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NIDA CTN ELECTRONIC MEDICAL RECORDS PROJECT: IMPLICATION OF ADOPTING STANDARDIZED CORE DATA ELEMENTS IN HEALTH IT SYSTEMS OF DRUG-ABUSE TREATMENT PROVIDERS.

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Aims: There is an urgent need within the substance-use-disorders (SUD) treatment field to develop and implement consensus-based common core data elements (CDEs) with standardized vocabularies relevant to drug addiction treatment that could be incorporated and widely adopted into harmonized electronic medical record systems (EMRs). This will benefit patients by improving the quality of care and will assist in integration of specialty addiction treatment into disciplines of mainstream medicine.
Methods: To achieve these aims, the NIDA Clinical Trials Network (CTN) has collected and collated dozens of treatment-form-related information and standardized instruments to develop a treatment-relevant set of CDEs. We refined these CDEs following a consensus-based meeting of federal, state, and community-based treatment stakeholders and providers. The framework for this process will be explained with a collaborative "Mind Map" for developing and implementing core questions as CDEs for EMRs on SUD in primary care and SUD specialty treatment settings. Key branches of the map include: 1) involving stakeholders in development of consensus-based CDEs, 2) choosing brief screening questions and instruments, 3) collaboratively developing a data collection hierarchy and core questions as CDEs, and 4) considering interoperability requirements for "Certified EHR Technology" and CMS requirements for "Meaningful Use".
Conclusions: Current progress will be provided in developing EMR core questions as CDEs for use in primary care and SUD specialty treatment settings. Implications of this project for the future of drug addiction treatment will be discussed. NIDA is especially interested in input from CPDD members on data collection hierarchy and core data elements, and on the overall strategy in regards to other sources of input, other stakeholders who should be consulted, and other "next steps" as we move forward.
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Implication of Adopting Standardized Common Data Elements in Health IT Systems of Drug-Abuse Treatment Providers

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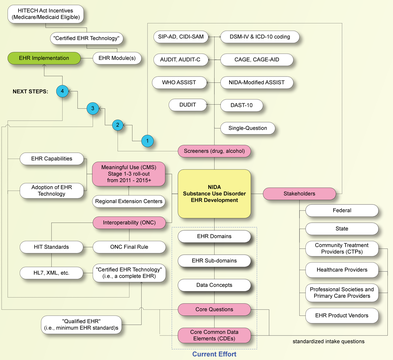
National Drug Abuse Treatment Clinical Trials Network

Aims of NIDA's Electronic Health Record (EHR) Initiative

- Develop consensus-based common data elements of substance use disorder (SUD) treatment for incorporation into electronic health record systems
- Develop a plan to use EHR with screening, brief intervention and referral to treatment in primary care setting
- Meet "Meaningful Use" criteria
- Collaborate with other Federal agencies to implement the plan

See schematic of ongoing/planned activities in the following "Mind Map"

Mind Map to EHR Development



Overview of "Meaningful Use"

- Originated in ARRA 2009/Title XIII - HITECH Act*
- "Meaningful Use" means to show "Certified EHR Technology" is being used in meaningful ways
- CMS Medicare/Medicaid pays incentives to eligible providers – phase in 2011-2015
- **Why is this important?** Adoption of common data elements for Meaningful Use will promote wide acceptance and lead to more efficient care and expanded access to affordable care

**American Recovery and Reinvestment Act - Health Information Technology for Economic and Clinical Health Act*

Rationale to Include Substance Use Measures in "Meaningful Use"

- 1983-2004: 32-fold increase in fatal medication errors at home related to alcohol and/or street drugs (Phillips DP et al. Arch Intern Med 2008;168(14):1561-1566)
- 1991-2009: 3-fold increase in opioid analgesic Rxs
- 2005-2009: 2-fold increase in ER visits due to non-medical use of Rx opioids
  - Rx opioid overdose now second leading cause of unintentional death in U.S. (CDC says: "national epidemic")
  - 2009: 5.25 million people in U.S. reported non-medical use of Rx painkillers

SUD-Treatment Perspective of "Meaningful Use"

- EHR will better serve the goals of a Prescription Drug Monitoring Program (PDMP)* by reducing opioid overdose, the Rx error rate and drug-drug interactions *(T. McLellan, personal communication)*
  1. Dept. of Justice – $7 million to help with state PDMPs
  2. DHHS grant program – "National All Schedules Prescription Electronic Reporting Act – 2005 (NASPER) – $2 million in 13 states
- EHR will facilitate better treatment of co-occurring medical and psychiatric conditions by
  - improving medication adherence
  - identifying unsafe and/or unidentified drug-drug interactions
  - identifying high-risk practices

Stakeholders Consulted

- Federal Government:
  - NIDA CTN (62 CTPs including hospital-based), ONC, CMS, HRSA, SAMHSA, FQHCs, CDC, AHRQ, IHS, NLM, ONDCP
- State Government:
  - NASADAD
- Professional Societies/Primary Care Providers:
  - AAAP, ASAM, SBM, Boston Medical Center
- SUD Treatment Providers:
  - Kaiser Permanente, Phoenix House, Harvard Medical, Signal Behavioral Health, U.S. Department of Veterans Affairs (VA), Community Health Services (Alaska)

Overview of EHR Review Process

Obtain CTP* Intake (June 2010):

Create Draft SUD Domains, Sub-domains and Questions (112)

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CTN Special Interest Group Input

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Modify and Streamline Questions

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Distribute for Review and Feedback

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Input from EMR Workshop - Sept. 24, 2010

**Community Treatment Provider*

Overview of EHR Review Process

EMR Workshop (Sept. 24, 2010):

Review Draft SUD Domains, Sub-domains and Questions (~ 40)

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PCPs* → Obtain Stakeholder Input and Consensus

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Create Draft Consensus Document for Primary Care

↓ ↑

Distribute for Review and Feedback

↓

Create Draft Domain Analysis Model/CDEs**

**Primary Care Physicians*
***Common Data Elements*

Principles that Evolved from Stakeholder Meetings and Consultations

- **Consensus:** input and agreement from stakeholders
- **Validity:** validated and/or standardized questions and instruments
- **Brevity:** single-question screeners and brief screener and assessment tools
- **Flexibility:**
  - More substance use identified, more questions asked
  - Questions asked according to primary care capabilities
- **Standards:** implement as interoperable CDEs
- **Choice:** developers and vendors choose any or all core questions to incorporate into their products, but select core elements from the SUD core data set

Expert Stakeholder Key Recommendations

- Combine screening of tobacco, alcohol and illicit substance use in primary care
- Minimize number of screening and core questions for the primary care setting
- Use brief validated screening questions above all other considerations
- Develop longitudinal questions with a standardized timeframe (for example, 3 months)
- Use standardized questions or instruments for additional assessments
- Incorporate clinical decision support guidelines and evidence-based brief interventions
- Consider ASAM dimensions and The Joint Commission (TJC) standards

EHR Development

NIDA's Proposed SUD EHR

Small Core Set of Questions for Primary Care Setting *(current work)*

Enlarged Core Set of Questions for SUD Treatment Setting *(future work)*

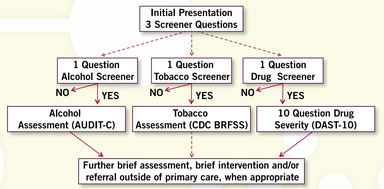
Considerations for Primary Care Setting

- Provide a framework to address substance use in Primary Care
- Create a short standard set of core questions
- Create decision points allowing for a variety of use:
  - Simple screen and refer
  - Simple screen, assessment and refer
  - Simple screen, assessment and treat and/or refer
- Using an assessment tool (e.g., DAST-10) to define low, medium and high risk, what is the appropriate clinical decision making choices for the identified risk?

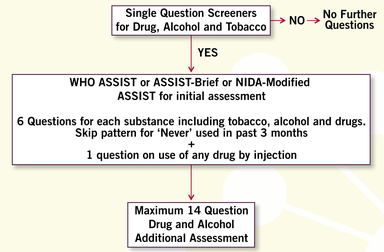
Developing EHR for Primary Care Settings

- Moving towards validated questions and/or instruments for brief screen and initial assessment
- Single question drug screen
  - "How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?" Reference: Smith PC, Schmidt SM, Allensworth-Davies D, and Saitz R. A single-question screening test for drug use in primary care. Archives of Internal Medicine 2010; 170(13): 1155-1160
- DAST-10
  a) Have you used drugs other than those required for medical reasons?
  b) Do you abuse more than one drug at a time?
  c) Are you always able to stop using drugs when you want to?
  d) Have you had "blackouts" or "flashbacks" as a result of drug use?
  e) Do you every feel bad or guilty about your drug use?
  f) Does your spouse (or parents) ever complain about your involvement with drugs?
  g) Have you neglected your family because of your use of drugs?
  h) Have you engaged in illegal activities in order to obtain drugs?
  i) Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?
  j) Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?

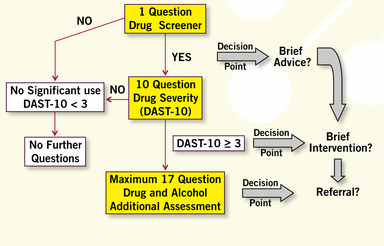
Preferred Option



Secondary Option



Screening/Assessment and Decision Points



Approach to CDEs

CDE = unambiguous data point/variable
- The Question
- The Answers
- The Metadata

CDEs created in a Data Standards Repository (NCI's caDSR repository - ISO/IEC 11179 Standard)

CDEs support:
- Interoperability (e.g., HL7, CDISC)
- Data aggregation (e.g., multiple EMRs → EHR)
- Public use and reuse (e.g., EMRs, data collection forms in research, etc.)

Domains/Sub-domains Chosen for SUD Assessment in Primary Care (highlighted)

Domain	Sub-Domain	No. of Questions
Addiction History & Status	Substance Used	2
	Frequency & Route	2
	Addiction Severity	-
Addiction Treatment History & Status	Addiction Treatment Hx	2
	Recovery Goal or Vision	1
	Current Treatment Status	-
	Current Treatment Plan	2
Family and Social Support	Family, Marital and Interpersonal Relationships	2
	Housing/Homeless Status	2
	Social Support (Community, Cultural, Spiritual)	-
	Leisure & Recreation Status	-
Legal/Criminal Justice Status	Legal/Criminal Justice History	1
	Child Protective Services Status	-
Mental Health	Mental Psychiatric & Behavior Services Hx/Status	3

Summary and Future Activities

- NIDA will continue to meet with Stakeholders to reach a consensus on core CDEs to include in a national SUD EHR
- **Future plans are to:**
  - Develop CDEs from the consensus data elements
  - Expand CDEs for primary care to the specialty treatment setting
  - Support inclusion of SUD data elements in Meaningful Use Stages II and III
- In parallel, reach consensus on clinical decision support (CDS) algorithms and evidence-based Screening, Brief Intervention, Referral and Treatment (SBIRT) for primary care
- Conduct pilot testing in clinically relevant settings

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