



FHIR for Public Health

Presented By

Grahame Grieve


Health Intersections of Melbourne, Australia
and


Paula Braun


CDC's National Center for Health Statistics

Joint Public Health Forum & CDC Nationwide

<http://www.cdc.gov/ehrmeaningfuluse/joint-public-health-forum--cdc-nationwide.html>

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People™

SEARCH 

CDC A-Z INDEX 

Meaningful Use

Meaningful Use

Introduction

Calendar

Joint PH Forum & CDC Nationwide

Connect with Others

External Links


Frequently Asked Questions

Public Health Options


Resources




Spotlight Archive

Training

Get Email Updates

To receive email updates about this page, enter your email address:




What's this? 



Meaningful Use

CDC > Meaningful Use

Joint Public Health Forum & CDC Nationwide Webinars



The purpose of these monthly webinars is to foster collaboration among public health jurisdictions and members of ONC's Public Health CoP about the public health response to the widespread adoption of electronic health records (EHRs) for meaningful use.

Eligible healthcare providers and hospitals are purchasing and implementing the necessary certified EHR technology and are working with public health agencies and registries to report data in a standardized way in order to satisfy the meaningful use requirements and receive the Medicare and Medicaid Electronic EHR Incentive Program incentive payments.

Objectives:

- Identify common questions and concerns around meaningful use
- Provide updates on federal partner activities in preparing for meaningful use
- Allow public health jurisdictions to share useful practices and current progress
- Identify technical assistance needs and priorities

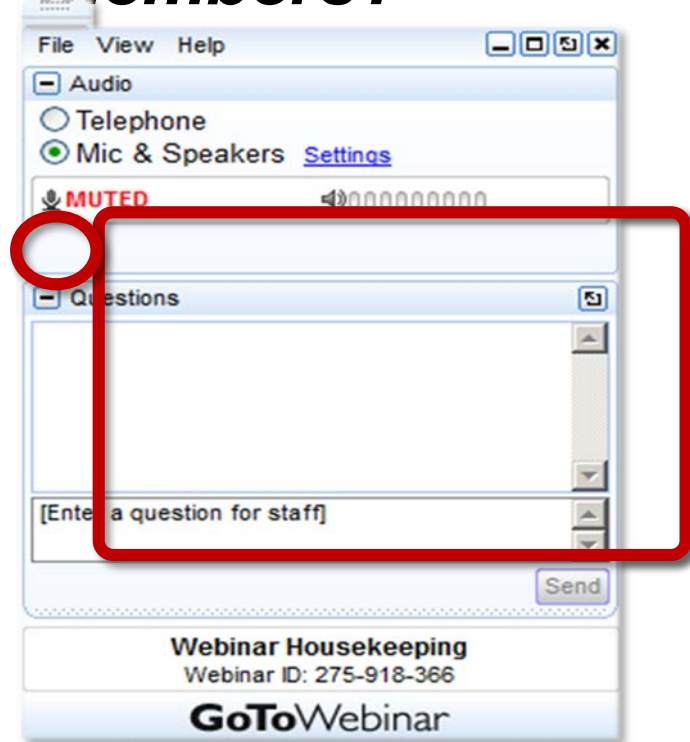
These monthly webinars are scheduled for the third Thursday of each month from 3-4 pm Eastern Time / 2-3 pm Central Time / 1-2 pm Mountain Time / 12-1 pm Pacific Time.

Please send in your feedback, questions, and/or suggestions for these Joint Public Health Forum & CDC Nationwide Webinars to the [Meaningful Use Mailbox](#).

We look forward to your participation on these important webinars.

For current information on the Joint Public Health Forum & CDC Nationwide Webinars please visit the [phConnect](#) site at

How to submit or ask questions for the panel members?



Submit or Ask Questions

- Submit your text question and comments using the Question Panel
- Please raise your hand to be unmuted for verbal questions.



FHIR for Public Health

Grahame Grieve, Paula Braun. Sept 15th 2016

What is FHIR?

- Standard for Healthcare Data Exchange
 - A base on which to build clinical interoperability



Clinical Interoperability

- IEEE Definition: "the ability of two or more systems or components to exchange information and to use the information that has been exchanged"
- My Definition: "the ability of two or more clinical teams to exchange patients and provide seamless care"

What is FHIR?

- Standard for Healthcare Data Exchange
 - A base on which to build clinical interoperability
- Developed and published by HL7 under an open source licence
- Rapidly becoming the standard of choice for all integration projects
 - And we're not even done yet!

The FHIR acronym

- F – Fast (to design & to implement)
 - H – Health
 - I – Interoperable
 - R – Resources
-
- FHIR is a technical specification
 - FHIR is a community of implementers, a culture

FHIR – Web API for healthcare

- Uses Web Technologies
 - JSON / HTTP
 - Resources / RESTful API
 - URIs / linked data / semantic web
 - Aligns with other web standards
- Web community
 - Social Media, Open License
- Health Community
 - Connected with existing HL7 content and processes
 - Supports more than just RESTful API

```

<Patient xmlns="http://hl7.org/fhir">
  <id value="glossy"/>
  <meta>
    <lastUpdated value="2014-11-13T11:41:00+11:00"/>
  </meta>
  <text>
    <status value="generated"/>
    <div xmlns="http://www.w3.org/1999/xhtml">
      <p>Henry Levin the 7th</p>
      <p>MRN: 123456. Male, 24-Sept 1932</p>
    </div>
  </text>
  <extension url="http://example.org/consent#trials">
    <valueCode value="renal"/>
  </extension>
  <identifier>
    <use value="usual"/>
    <type>
      <coding>
        <system value="http://hl7.org/fhir/v2/0203"/>
        <code value="MRN"/>
      </coding>
    </type>
    <system value="http://www.goodhealth.org/identifiers/mrn"/>
    <value value="123456"/>
  </identifier>
  <name>
    <family value="Levin"/>
    <given value="Henry"/>
    <suffix value="The 7th"/>
  </name>
  <gender value="male"/>
  <birthDate value="1932-09-24"/>
  <careProvider>
    <reference value="Organization/2"/>
    <display value="Good Health Clinic"/>
  </careProvider>
  <active value="true"/>
</Patient>

```

Resource
Identity &
Metadata

Human
Readable
Summary

Extension with
reference to its
definition

Standard Data
Content:

- MRN
- Name
- Gender
- Date of Birth
- Provider

Why did we do FHIR?

- Healthcare has many broken processes
 - in spite of high commitment by all parties
- Transformation needs to come to healthcare
 - as it has (or is) in other industries
- Transformation has many blockers, but one key pre-requirement is digital exchange standards that can create network effects

Network Effect Requirements

- Based on Web API technology
- Open license
- Simple definitions
- Pragmatic, not based on dogma
- Cheap to implement
- Strong community supporting adoption
- Lots of open source tools to leverage API

FHIR & Cost of Integration

- FHIR is Easier & Faster (stand on the shoulder of giants)
 - Re-uses technology & Community (Facebook, Google, Twitter etc)
 - Skills & Libraries are easily available, Content is free
 - Community is highly active and open
 - RESTful API is robust
 - Solid open source implementation tooling
- These factors will drive down the cost of integration and interoperability
 - Easier to Develop / Troubleshoot / Leverage in production
 - More people to do the work

FHIR & Market Consequences

- FHIR is a cheaper way to get things done - preferable
- Competing approaches will have to match the cost, or disappear
- FHIR is a brand new approach
 - Is it really worth doing something brand new?
 - Initial response from community members is always negative
 - Drive to adopt FHIR comes from outsiders
 - Classic change process problem

Adoption

- FHIR is a draft standard
- A '**beta**' standard, subject to ongoing change
- In spite of this, it is being adopted quickly
 - Government projects + large consortiums (Argonaut, S4S, HSPC)
 - European national projects & Health Records
 - National Terminology Service
 - Many vendor and open source projects
 - *In-production systems for 3+ years*
- There is still v2 and CDA work
 - But moving towards the tail end of the standards process

Implementation Stack Using FHIR

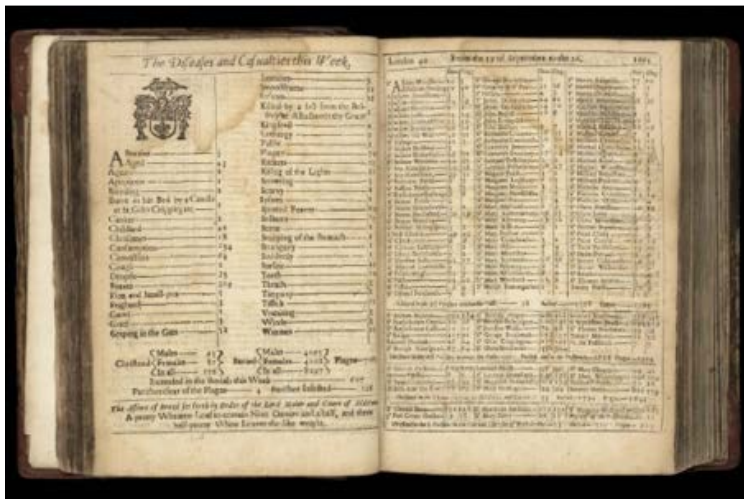
- FHIR - a platform for interoperability (general use, very optional)
- DAF - A common way to find/access the data
- Argonaut - Common access to EHR data for patient/clinical portals
- S4S - working profile on argonaut for research synchronization

- HSPC / CIMI / lots of other work : make data itself consistent

SMART-On-FHIR Applications

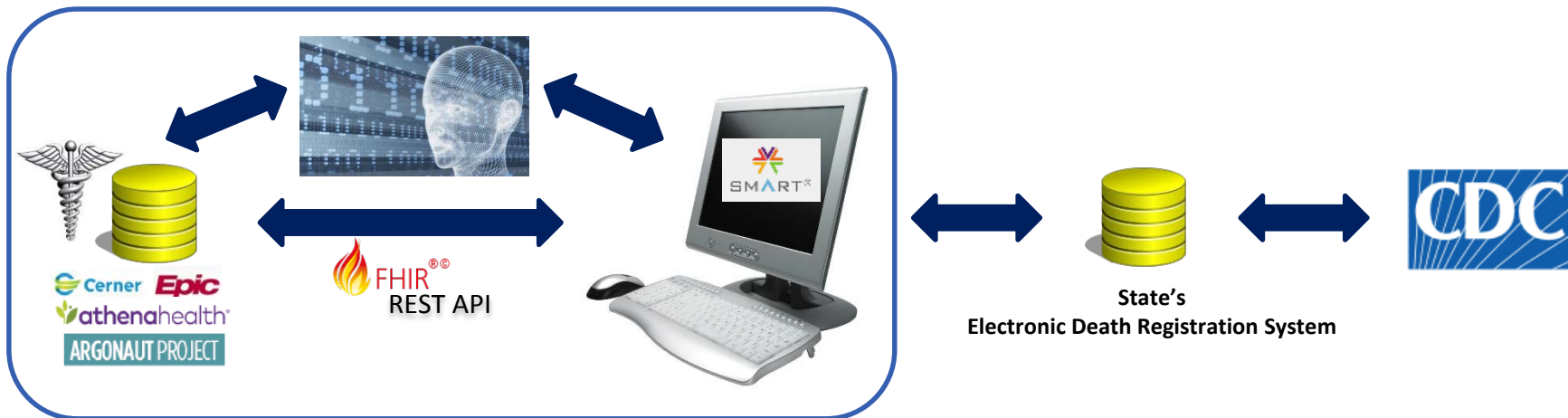


Death Reporting on FHIR



Powerful & Flexible Tool to Help Physicians Determine Chain of Events that Led to Death

- + **Integrate Into Physicians' Workflow**: **Certify Deaths** in the EHR & **Send Electronically** to State
- + **Save Time**: Provide **Medical History** & **Pre-Populate** Demographic/Basic Health Information
- + **Improve Accuracy**: Use **Advanced Computing** to Help Determine **Cause-of-Death Sequence**
- + **Advance Medical Research & Improve Care**: **Send Coded Data** Back to EHR



Patient Info

Funeral Home Contacts

Manner of Death

Demographic Data

PERSONAL DATA		DATE OF BIRTH		DATE OF DEATH	
1. NAME (LAST, FIRST, MIDDLE)	2. DATE OF BIRTH	3. DATE OF DEATH	4. PLACE OF BIRTH	5. PLACE OF DEATH	6. PLACE OF INTERVIEW
7. SEX	8. RACE	9. RELIGION	10. OCCUPATION	11. EDUCATION	12. MARITAL STATUS
13. ADDRESS	14. CITY	15. STATE	16. COUNTRY	17. ZIP CODE	18. PHONE NUMBER
19. SOCIAL SECURITY NUMBER	20. PASSPORT NUMBER	21. VISA NUMBER	22. ENTRY DATE	23. EXPIRATION DATE	24. ISSUING AGENCY
25. EMPLOYER	26. EMPLOYMENT DATE	27. EMPLOYMENT TYPE	28. EMPLOYMENT STATUS	29. EMPLOYMENT ADDRESS	30. EMPLOYMENT PHONE
31. EMPLOYMENT HISTORY	32. EMPLOYMENT RECORD	33. EMPLOYMENT RECORD	34. EMPLOYMENT RECORD	35. EMPLOYMENT RECORD	36. EMPLOYMENT RECORD
37. EMPLOYMENT RECORD	38. EMPLOYMENT RECORD	39. EMPLOYMENT RECORD	40. EMPLOYMENT RECORD	41. EMPLOYMENT RECORD	42. EMPLOYMENT RECORD
43. EMPLOYMENT RECORD	44. EMPLOYMENT RECORD	45. EMPLOYMENT RECORD	46. EMPLOYMENT RECORD	47. EMPLOYMENT RECORD	48. EMPLOYMENT RECORD
49. EMPLOYMENT RECORD	50. EMPLOYMENT RECORD	51. EMPLOYMENT RECORD	52. EMPLOYMENT RECORD	53. EMPLOYMENT RECORD	54. EMPLOYMENT RECORD
55. EMPLOYMENT RECORD	56. EMPLOYMENT RECORD	57. EMPLOYMENT RECORD	58. EMPLOYMENT RECORD	59. EMPLOYMENT RECORD	60. EMPLOYMENT RECORD
61. EMPLOYMENT RECORD	62. EMPLOYMENT RECORD	63. EMPLOYMENT RECORD	64. EMPLOYMENT RECORD	65. EMPLOYMENT RECORD	66. EMPLOYMENT RECORD
67. EMPLOYMENT RECORD	68. EMPLOYMENT RECORD	69. EMPLOYMENT RECORD	70. EMPLOYMENT RECORD	71. EMPLOYMENT RECORD	72. EMPLOYMENT RECORD
73. EMPLOYMENT RECORD	74. EMPLOYMENT RECORD	75. EMPLOYMENT RECORD	76. EMPLOYMENT RECORD	77. EMPLOYMENT RECORD	78. EMPLOYMENT RECORD
79. EMPLOYMENT RECORD	80. EMPLOYMENT RECORD	81. EMPLOYMENT RECORD	82. EMPLOYMENT RECORD	83. EMPLOYMENT RECORD	84. EMPLOYMENT RECORD
85. EMPLOYMENT RECORD	86. EMPLOYMENT RECORD	87. EMPLOYMENT RECORD	88. EMPLOYMENT RECORD	89. EMPLOYMENT RECORD	90. EMPLOYMENT RECORD
91. EMPLOYMENT RECORD	92. EMPLOYMENT RECORD	93. EMPLOYMENT RECORD	94. EMPLOYMENT RECORD	95. EMPLOYMENT RECORD	96. EMPLOYMENT RECORD
97. EMPLOYMENT RECORD	98. EMPLOYMENT RECORD	99. EMPLOYMENT RECORD	100. EMPLOYMENT RECORD	101. EMPLOYMENT RECORD	102. EMPLOYMENT RECORD
103. EMPLOYMENT RECORD	104. EMPLOYMENT RECORD	105. EMPLOYMENT RECORD	106. EMPLOYMENT RECORD	107. EMPLOYMENT RECORD	108. EMPLOYMENT RECORD
109. EMPLOYMENT RECORD	110. EMPLOYMENT RECORD	111. EMPLOYMENT RECORD	112. EMPLOYMENT RECORD	113. EMPLOYMENT RECORD	114. EMPLOYMENT RECORD
115. EMPLOYMENT RECORD	116. EMPLOYMENT RECORD	117. EMPLOYMENT RECORD	118. EMPLOYMENT RECORD	119. EMPLOYMENT RECORD	120. EMPLOYMENT RECORD
121. EMPLOYMENT RECORD	122. EMPLOYMENT RECORD	123. EMPLOYMENT RECORD	124. EMPLOYMENT RECORD	125. EMPLOYMENT RECORD	126. EMPLOYMENT RECORD
127. EMPLOYMENT RECORD	128. EMPLOYMENT RECORD	129. EMPLOYMENT RECORD	130. EMPLOYMENT RECORD	131. EMPLOYMENT RECORD	132. EMPLOYMENT RECORD
133. EMPLOYMENT RECORD	134. EMPLOYMENT RECORD	135. EMPLOYMENT RECORD	136. EMPLOYMENT RECORD	137. EMPLOYMENT RECORD	138. EMPLOYMENT RECORD
139. EMPLOYMENT RECORD	140. EMPLOYMENT RECORD	141. EMPLOYMENT RECORD	142. EMPLOYMENT RECORD	143. EMPLOYMENT RECORD	144. EMPLOYMENT RECORD
145. EMPLOYMENT RECORD	146. EMPLOYMENT RECORD	147. EMPLOYMENT RECORD	148. EMPLOYMENT RECORD	149. EMPLOYMENT RECORD	150. EMPLOYMENT RECORD
151. EMPLOYMENT RECORD	152. EMPLOYMENT RECORD	153. EMPLOYMENT RECORD	154. EMPLOYMENT RECORD	155. EMPLOYMENT RECORD	156. EMPLOYMENT RECORD
157. EMPLOYMENT RECORD	158. EMPLOYMENT RECORD	159. EMPLOYMENT RECORD	160. EMPLOYMENT RECORD	161. EMPLOYMENT RECORD	162. EMPLOYMENT RECORD
163. EMPLOYMENT RECORD	164. EMPLOYMENT RECORD	165. EMPLOYMENT RECORD	166. EMPLOYMENT RECORD	167. EMPLOYMENT RECORD	168. EMPLOYMENT RECORD
169. EMPLOYMENT RECORD	170. EMPLOYMENT RECORD	171. EMPLOYMENT RECORD	172. EMPLOYMENT RECORD	173. EMPLOYMENT RECORD	174. EMPLOYMENT RECORD
175. EMPLOYMENT RECORD	176. EMPLOYMENT RECORD	177. EMPLOYMENT RECORD	178. EMPLOYMENT RECORD	179. EMPLOYMENT RECORD	180. EMPLOYMENT RECORD
181. EMPLOYMENT RECORD	182. EMPLOYMENT RECORD	183. EMPLOYMENT RECORD	184. EMPLOYMENT RECORD	185. EMPLOYMENT RECORD	186. EMPLOYMENT RECORD
187. EMPLOYMENT RECORD	188. EMPLOYMENT RECORD	189. EMPLOYMENT RECORD	190. EMPLOYMENT RECORD	191. EMPLOYMENT RECORD	192. EMPLOYMENT RECORD
193. EMPLOYMENT RECORD	194. EMPLOYMENT RECORD	195. EMPLOYMENT RECORD	196. EMPLOYMENT RECORD	197. EMPLOYMENT RECORD	198. EMPLOYMENT RECORD
199. EMPLOYMENT RECORD	200. EMPLOYMENT RECORD	201. EMPLOYMENT RECORD	202. EMPLOYMENT RECORD	203. EMPLOYMENT RECORD	204. EMPLOYMENT RECORD
205. EMPLOYMENT RECORD	206. EMPLOYMENT RECORD	207. EMPLOYMENT RECORD	208. EMPLOYMENT RECORD	209. EMPLOYMENT RECORD	210. EMPLOYMENT RECORD
211. EMPLOYMENT RECORD	212. EMPLOYMENT RECORD	213. EMPLOYMENT RECORD	214. EMPLOYMENT RECORD	215. EMPLOYMENT RECORD	216. EMPLOYMENT RECORD
217. EMPLOYMENT RECORD	218. EMPLOYMENT RECORD	219. EMPLOYMENT RECORD	220. EMPLOYMENT RECORD	221. EMPLOYMENT RECORD	222. EMPLOYMENT RECORD
223. EMPLOYMENT RECORD	224. EMPLOYMENT RECORD	225. EMPLOYMENT RECORD	226. EMPLOYMENT RECORD	227. EMPLOYMENT RECORD	228. EMPLOYMENT RECORD
229. EMPLOYMENT RECORD	230. EMPLOYMENT RECORD	231. EMPLOYMENT RECORD	232. EMPLOYMENT RECORD	233. EMPLOYMENT RECORD	234. EMPLOYMENT RECORD
235. EMPLOYMENT RECORD	236. EMPLOYMENT RECORD	237. EMPLOYMENT RECORD	238. EMPLOYMENT RECORD	239. EMPLOYMENT RECORD	240. EMPLOYMENT RECORD
241. EMPLOYMENT RECORD	242. EMPLOYMENT RECORD	243. EMPLOYMENT RECORD	244. EMPLOYMENT RECORD	245. EMPLOYMENT RECORD	246. EMPLOYMENT RECORD
247. EMPLOYMENT RECORD	248. EMPLOYMENT RECORD	249. EMPLOYMENT RECORD	250. EMPLOYMENT RECORD	251. EMPLOYMENT RECORD	252. EMPLOYMENT RECORD
253. EMPLOYMENT RECORD	254. EMPLOYMENT RECORD	255. EMPLOYMENT RECORD	256. EMPLOYMENT RECORD	257. EMPLOYMENT RECORD	258. EMPLOYMENT RECORD
259. EMPLOYMENT RECORD	260. EMPLOYMENT RECORD	261. EMPLOYMENT RECORD	262. EMPLOYMENT RECORD	263. EMPLOYMENT RECORD	264. EMPLOYMENT RECORD
265. EMPLOYMENT RECORD	266. EMPLOYMENT RECORD	267. EMPLOYMENT RECORD	268. EMPLOYMENT RECORD	269. EMPLOYMENT RECORD	270. EMPLOYMENT RECORD
271. EMPLOYMENT RECORD	272. EMPLOYMENT RECORD	273. EMPLOYMENT RECORD			

Circumstances of Death

Pronouncing Clinician

Causes of Death

Certifying Medical Professional

U.S. STANDARD CERTIFICATE OF DEATH

1. DECEASED PERSON'S NAME (Last, first, middle initial)
 2. SEX
 3. DATE OF BIRTH (Month, day, year)
 4. PLACE OF BIRTH (State, city, town, village, or post office)
 5. MARITAL STATUS (Married, Single, Widowed, Divorced)
 6. OCCUPATION (Type of work)
 7. US BIRTHPLACE (State, city, town, village, or post office)
 8. US BIRTH DATE (Month, day, year)
 9. US BIRTH PLACE (State, city, town, village, or post office)
 10. US BIRTH DATE (Month, day, year)
 11. US BIRTH PLACE (State, city, town, village, or post office)
 12. US BIRTH DATE (Month, day, year)
 13. US BIRTH PLACE (State, city, town, village, or post office)
 14. US BIRTH DATE (Month, day, year)
 15. US BIRTH PLACE (State, city, town, village, or post office)
 16. US BIRTH DATE (Month, day, year)
 17. US BIRTH PLACE (State, city, town, village, or post office)
 18. US BIRTH DATE (Month, day, year)
 19. US BIRTH PLACE (State, city, town, village, or post office)
 20. US BIRTH DATE (Month, day, year)
 21. US BIRTH PLACE (State, city, town, village, or post office)
 22. US BIRTH DATE (Month, day, year)
 23. US BIRTH PLACE (State, city, town, village, or post office)
 24. US BIRTH DATE (Month, day, year)
 25. US BIRTH PLACE (State, city, town, village, or post office)
 26. US BIRTH DATE (Month, day, year)
 27. US BIRTH PLACE (State, city, town, village, or post office)
 28. US BIRTH DATE (Month, day, year)
 29. US BIRTH PLACE (State, city, town, village, or post office)
 30. US BIRTH DATE (Month, day, year)
 31. US BIRTH PLACE (State, city, town, village, or post office)
 32. US BIRTH DATE (Month, day, year)
 33. US BIRTH PLACE (State, city, town, village, or post office)
 34. US BIRTH DATE (Month, day, year)
 35. US BIRTH PLACE (State, city, town, village, or post office)
 36. US BIRTH DATE (Month, day, year)
 37. US BIRTH PLACE (State, city, town, village, or post office)
 38. US BIRTH DATE (Month, day, year)
 39. US BIRTH PLACE (State, city, town, village, or post office)
 40. US BIRTH DATE (Month, day, year)
 41. US BIRTH PLACE (State, city, town, village, or post office)
 42. US BIRTH DATE (Month, day, year)
 43. US BIRTH PLACE (State, city, town, village, or post office)
 44. US BIRTH DATE (Month, day, year)
 45. US BIRTH PLACE (State, city, town, village, or post office)
 46. US BIRTH DATE (Month, day, year)
 47. US BIRTH PLACE (State, city, town, village, or post office)
 48. US BIRTH DATE (Month, day, year)
 49. US BIRTH PLACE (State, city, town, village, or post office)
 50. US BIRTH DATE (Month, day, year)
 51. US BIRTH PLACE (State, city, town, village, or post office)
 52. US BIRTH DATE (Month, day, year)
 53. US BIRTH PLACE (State, city, town, village, or post office)
 54. US BIRTH DATE (Month, day, year)
 55. US BIRTH PLACE (State, city, town, village, or post office)
 56. US BIRTH DATE (Month, day, year)
 57. US BIRTH PLACE (State, city, town, village, or post office)
 58. US BIRTH DATE (Month, day, year)
 59. US BIRTH PLACE (State, city, town, village, or post office)
 60. US BIRTH DATE (Month, day, year)
 61. US BIRTH PLACE (State, city, town, village, or post office)
 62. US BIRTH DATE (Month, day, year)
 63. US BIRTH PLACE (State, city, town, village, or post office)
 64. US BIRTH DATE (Month, day, year)
 65. US BIRTH PLACE (State, city, town, village, or post office)
 66. US BIRTH DATE (Month, day, year)
 67. US BIRTH PLACE (State, city, town, village, or post office)
 68. US BIRTH DATE (Month, day, year)
 69. US BIRTH PLACE (State, city, town, village, or post office)
 70. US BIRTH DATE (Month, day, year)
 71. US BIRTH PLACE (State, city, town, village, or post office)
 72. US BIRTH DATE (Month, day, year)
 73. US BIRTH PLACE (State, city, town, village, or post office)
 74. US BIRTH DATE (Month, day, year)
 75. US BIRTH PLACE (State, city, town, village, or post office)
 76. US BIRTH DATE (Month, day, year)
 77. US BIRTH PLACE (State, city, town, village, or post office)
 78. US BIRTH DATE (Month, day, year)
 79. US BIRTH PLACE (State, city, town, village, or post office)
 80. US BIRTH DATE (Month, day, year)
 81. US BIRTH PLACE (State, city, town, village, or post office)
 82. US BIRTH DATE (Month, day, year)
 83. US BIRTH PLACE (State, city, town, village, or post office)
 84. US BIRTH DATE (Month, day, year)
 85. US BIRTH PLACE (State, city, town, village, or post office)
 86. US BIRTH DATE (Month, day, year)
 87. US BIRTH PLACE (State, city, town, village, or post office)
 88. US BIRTH DATE (Month, day, year)
 89. US BIRTH PLACE (State, city, town, village, or post office)
 90. US BIRTH DATE (Month, day, year)
 91. US BIRTH PLACE (State, city, town, village, or post office)
 92. US BIRTH DATE (Month, day, year)
 93. US BIRTH PLACE (State, city, town, village, or post office)
 94. US BIRTH DATE (Month, day, year)
 95. US BIRTH PLACE (State, city, town, village, or post office)
 96. US BIRTH DATE (Month, day, year)
 97. US BIRTH PLACE (State, city, town, village, or post office)
 98. US BIRTH DATE (Month, day, year)
 99. US BIRTH PLACE (State, city, town, village, or post office)
 100. US BIRTH DATE (Month, day, year)

BUNDLE

- Type: doc
- Total: Int[1]
- Signature:

Composition (Entry[0])

- Date/Time: as filed/produced
- Type: D.C. Code able Concept
- Section → text: Summary (xhtml)

Patient (Entry[1])

- <Patient information>

Questionnaire Response (Entry[2])

- <Question answers>

Practitioner (Entry[3])

(for Pronouncing Dead)

- <Certifier information>

Practitioner (Entry[4])

(for Filling Death Certificate)

- <Certifier information>

Practitioner (Entry[5])

- <Funeral agent information>

Location (Entry[6])

- <Place of death>

Observation (Upto 4)

- Onset [period]
- <Cause of death>

Subject

Patient

Related Person

- <Surviving spouse if applicable>

Patient

Related Person

- <Mother>

Patient

Related Person

- <Father>

Patient

Related Person

- <Informant>

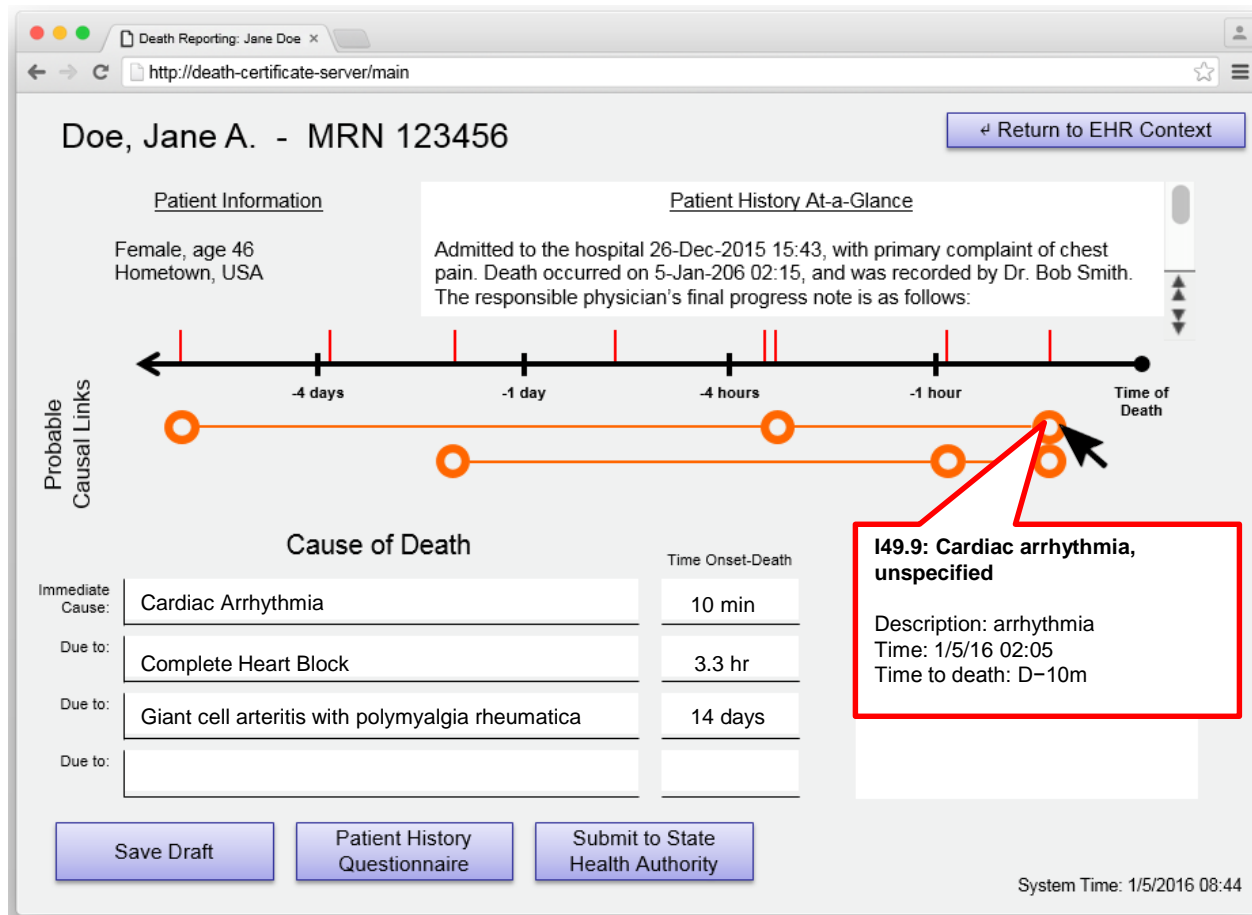
Questionnaire

Provide History at-a-Glance & Probable Causal Links

Basic patient information, to give context. Seamless return to EHR for more info.

Scroll-able, scale-able timeline for comprehensive view

Familiar chain-of-events layout, allowing changes if needed



Salient plan-text history, with final progress note if available

Hover over events for more details

Clicking on a proposed timeline pre-populates the chain of events

Validate Data Before Sending to State

FHIR Applications to Address Childhood Obesity



Demos

Patient App - <http://cdc-st.i3l.gatech.edu/questionnaire/>

Physician App - <http://cdc-st.i3l.gatech.edu/>

Childhood Obesity Patient-Facing Application

HH HEALTHY HABITS TRACKER



Kara Kent

- Home
- Healthy Habits Questionnaire
- Food Questionnaire
- Goal Status Questionnaire
- WIC Questionnaire
- Messages
- Questionnaire History
- About

Healthy Habits Questionnaire

My child eats veggies and fruits:

- ☐ 0-1 times a day ☐ 1-2 times a day ☐ 3-4 times a day ☐ 5 or more times a day

My child is active:

- ☐ Not very often ☐ Less than 30 minutes a day ☐ 30-60 minutes a day ☐ More than 60 minutes a day

My child drinks 100% fruit juice:

- ☐ More than 3 cups a day ☐ 2 cups a day ☐ 1 cup a day ☐ Not very often

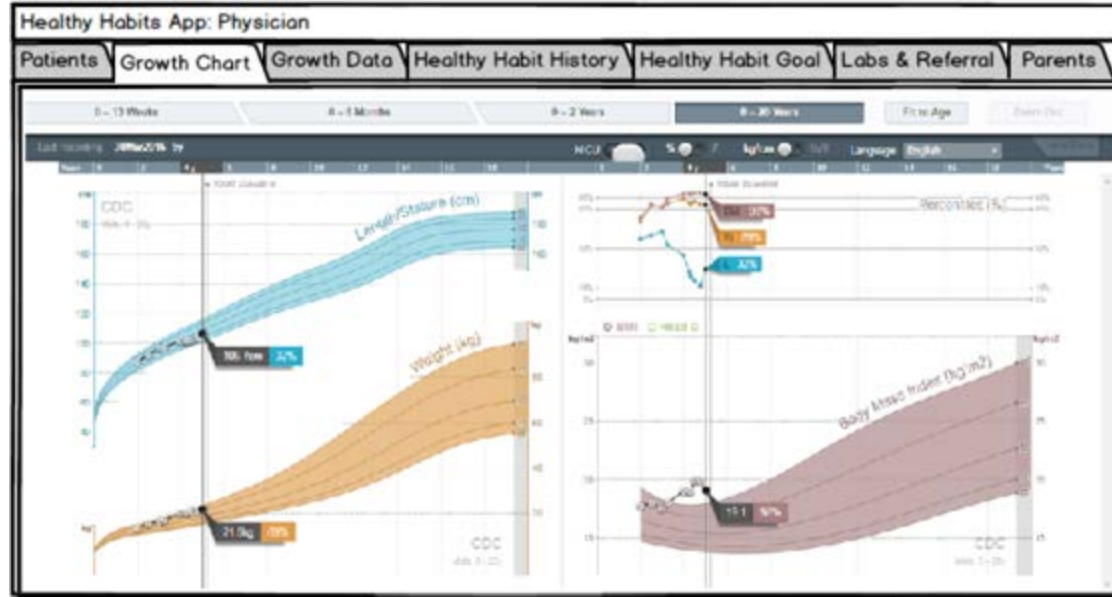
My child has sweet drinks (soda, sweet tea, sports drinks, other fruit drinks):

- ☐ More than 3 cups a day ☐ 2 cups a day ☐ 1 cup a day ☐ Not very often

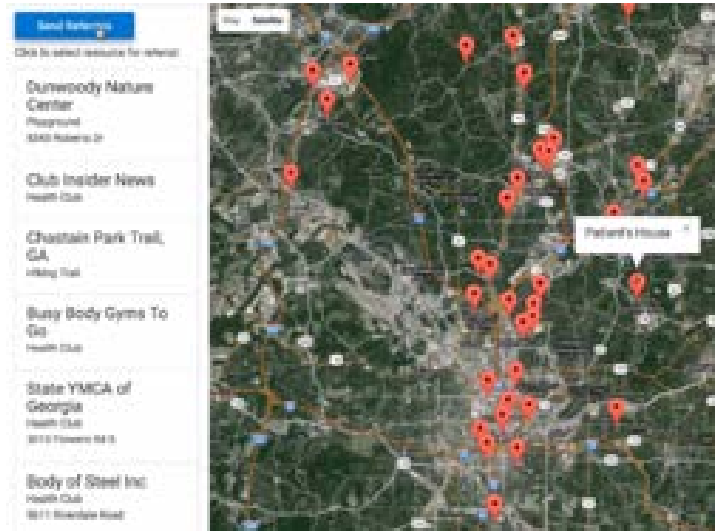
My child watches television, plays video games, spends (non-school related) time on a computer, tablet or cell phone:

- ☐ 5 or more hours a day ☐ 3-4 hours a day ☐ 1-2 hours a day ☐ 1 hour a day ☐ Not very often

Childhood Obesity Physician-Facing Application



Childhood Obesity Care Coordinator Application



Ways to Get Involved

FHIR Community

<http://fhir.org> – Home for FHIR Implementation

<http://community.fhir.org> – Discussion Forum

<http://chat.fhir.org> – Dedicated Instant Messaging

<http://stackoverflow.com> – Implementation questions

<http://gforge.hl7.org/gf/project/fhir> - public change proposals

<http://wiki.hl7.org/index.php?title=FHIR> – Wiki for Community Documentation

Tools to Explore

MIRTH Connect now offers a FHIR Listener Connector

<https://www.nextgen.com/Interoperability/Mirth-Solutions/Connect-Overview>

Tools like Aidbox (<http://health-samurai.io/products>) can serve as a backend, data repository, provide REST APIs, and act as an integration bus

Matthew Spielman of Intersystems presented a tool called CCDa Shredder at the HL7 roundtable at Harvard in July (<http://www.hl7.org/events/roundtable072016/program.cfm>). As he presented it, you input a CCDa document and you get FHIR Resources. This could be one approach to help think through how to map existing CDA IGs to FHIR.

Questions?

Paula Braun

Phone: 404-498-6809

pabraun@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

