• Female. 446141000124107</td>
</tr>
<tr>
<td></td>
<td>• Female-to-Male (FTM)/Transgender Male/Trans Man. 407377005</td>
</tr>
<tr>
<td></td>
<td>• Male-to-Female (MTF)/Transgender Female/Trans Woman. 407376001</td>
</tr>
<tr>
<td></td>
<td>• Genderqueer, neither exclusively male nor female. 446131000124102</td>
</tr>
<tr>
<td></td>
<td>• Additional gender category or other, please specify. nullFlavor OTH</td>
</tr>
<tr>
<td></td>
<td>• Choose not to disclose. nullFlavor ASKU</td>
</tr>
<tr>
<td></td>
<td>Adopted at 45 CFR 170.207(o)(2)</td>
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</tbody>
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# USCDI v2 New Data Elements: Social Determinants of Health (SDOH)

<table>
<thead>
<tr>
<th>DATA CLASS</th>
<th>DATA ELEMENT</th>
<th>APPLICABLE VOCABULARY STANDARD(S)</th>
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</thead>
<tbody>
<tr>
<td>Assessment and Plan of Treatment</td>
<td>SDOH Assessment</td>
<td>SNOMED CT March 2021 LOINC 2.70</td>
</tr>
<tr>
<td></td>
<td>Structured evaluation of risk (e.g., PRAPARE, Hunger Vital Sign, AHC-HRSN screening tool) for any Social Determinants of Health domain such as food, housing, or transportation security. SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.</td>
<td></td>
</tr>
<tr>
<td>Goals</td>
<td>SDOH Goals</td>
<td>SNOMED CT March 2021 LOINC 2.70</td>
</tr>
<tr>
<td></td>
<td>Identifies a future desired condition or change in condition related to an SDOH risk in any domain and is established by the patient or provider. (e.g., Has adequate quality meals and snacks, Transportation security-able to access health and social needs). SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.</td>
<td></td>
</tr>
<tr>
<td>Procedures</td>
<td>SDOH Interventions</td>
<td>SNOMED-CT March 2021 CPT 2021 HCPCS</td>
</tr>
<tr>
<td></td>
<td>A service offered to a patient to address identified Social Determinants of Health concerns, problems, or diagnoses (e.g., Education about Meals on Wheels Program, Referral to transportation support programs). SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.</td>
<td></td>
</tr>
<tr>
<td>Problems</td>
<td>SDOH Problems/Health Concerns</td>
<td>SNOMED-CT March 2021 ICD-10-CM 2021</td>
</tr>
<tr>
<td></td>
<td>An identified Social Determinants of Health-related condition (e.g., Homelessness (finding), Lack of adequate food Z59.41, Transport too expensive (finding)). SDOH data relate to conditions in which people live, learn, work, and play and their effects on health risks and outcomes.</td>
<td></td>
</tr>
</tbody>
</table>
USCDI v3 Prioritization Criteria

• **USCDI v2 Prioritization Criteria to continue for v3**
  • Represent important data needs not included in USCDI v2
  • Require only modest standards or implementation guide developmental burden
  • Require only modest developmental burden on health IT modules
  • Create only modest implementation burden on providers and health systems
  • Result in only modest aggregate lift for all new data elements combined

• **New USCDI v3 Prioritization Criteria**
  • Further mitigate health and healthcare inequities and disparities
  • Address the needs of underserved stakeholders
  • Address public health reporting, investigation, and emergency response
What’s Next in Standards?

• **Draft USCDI v3** - Public comment period January 2022 through April 2022

• **Standards Version Advancement Process (SVAP)**
  • Allows developers to voluntarily update health IT modules to newer standards
  • ONC wants your feedback on standards to include.

• **USCDI+** supports the identification and establishment of domain or program-specific datasets that will operate as extensions to the existing USCDI
Using Health IT-enabled SDOH and Demographic Data

Ways to use health IT-enabled SDOH data to improve patient and population health in order to help eliminate disparities and improve health equity include:

- Identifying Social Risks, Needs, and Interventions
- Enabling clinical decision making, quality and outcomes measurement that are SDOH dependent
- Enhancing care coordination
- Coordinating with community organizations
- Increasing available data for research and analytics to help address gaps in care and services
Thank You

JaWanna Henry, MPH, MCHES

JawannaHenry@hhs.gov

Visit the ONC SDOH Webpage for more information!
The Patient Perspective on Cancer Data Standards

Jamil Rivers
Founder/CEO
Breast cancer patient advocate/researcher/equity consultant
The Chrysalis Initiative
Disrupting Disparities in Breast Cancer

• The Chrysalis Initiative (TCI) counteracts breast cancer disparities and breast health inequities through:

• Patient activation/coaching/navigation/counseling/education

• Provider assessment/audit/consultation

• Barrier intervention to reduce the impact of disparities in breast cancer outcomes

• Evidence-based strategies to reshape individual and institutional knowledge, attitudes, and behaviors that impact health outcomes for women of color with breast cancer
What Would Standardized Patient Cancer Data Do for Us? Accelerate the End to Care Disparities

• To assess inequities, The Chrysalis Initiative, other advocacy and oversight groups, as well as health systems themselves must extract data from facility EHR systems and other medical records and sources.

• Data normalized by CodeX/mCODE would grant clarity, accuracy, and efficiency to:
  • Identifying gaps in care consistently, individually, and across patient populations
  • Demonstrating findings quantitatively to remediate racial differences in care
  • Pairing and integrating data from mobile patient interfaces such as TCI’s new BCNavi app, developed in partnership with InTouch
  • Proposing data fields that could enrich CodeX data standards
How mCODE Could Help Diverse Patients

✔ Empowers patients to track vital information in real time

✔ Enables patients to share the critical information with providers, coaches and other members of their care teams needed to improve care and outcomes

✔ Enables patients and their care teams to more easily find clinical trials that are appropriate and accessible

✔ Provides the data needed to improve lagging care quality in radiation treatment

✔ Supplies the evidence base for innovative interventions to disrupt disparities
Conclusion
On February 28 and March 1, 2022, the National Academies will host a free virtual and in-person workshop on the use of electronic health records in oncology care.

Link [here](#) for more info and to register.
For More Information

• CodeX: CodeX Home - CodeX - Confluence (hl7.org)

• CodeX Community of Practice:
  https://confluence.hl7.org/display/COD/mCODE+Community+of+Practice

• CodeX White Paper: Advancing Health Equity in Cancer Care, Research and Surveillance Using mCODE™ to Standardize Electronic Health Record Data: CodeX White Papers and Reports - CodeX - Confluence (hl7.org)

• CodeX Use Case: Integrated Trial Matching for Cancer Patients and Providers:
  Integrated Trial Matching for Cancer Patients and Providers - CodeX - Confluence (hl7.org)

• CodeX Use Case: Radiation Therapy Treatment Data for Cancer:
  Radiation Therapy Treatment Data for Cancer - CodeX - Confluence (hl7.org)

• United States Core Data for Interoperability:
  United States Core Data for Interoperability (USCDI) | Interoperability Standards Advisory (ISA) (healthit.gov)

• Social Determinants of Health (SDOH): Social Determinants of Health | HealthIT.gov

• The Chrysalis Initiative: Home - The Chrysalis Initiative
Speaker Biographies

• **Shaalan Beg, MD** is Director for Gastrointestinal (GI) Medical Oncology at UT Southwestern. He oversees clinical research operations at the Simmons Comprehensive Cancer Center and is interested in applying informatics tools to enhance diversity and representation in cancer clinical trials.

• **Su Chen, MD** is Clinical Director of the HL7 CodeX FHIR Accelerator and a Clinical Digital Health Principal at MITRE.

• **JaWanna Henry, MPH** serves as the SDOH lead for ONC, leading several data integration initiatives that focus on the development and advancement of standards to support the exchange and use of data.

• **Chuck Mayo, PhD** is Director of Radiation Oncology Informatics and Analytics at the University of Michigan Medical School.

• **Jamil Rivers** is the Founder and CEO of The Chrysalis Initiative. She is a metastatic breast cancer survivor, who has launched a highly successful nonprofit collaborative offering breast cancer centers a combined program of patient navigation and equity assessment / intervention, in partnership with leading U.S. cancer centers.

• **Reed Tuckson, MD, FACP** is Managing Director at Tuckson Health Connections LLC. He also worked at UnitedHealth Group as the Executive Vice President and Chief of Medical Affairs.
Thank You