



Public Health on FHIR—Fast Healthcare Interoperability Resources

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CDC Health Information Innovation Consortium (CHIIC) Forum

May 2, 2017

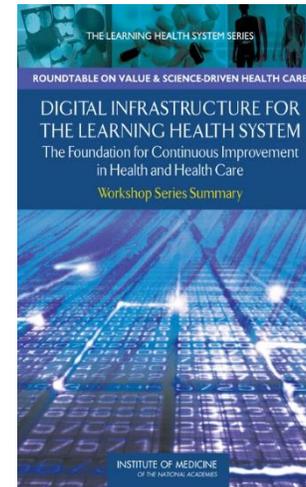
Vision . . .

Make public health data available

- In a coordinated, consistent, and secure way
- Across jurisdictional boundaries
- With the ability to link to other data to provide greater value
- Without workflow disruption to data providers or data users

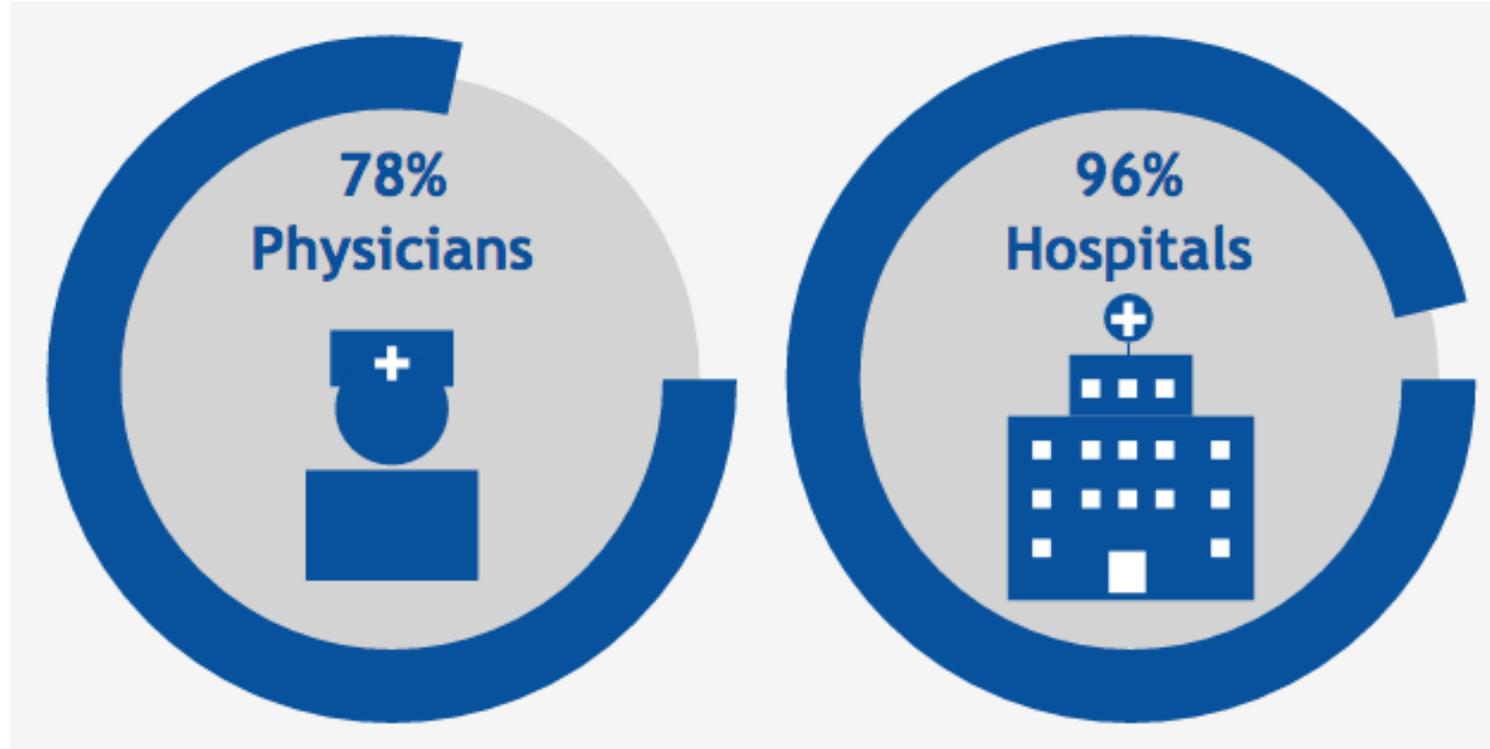
Background

Learning Health System



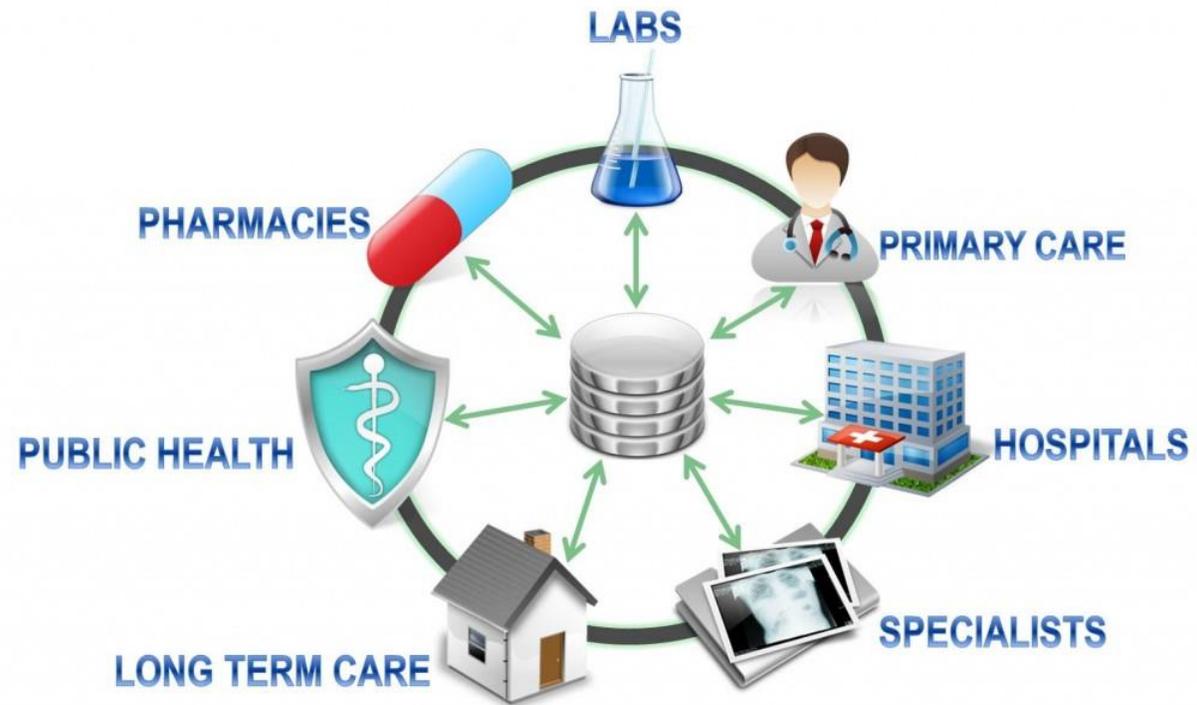
Ubiquity of Electronic Health Records

Possession of Certified EHR Among Office-Based Physicians and Hospitals in 2015



Source: <https://dashboard.healthit.gov/report-to-congress/2016-report-congress-examining-hitech-era-future-health-information-technology.php>

Interoperability



Transitions of Care

“An estimated 80 percent of serious medical errors involve miscommunication between caregivers when responsibility for patients is transferred or handed-off, according to the Joint Commission.” ---
Health IT News 10/22/10

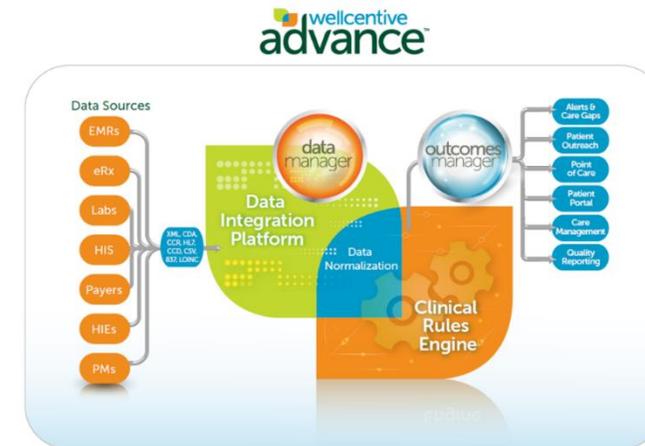


Population Health Data Challenges

Healthcare data are not semantically consistent

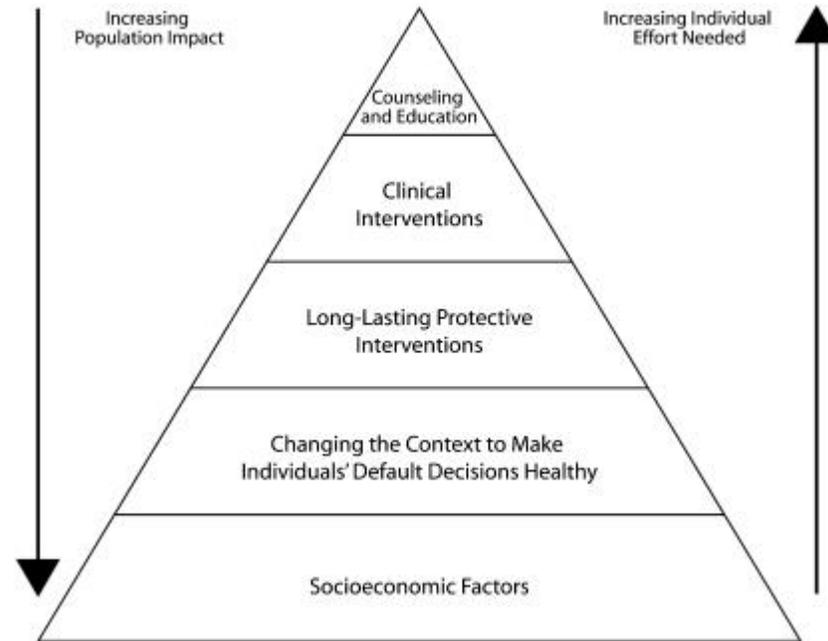
To aggregate or analyze data meaningfully, need:

- standardization at more granular level and
- buy-in from EMR system developers to implement standards consistently



Public Health

Opportunities to leverage clinical care data
in new ways



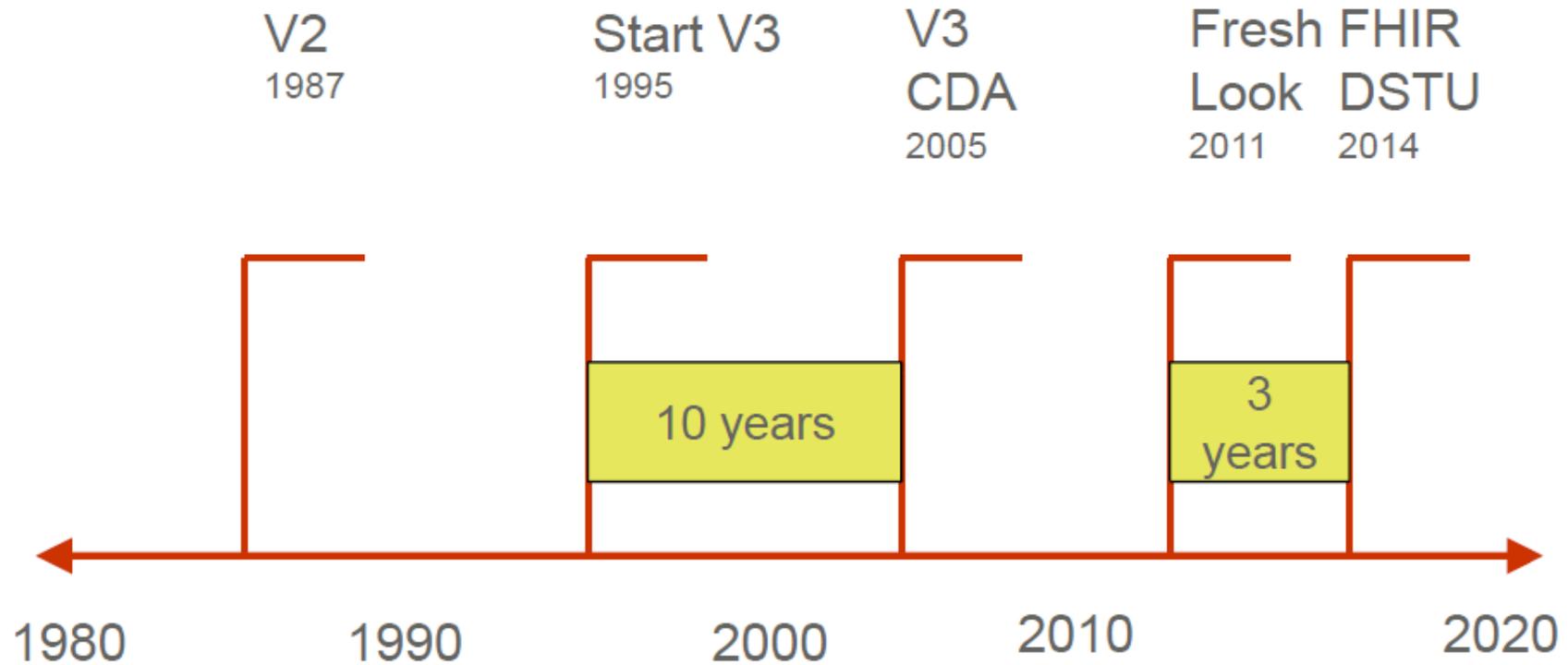
Evolution of Health Level Seven (HL7)

Interoperability: HL7's Mission

“a not-for-profit, ANSI-accredited standards developing organization dedicated to providing a comprehensive framework and related standards for the exchange, integration, sharing, and retrieval of electronic health information that supports clinical practice and the management, delivery and evaluation of health services”



Fresh Look in 2011



A Closer Look at FHIR—Fast Healthcare Interoperability Resources

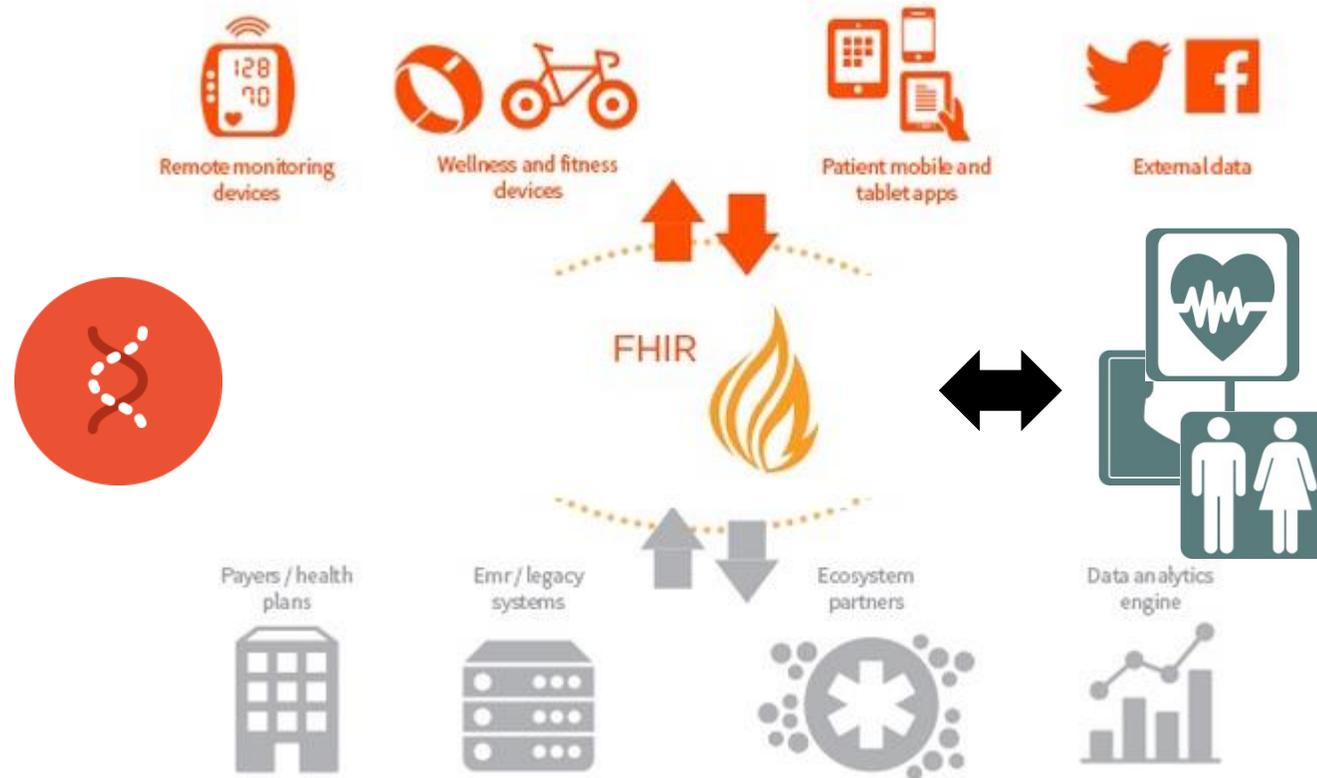
FHIR: Fast Healthcare Interoperability Resources



- Content: Focus on simplicity (80/20) – bite-sized v. monolithic
- Technology: Use cross-industry internet technologies ideal for mobile and web platforms
- Community: Develop standards incrementally with early input from implementers through real-world projects with committed and ongoing involvement
- Privacy & Security: Adopt best practices, don't re-invent the wheel



Laying the Conditions for Broad Interoperability



FHIR Clinical Resources



General

AllergyIntolerance
Condition (Problem)
Procedure
ClinicalImpression
FamilyMemberHistory
RiskAssessment
DetectedIssue



Care Provision

CarePlan
Goal
ReferralRequest
ProcedureRequest
NutritionOrder
VisionPrescription



Medication & Immunization

Medication
MedicationOrder
MedicationAdministration
MedicationDispense
MedicationStatement
Immunization
ImmunizationRecommendation



Diagnostics

Observation
DiagnosticReport
DiagnosticOrder
Specimen
BodySite
ImagingStudy

Patient Resource

```
<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

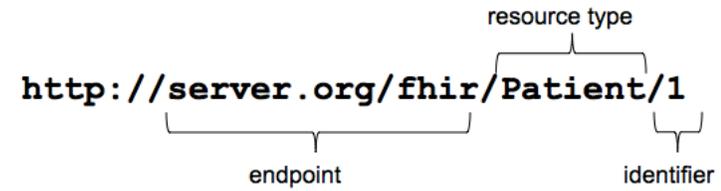
Observation Resource

Result Body	Raw Message
JSON resource (594 bytes)	<pre>{ "resourceType": "Observation", "id": "4", "status": "final", "code": { "coding": [{ "system": "http://loinc.org", "code": "8480-6", "display": "Systolic blood pressure" }] }, "subject": { "reference": "Patient/1" }, "encounter": { "reference": "Encounter/1" }, "effectiveDateTime": "2005-06-30T19:45:00-04:00", "valueQuantity": { "value": 146.0, "unit": "mm[Hg]", "system": "http://unitsofmeasure.org", "code": "mm[Hg]" } }</pre>

Incorporates existing data standards

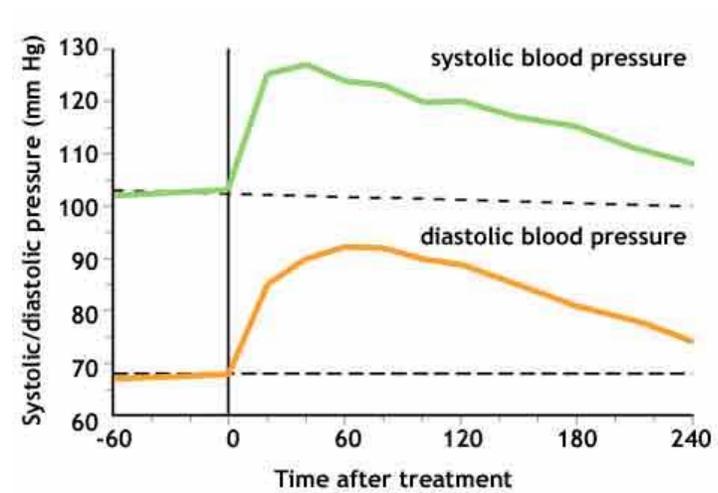
IDs unique to each FHIR server

REST API



Interaction	Path	Request				
		Verb	Content-Type	Body	Prefer	Conditional
read	/[type]/[id]	GET	N/A	N/A	N/A	O: ETag, If-Modified-Since, If-None-Match
vread	/[type]/[id]/_history/[vid]	GET	N/A	N/A	N/A	N/A
update	/[type]/[id]	PUT	R	Resource	O	O: If-Match
delete	/[type]/[id]	DELETE	N/A	N/A	N/A	N/A
create	/[type]	POST	R	Resource	O	O: If-None-Exist
search	/[type]?	GET	N/A	N/A	N/A	N/A
	/[type]/_search?	POST	application/x-www-form-urlencoded	form data	N/A	N/A
search-all	/_search?	GET	N/A	N/A	N/A	N/A
	conformance	/ or /metadata	OPTIONS or GET	N/A	N/A	N/A
transaction	/	POST	R	Bundle	O	N/A
history	/[type]/[id]/_history	GET	N/A	N/A	N/A	N/A
history-type	/[type]/_history	GET	N/A	N/A	N/A	N/A
history-all	/_history	GET	N/A	N/A	N/A	N/A
(operation)	/\$[name], /[type]/\$[name] or /[type]/[id]/\$[name]	POST	R	Parameters	N/A	N/A
		GET	N/A	N/A	N/A	N/A
		POST	application/x-www-form-urlencoded	form data	N/A	N/A

API Example



LOINC

GET [base]/Observation?_query=obs.stats&code=[8480-6](#)&03/03/2016/07:00:00&03/03/2016/12:00:00

GET [base]/Observation?_query=obs.stats&code=[8462-4](#)&03/03/2016/07:00:00&03/03/2016/12:00:00

FHIR Profiles and Extensions

FHIR Explorer: Create new resource ID: 2 Adam Everyman , male, HL7 FHIR for Clinicians & Designers Test User A

Resources
New

Select Profile
 Core Resource
 Profiled resource

Profiled resource definitions Find new Clear current resource
clin.fhir.profilienzpatient Clear

/ Patient

Patient.id	0..1	id
Patient.text	0..1	Narrative
Patient.modifierExtension	0..*	Extension
Patient.identifier	0..*	Identifier
New Zealand IWI	0..1	CodeableConcept
Patient.name	0..*	HumanName
Patient.telecom	0..*	ContactPoint
Patient.gender	0..1	code
Patient.birthDate	0..1	date
Patient.deceased[x]	0..1	boolean dateTime
Patient.address	0..*	Address
Patient.maritalStatus	0..1	CodeableConcept

Current Element: Parent: Patient

Extension.valueCodeableConcept

(CodeableConcept)

New Zealand IWI

Search Text n Explore ValueSet

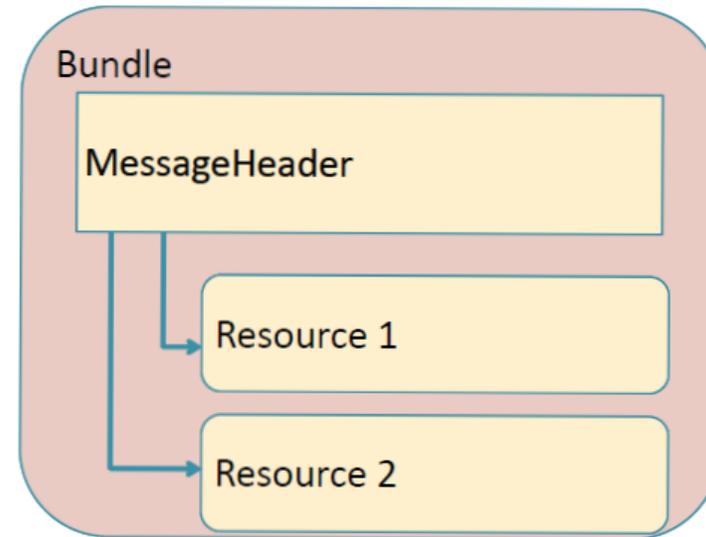
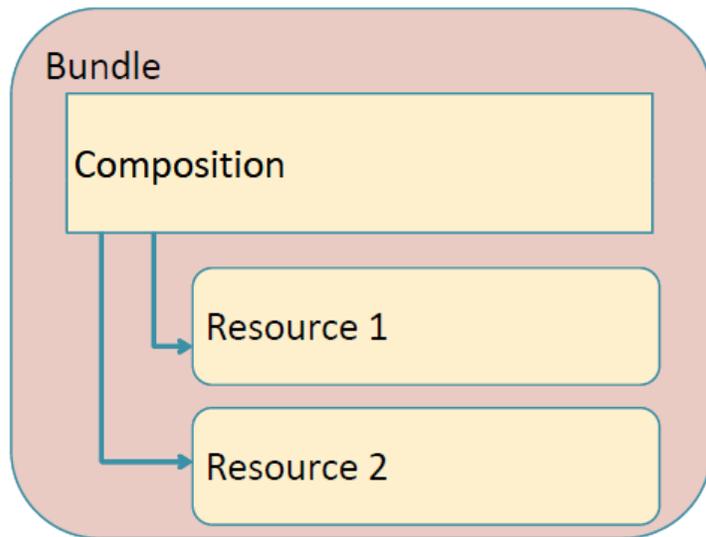
Ngāti Porou
Ngāi Tahu
Ngā Puhi
Ngāti Kahungunu

Cancel Save & Next Save

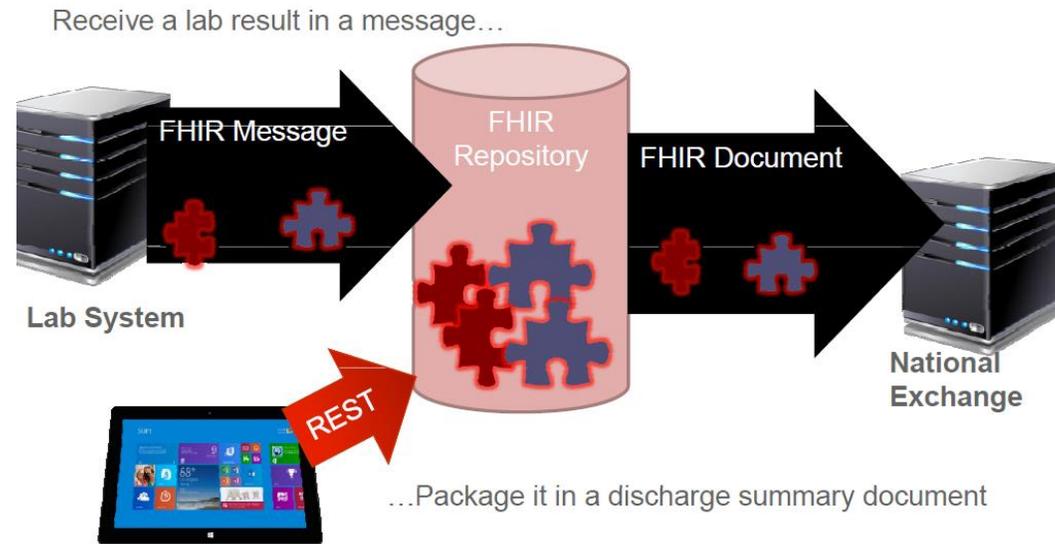
Resource

```
{
```

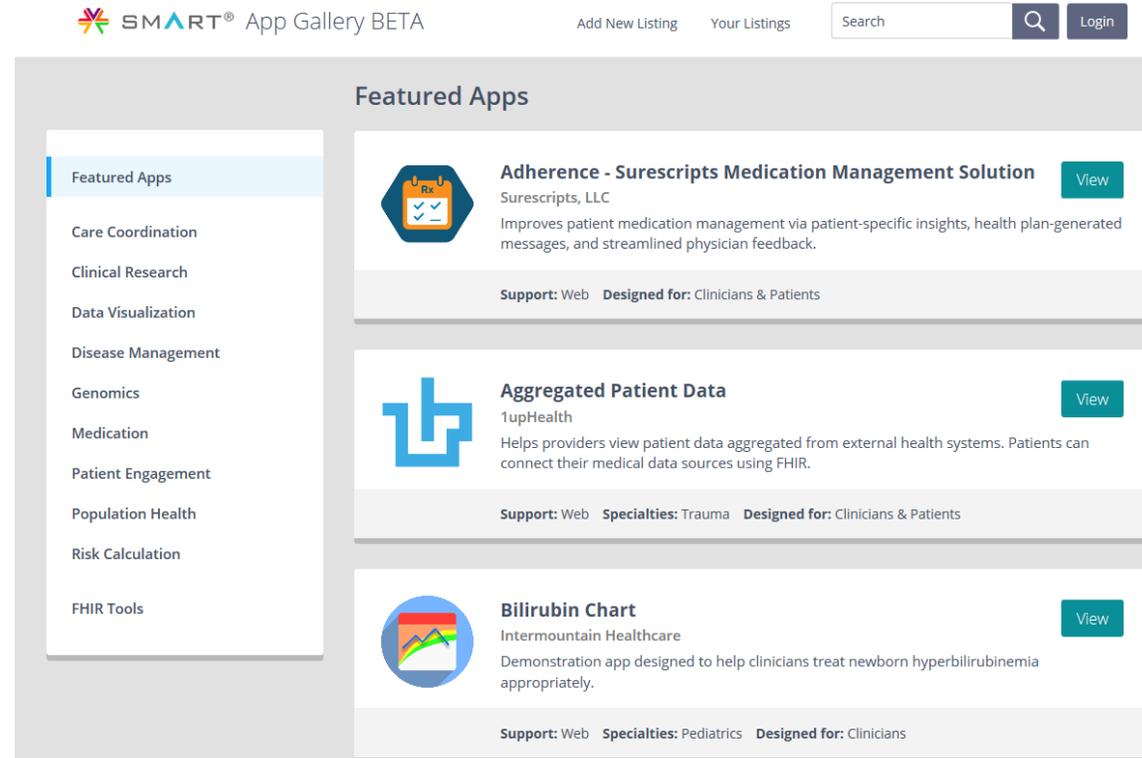
FHIR Messages & Documents



Content & Format Always the Same



Substitutable Medical Applications and Reusable Technologies (SMART)-on-FHIR



The screenshot displays the SMART App Gallery BETA interface. At the top, there is a navigation bar with the SMART logo, the text "SMART® App Gallery BETA", and links for "Add New Listing" and "Your Listings". A search bar and a "Login" button are also present. Below the navigation bar is a sidebar menu with categories: "Featured Apps", "Care Coordination", "Clinical Research", "Data Visualization", "Disease Management", "Genomics", "Medication", "Patient Engagement", "Population Health", "Risk Calculation", and "FHIR Tools". The main content area is titled "Featured Apps" and lists three applications:

- Adherence - Surescripts Medication Management Solution** (View)
Surescripts, LLC
Improves patient medication management via patient-specific insights, health plan-generated messages, and streamlined physician feedback.
Support: Web | Designed for: Clinicians & Patients
- Aggregated Patient Data** (View)
1upHealth
Helps providers view patient data aggregated from external health systems. Patients can connect their medical data sources using FHIR.
Support: Web | Specialties: Trauma | Designed for: Clinicians & Patients
- Bilirubin Chart** (View)
Intermountain Healthcare
Demonstration app designed to help clinicians treat newborn hyperbilirubinemia appropriately.
Support: Web | Specialties: Pediatrics | Designed for: Clinicians

Learn More: <https://smarthealthit.org/> and <https://www.youtube.com/watch?v=Lo9ETDlmwes>

SMART Apps Integrated Into EHR

Gromeko, Am... | List | Recent | Name

Gromeko, Amalia Ivan... Gender:Female | DOB:2/13/1944 | MRN:00000455 | Attending:
Allergies: Allergies Not Recor... | Isolation: | Age:70 years | Loc:BE Clinic | Dose Wt:

Menu - Inpatient | SMART Medication | Full screen | Print | 7 minutes ago

meducation^{RS} ENWA75G | Logoff | Feedback

Med List | Calendar | Add Med | Print PMI | English | Regular | Options

Drug Name	SIG Instructions	Links	Category	Cal	Print
Cardizem LA 120 mg/24 hours oral tablet, extended release	1 once daily		Daily	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
clindamycin 300 mg oral capsule	1 three times daily		Daily	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lasix 40 mg oral tablet	1 twice daily		Daily	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Pravachol 20 mg oral tablet	1 once daily [bedtime]		Daily	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rifater oral tablet	6 tab every day 1 hour before or 2 hours after meals		Special	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Red SIG: SIG not recognized | Edit unrecognized data | View PMI (Personal Med Instructions) | View demonstration

Red Drug: Medicine not recognized | Modify SIG instructions | Med instruction unavailable | View FDA Med Guide



Harvard Medical School



Duke University Medical System

DukePillBox English ▾ Daniel X. Adams DOB: 1925-12-23 MRN: 1288992

Morning

-  Lisinopril 20 MG Oral Tablet 1
-  donepezil 10 MG Oral Tablet [...] 1

Noon

-  Memantine 10 MG Oral Tablet... 1
-  potassium citrate 10 MEQ Ext... 1/2

Evening

-  Triamcinolone 1 MG/ML Topical Cream
-  Estrogens, Conjugated (USP)... 1

Medication List:

-  Lisinopril 20 MG Oral Tablet
-  Memantine 10 MG Oral T...
-  donepezil 10 MG Oral Ta...
-  potassium citrate 10 ME...
-  Triamcinolone 1 MG/ML To...
-  Flomax 0.4 mg
-  Estrogens, Conjugated (...)

Geisinger Health System

enrg)rheum

Questionnaire
Trends
HPI
Tasks
Clinic Note
AVS

Update From EHR
Medications
Diagnoses
Labs
All

Commands
Print
Clinic Note
AVS

History Med/FH/SH Exam Measures Tables A/P

Measures
Tender (0-28) 25
Swollen (0-28) 25
Physician Global (0-10) 9
Patient Global (0-10) 8
CDAI (0-76) 67

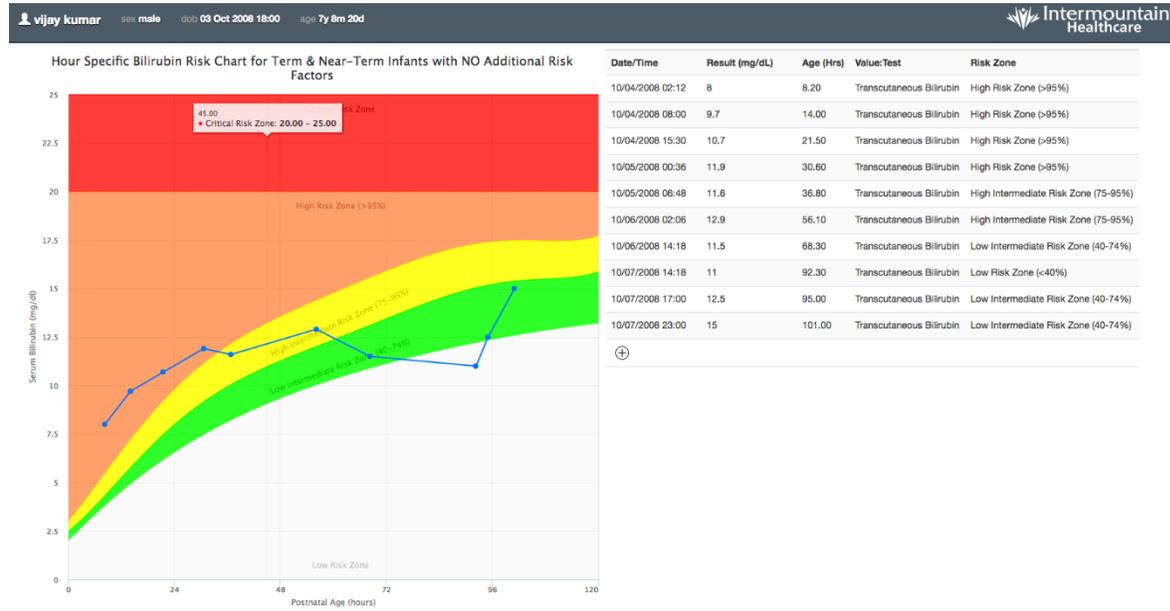
Tender Joints Copy TJC to SJC >

Swollen Joints < Copy SJC to TJC

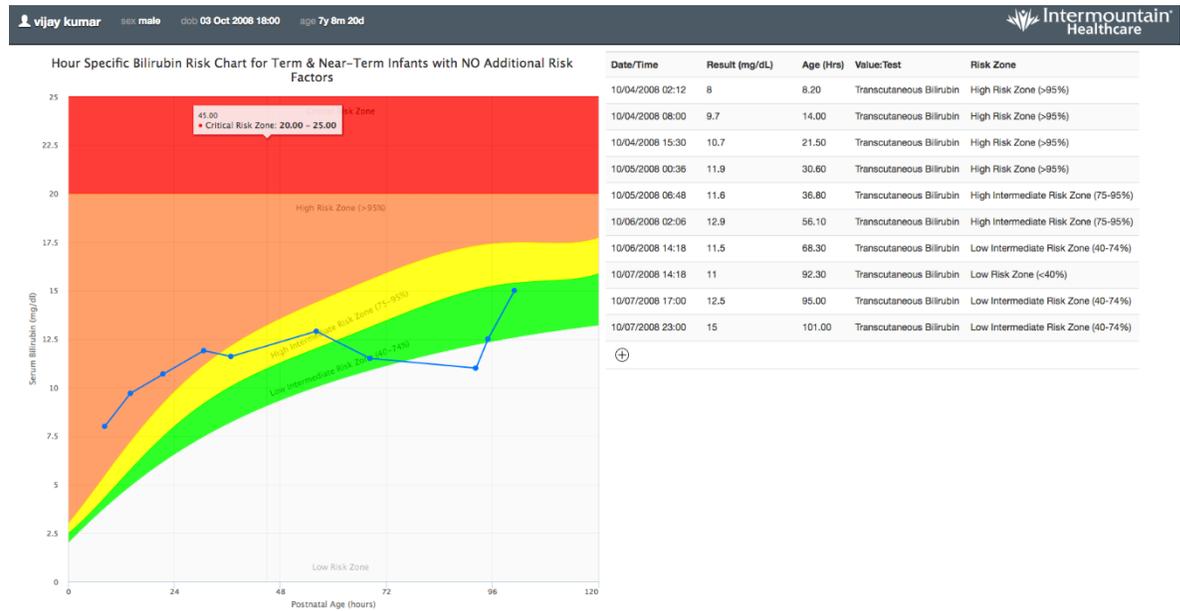
Legend
○ Black Border (Normal Joint)
○ Red Border (CDAI Joint)
○ No Clicks (Not Analyzed)
○ 1 Click (Normal)
○ 2 Clicks (Tender/Swollen)
● 3 Clicks (joint replacement)

Quick Check
Check last visit
Check 28 Normal
Check 28 Tender
Check 28 Swollen
Check All Normal
Check All Tender
Check All Swollen
Uncheck All

Intermountain Healthcare



Hackensack University Medical Center



Hackensack University Medical Center (Epic)

Patient
Demographic
Update



Patient
Appointment



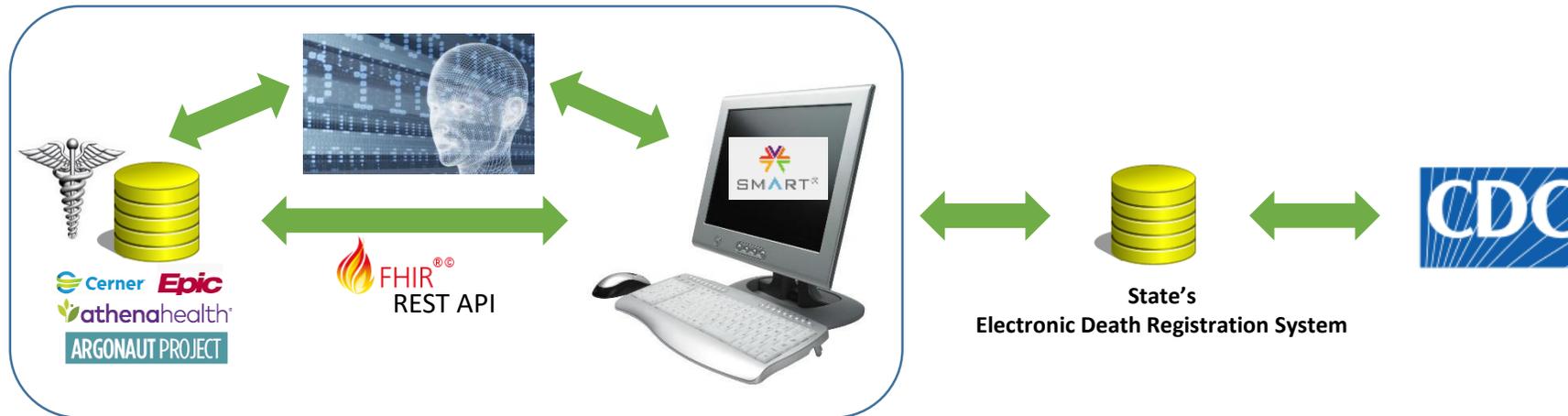
Open Scheduling



SMART-on-FHIR Public Health App: “Death Worm”

Solution: 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



U.S. STANDARD CERTIFICATE OF DEATH

LOCAL FILE NO. _____ STATE FILE NO. _____

1. DECEDENT'S LEGAL NAME (Include AKA's if any) (First, Middle, Last) _____ 2. SEX _____ 3. SOCIAL SECURITY NUMBER _____

4a. AGE-Last Birthday (Years) _____ 4b. UNDER 1 YEAR _____ 4c. UNDER 1 DAY _____ 5. DATE OF BIRTH (Mo/Day/YY) _____ 6. BIRTH-PLACE (City and State or Foreign Country) _____

7a. RESIDENCE-STATE _____ 7b. COUNTY _____ 7c. CITY OR TOWN _____

7d. STREET AND NUMBER _____ 7e. APT. NO. _____ 7f. ZIP CODE _____ 7g. INSIDE CITY LIMITS? Yes No

8. EVER IN US ARMED FORCES? Yes No 9. MARITAL STATUS AT TIME OF DEATH: Married Married, but separated Widowed Divorced Never Married Unknown 10. SURVIVING SPOUSE'S NAME (if any, give name (last, first, middle)) _____

11. FATHER'S NAME (First, Middle, Last) _____ 12. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last) _____

13a. INFORMANT'S NAME _____ 13b. RELATIONSHIP TO DECEDENT _____ 13c. MAILING ADDRESS (Street and Number, City, State, Zip Code) _____

14. PLACE OF DEATH (Check only one - see instructions) _____

15. DEATH OCCURRED IN A HOSPITAL: Inpatient Emergency Room/Outpatient Dead on Arrival Hospice Facility Nursing Home/Long-term care facility Decedent's Home Other (Specify) _____

16. METHOD OF DISPOSITION: Burial Cremation Donation Entombment Removal from State Other (Specify) _____

17. PLACE OF DISPOSITION (Name of cemetery, crematory, other place) _____

18. LOCATION (City, Town, and State) _____ 19. NAME AND COMPLETE ADDRESS OF FUNERAL FACILITY _____

20. SIGNATURE OF FUNERAL SERVICE LICENSEE OR OTHER AGENT _____ 21. LICENSE NUMBER (Of Licensee) _____

ITEMS 24-28 MUST BE COMPLETED BY PERSON WHO PRONOUNCES OR CERTIFIES DEATH

24. DATE PRONOUNCED DEAD (Mo/Day/YY) _____ 25. TIME PRONOUNCED DEAD _____

26. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when applicable) _____ 27. LICENSE NUMBER _____ 28. DATE SIGNED (Mo/Day/YY) _____

29. ACTUAL OR PRESUMED DATE OF DEATH (Mo/Day/YY) (Spell Month) _____ 30. ACTUAL OR PRESUMED TIME OF DEATH _____ 31. WAS MEDICAL EXAMINER OR CORONER CONTACTED? Yes No

CAUSE OF DEATH (See instructions and examples)

32. PART I. Enter the chain of sequential events, in chronological order, that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIATE. Enter only one cause on a line. Add additional lines if necessary. **APPROPRIATE TO DEATH**

IMMEDIATE CAUSE (Final disease or condition resulting in death) _____ a. _____ Due to (or as a consequence of) _____

INTERMEDIATE CAUSE (Any condition leading to the immediate cause) _____ b. _____ Due to (or as a consequence of) _____

UNDERLYING CAUSE (Disease or injury that initiated the events resulting in death) _____ c. _____ Due to (or as a consequence of) _____

33. WAS AN AUTOPSY PERFORMED? Yes No 34. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? Yes No

35. DID TOBACCO USE CONTRIBUTE TO DEATH? Yes Probably No Unknown 36. IF FEMALE: Not pregnant within past year Pregnant at time of death Not pregnant, but pregnant within 42 days of death Not pregnant, but pregnant 43 days to 1 year before death Unknown if pregnant within the past year 37. MANNER OF DEATH: Natural Homicide Accident Pending investigation Suicide Could not be determined

38. DATE OF INJURY (Mo/Day/YY) (Spell Month) _____ 39. TIME OF INJURY _____ 40. PLACE OF INJURY (e.g., Decedent's home, construction site, restaurant, wooded area) _____ 41. INJURY AT WORK? Yes No

42. LOCATION OF INJURY: State _____ City or Town _____ Apartment No. _____ Zip Code _____

43. DESCRIBE HOW INJURY OCCURRED: _____ 44. IF TRANSPORTATION INJURY, SPECIFY: Driver/Operator Passenger Pedestrian Other (Specify) _____

45. CERTIFIER (Check only one): Certifying physician-To the best of my knowledge, death occurred due to the cause(s) and manner stated. Pronouncing & Certifying physician-To the best of my knowledge, death occurred at the time, date, and place, and due to the cause(s) and manner stated. Medical Examiner/Coroner-On the basis of examination, and/or investigation, in my opinion, death occurred at the time, date, and place, and due to the cause(s) and manner stated. Signature of certifier: _____

46. NAME, ADDRESS, AND ZIP CODE OF PERSON COMPLETING CAUSE OF DEATH (Item 32) _____

47. TITLE OF CERTIFIER _____ 48. LICENSE NUMBER _____ 49. DATE CERTIFIED (Mo/Day/YY) _____ 50. FOR REGISTRAR ONLY-DATE FILED (Mo/Day/YY) _____

51. DECEDENT'S EDUCATION (Check the box that best describes the highest degree or level of school completed at the time of death): 8th grade or less 9th - 12th grade; no diploma High school graduate or GED completed Some college credit, but no degree Associate degree (e.g., AA, AS) Bachelor's degree (e.g., BA, AB, BS) Master's degree (e.g., MA, MS, MEd, MEng, MEd, MEd, MEd) Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LL.M., etc.)

52. DECEDENT OF HISPANIC ORIGIN? Check the box that best describes whether the decedent is Spanish/Hispanic/Latino. Check the "NO" box if decedent is not Spanish/Hispanic/Latino. No, not Spanish/Hispanic/Latino Yes, Mexican, Mexican American, Chicano Yes, Puerto Rican Yes, Cuban Yes, other Spanish/Hispanic/Latino (Specify) _____

53. DECEDENT'S RACE (Check one or more boxes to indicate what the decedent considered himself or herself to be) _____

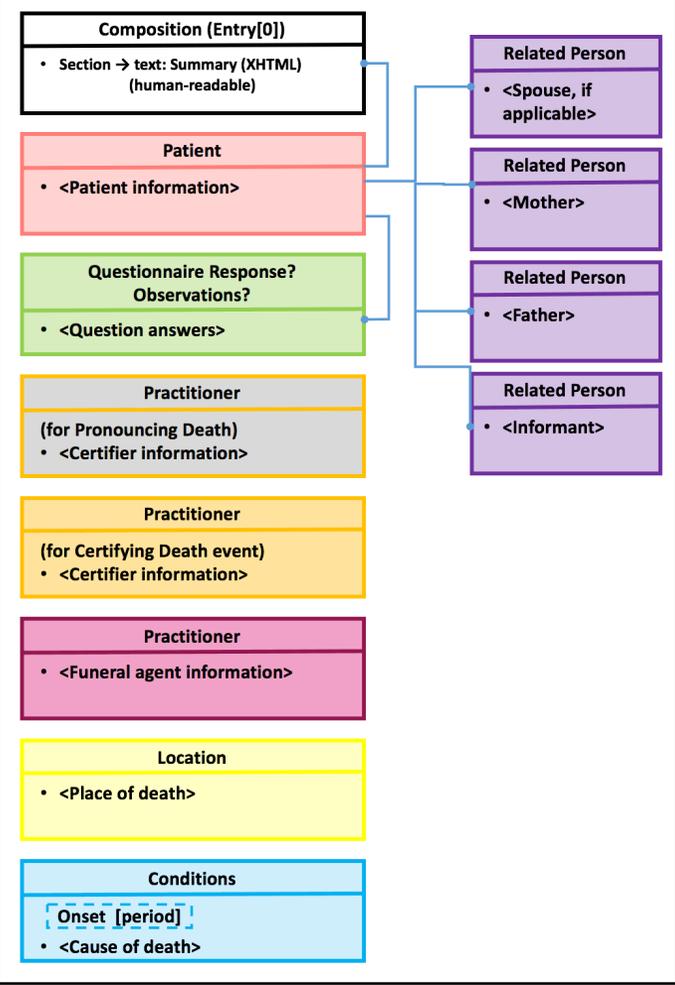
54. DECEDENT'S USUAL OCCUPATION (Indicate type of work done during most of working life. DO NOT USE RETIRED).

55. KIND OF BUSINESS/INDUSTRY _____

11/2003

BUNDLE

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



localhost:8888/Timeline-App/

SMART FHIR Starter GT / CDC Death Reporting FHIR Application

Johnston, Jonathan -- ID 100001

[Return to EHR Context](#)

Patient Details

Name: Jonathan James Johnston
 Age at death: 64.5 years
 Residence: Everytown, USA 99999

Patient History

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Suspendisse hendrerit, enim vel dictum dapibus, tellus massa dapibus nibh, in auctor felis felis ut mauris. Nam sit amet lorem diam. Sed ullamcorper magna eget enim semper, eu maximus nisi porta. Proin congue ex quam, ac rhoncus ipsum hendrerit quis. Proin sollicitudin diam vel diam semper ac porta felis convallis. Nulla faucibus risus.

Cause of Death:

Rupture of heart

Acute myocardial infarction

Diffuse disease of coronary artery

Diabetes mellitus

Onset to Death:

13 minutes

3 days

16 years

29 years

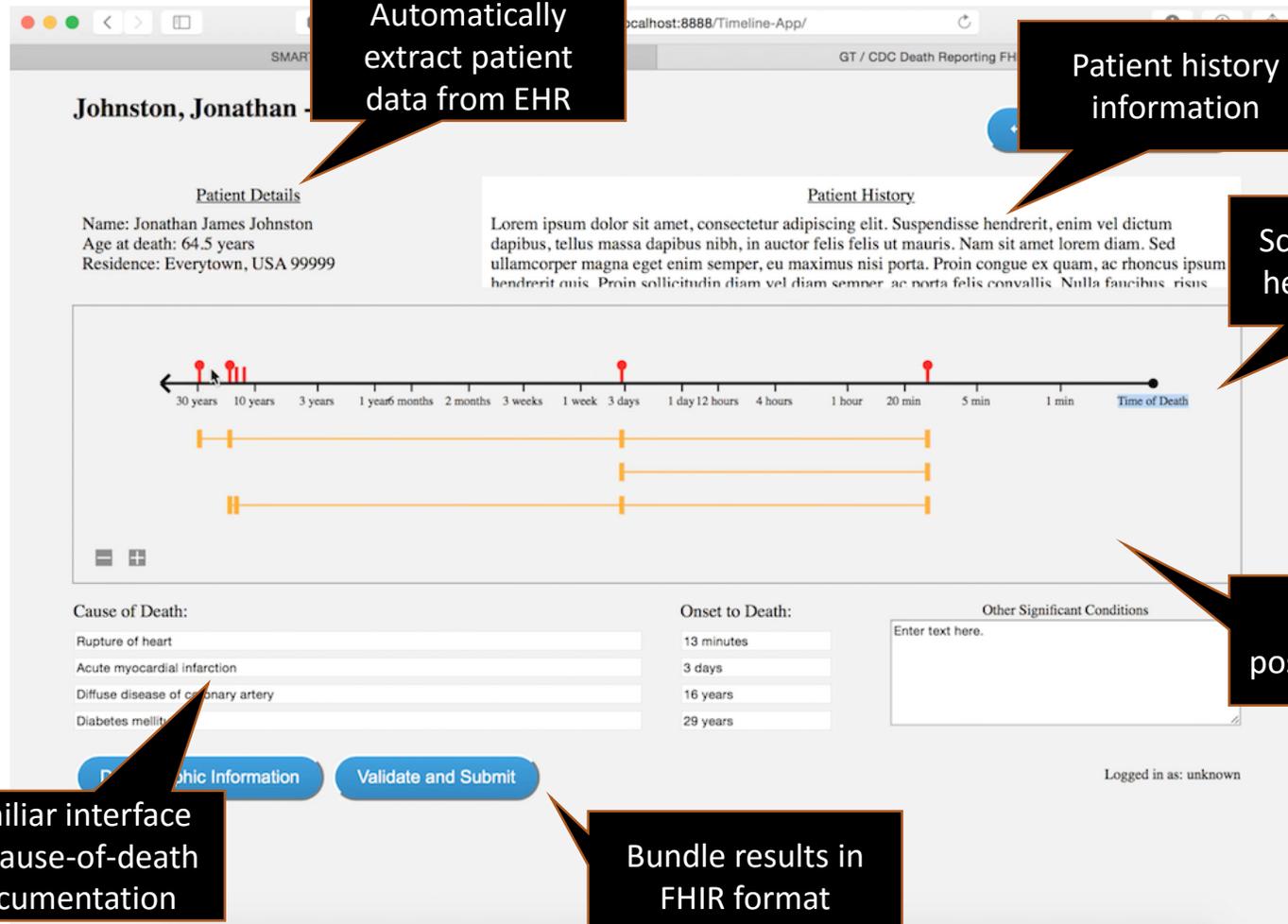
Other Significant Conditions

Enter text here.

[Demographic Information](#)

[Validate and Submit](#)

Logged in as: unknown



Automatically extract patient data from EHR

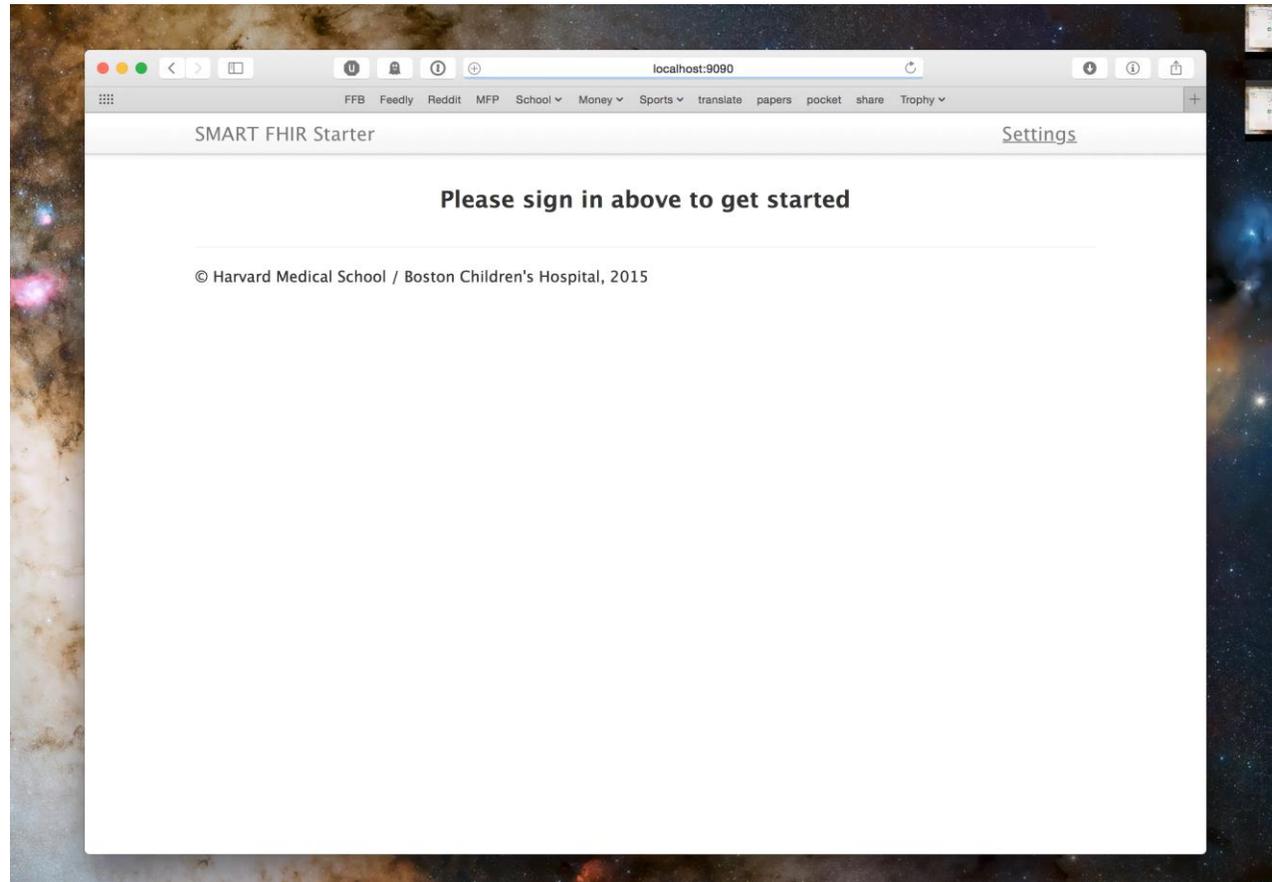
Patient history information

Scaled timeline of health conditions

Recommend possible sequences

Familiar interface for cause-of-death documentation

Bundle results in FHIR format



Link to Demo: <https://www.youtube.com/watch?v=PIBoRspEzbA>

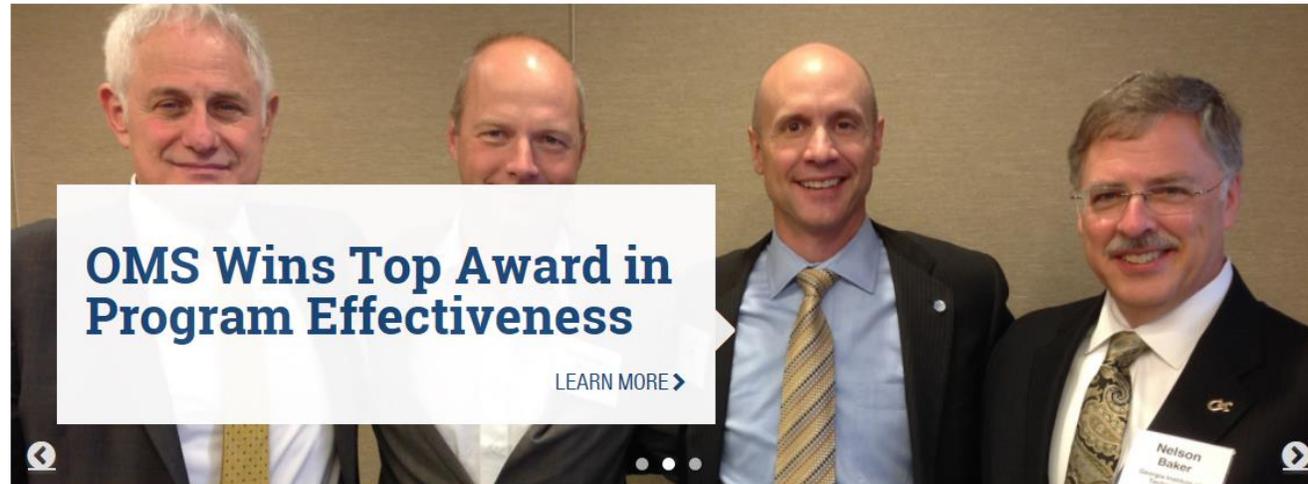
FHIR Projects with Georgia Tech OMSCS

CDC Partnership With Georgia Tech

Georgia Tech College of Computing
Online Master of Science
Computer Science (OMS CS)

Home Prospective Students Current Students Program Information OMS Buzz Apply Now CONTACT US >

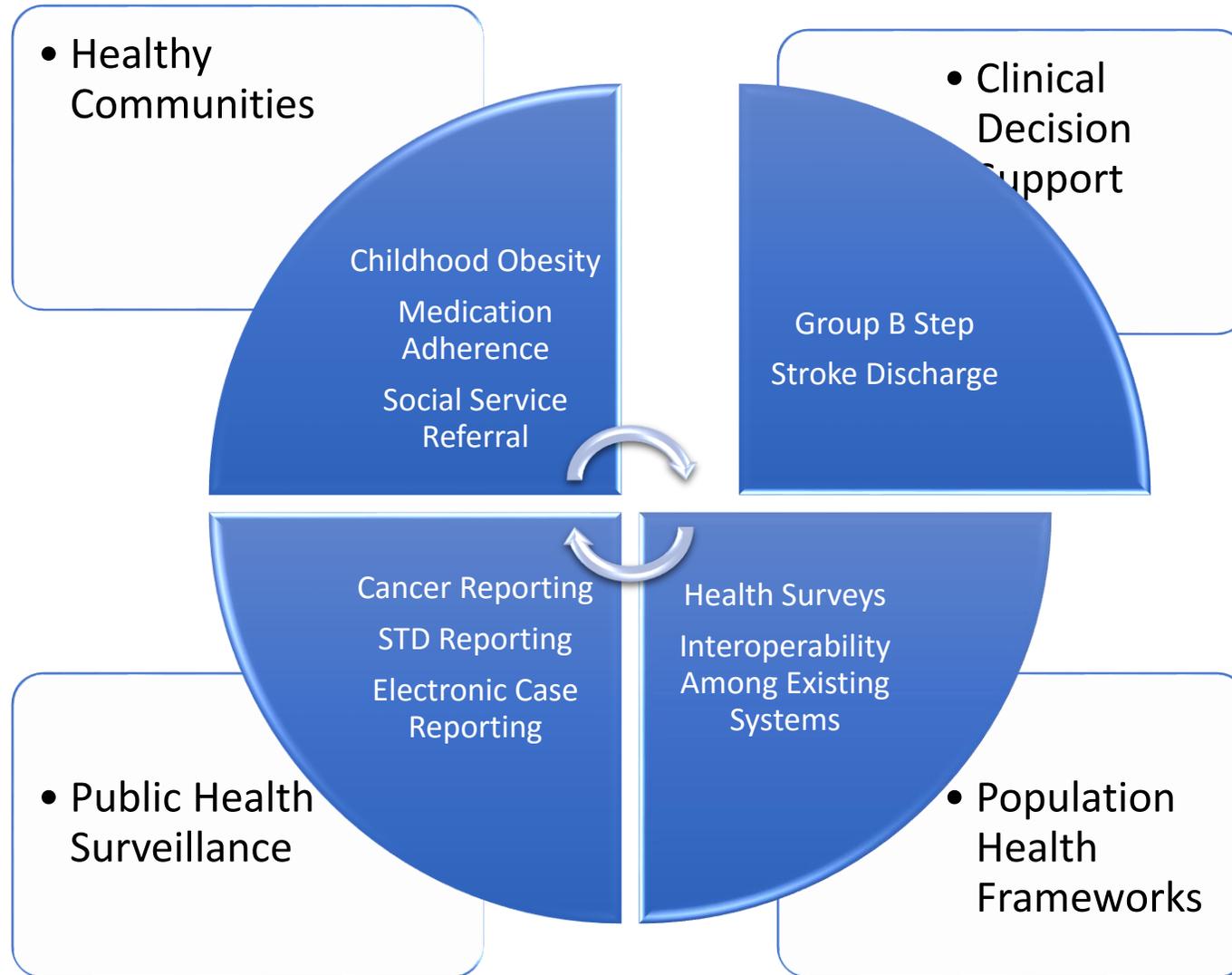
GT Home >



Online Master of Science in Computer Science

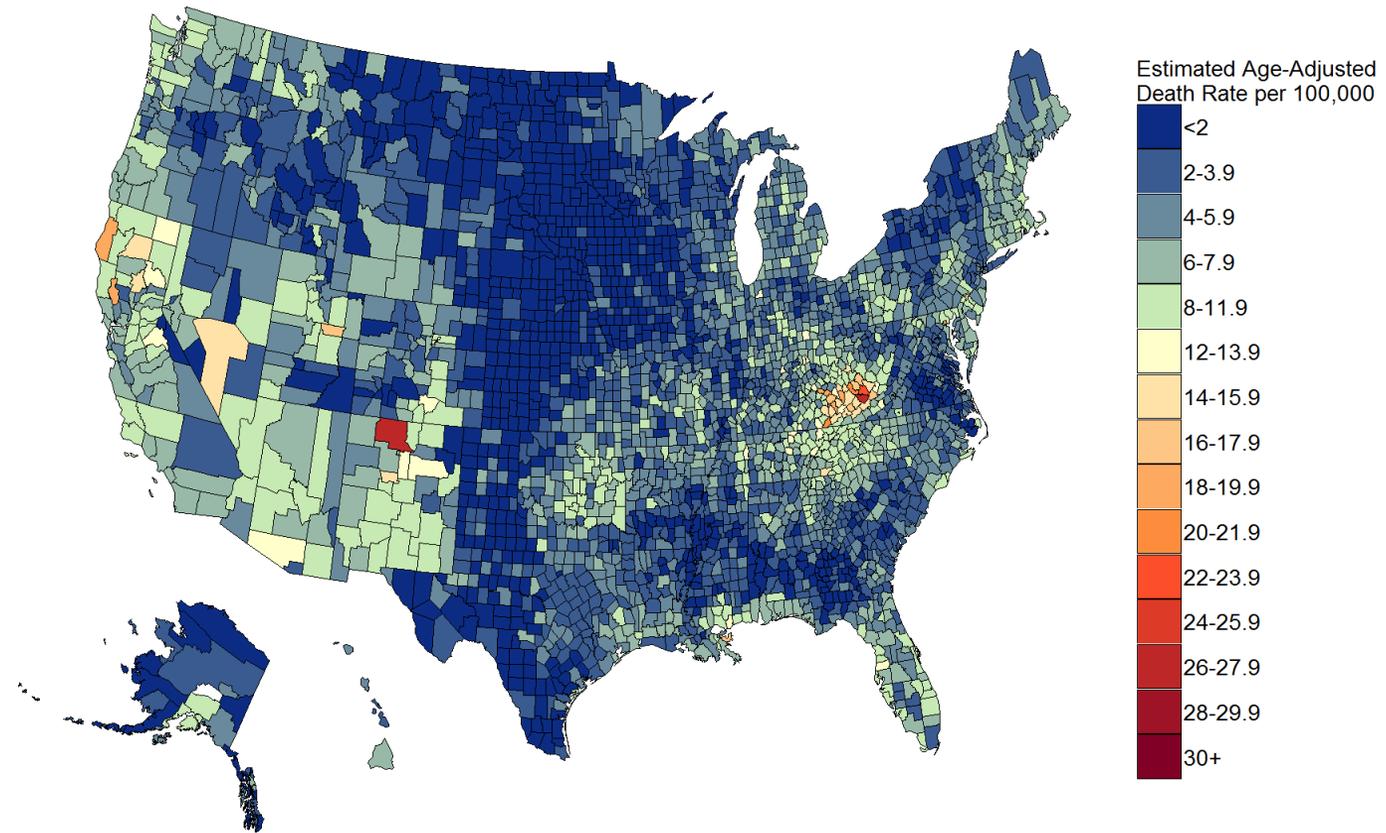
Are you ready to earn your master's in computer science but not ready to stop working? Do you want a top-ranked degree without the top-ranked price tag?

If so, Georgia Tech has the answer.

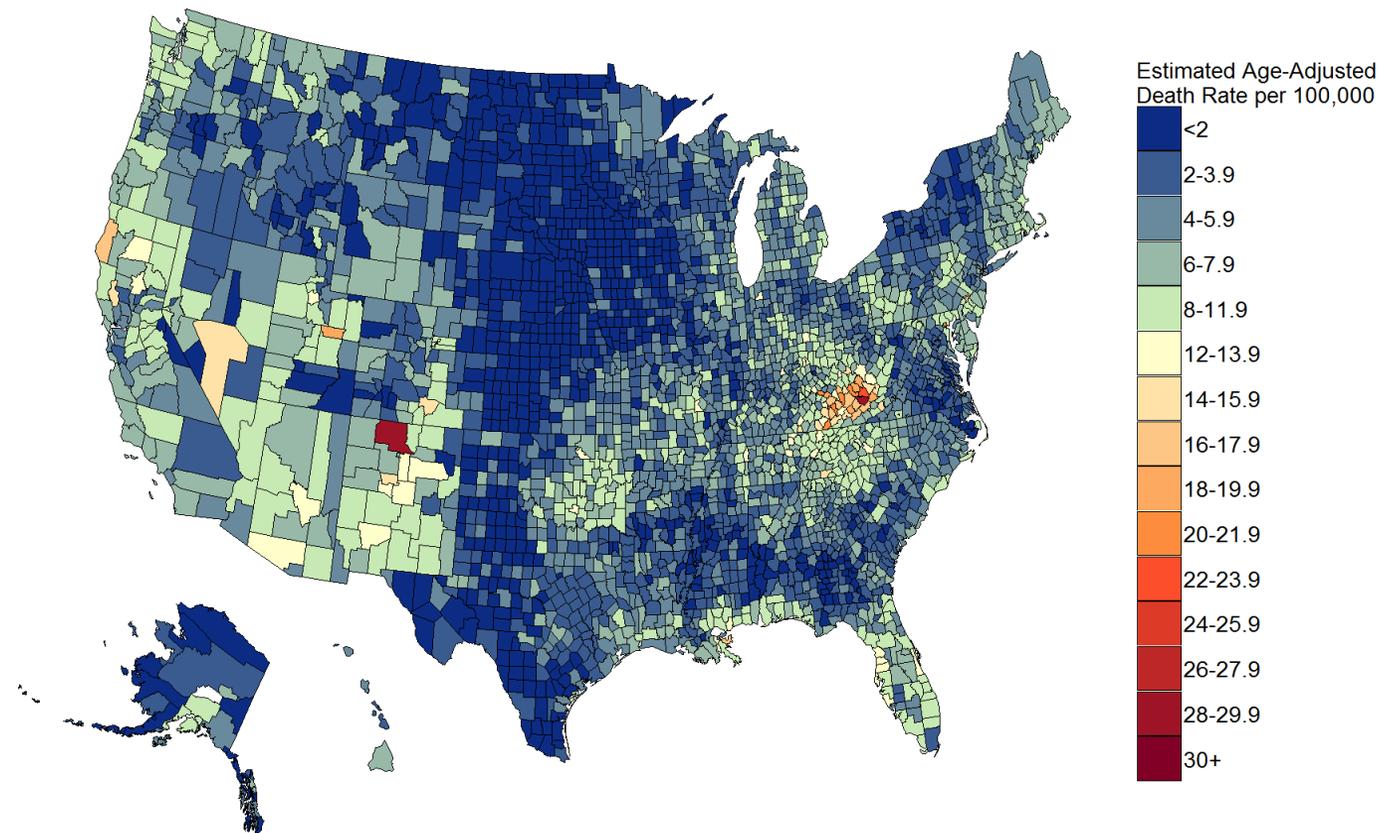




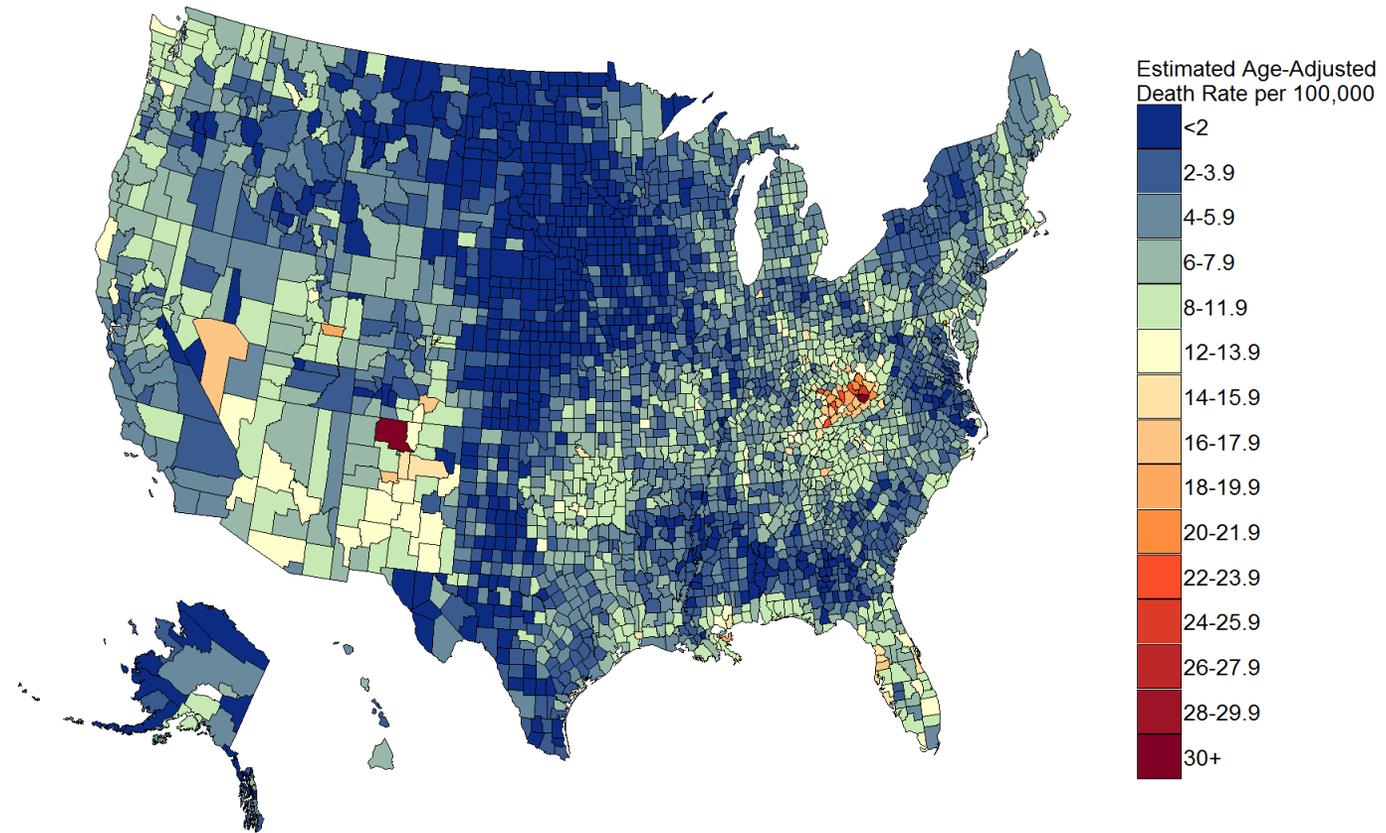
1999



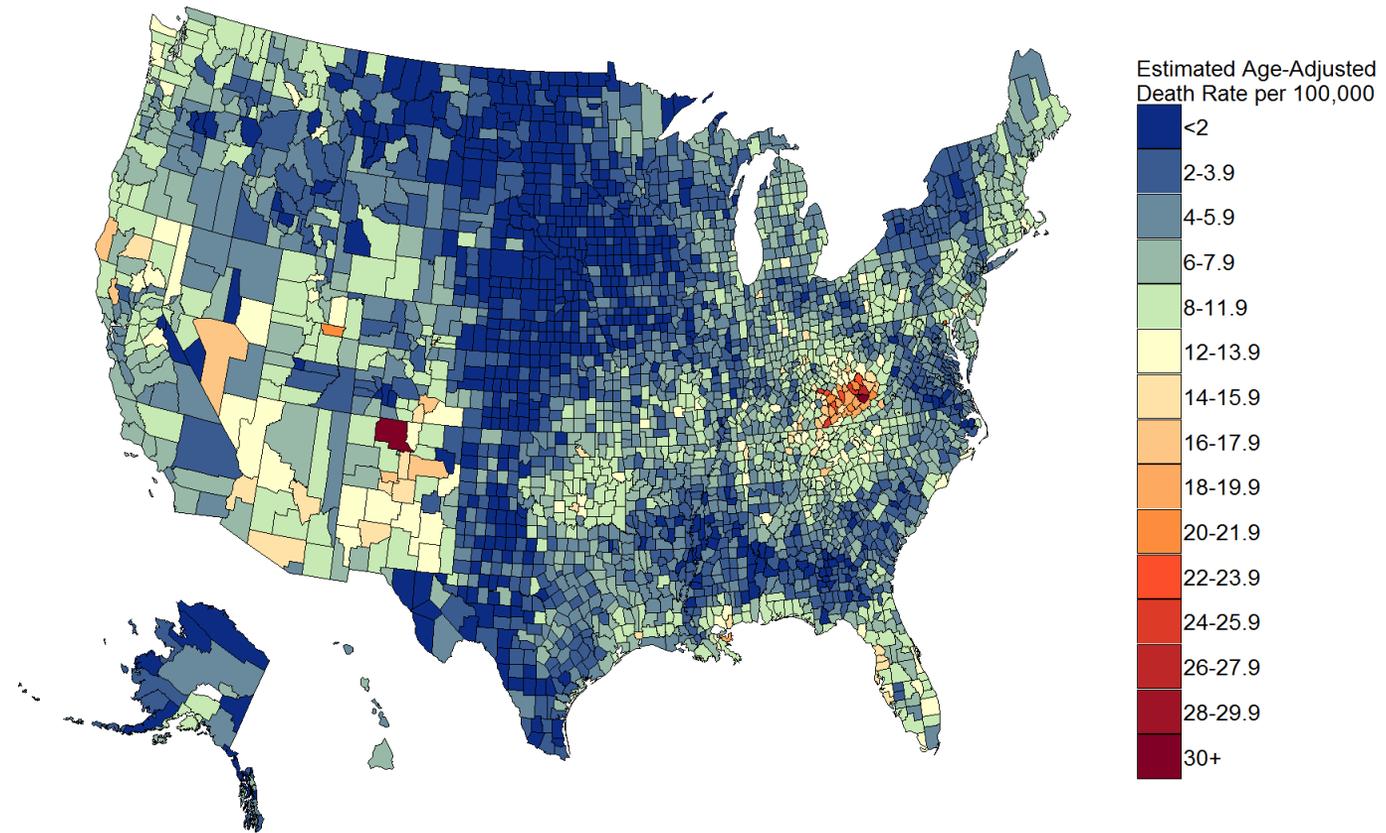
2000



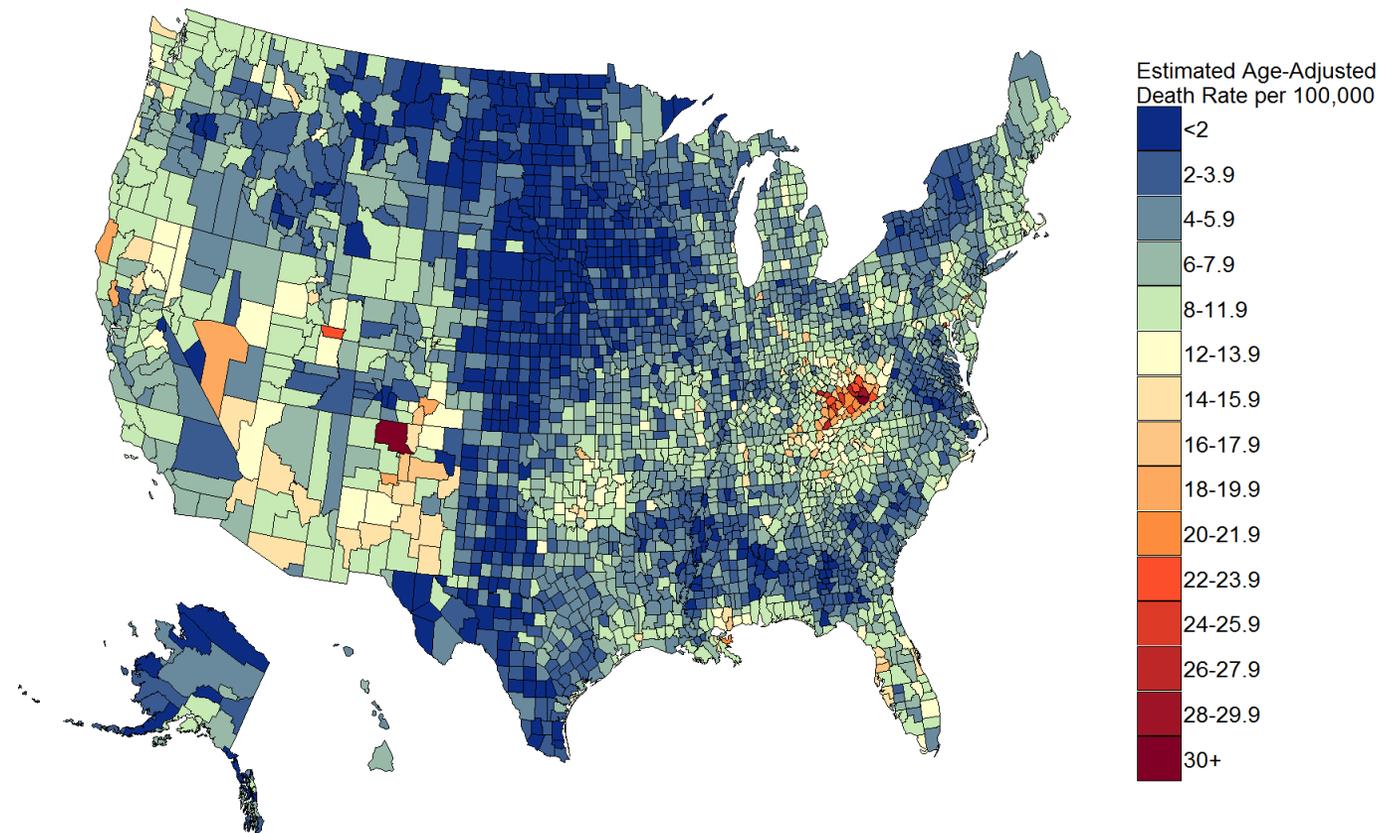
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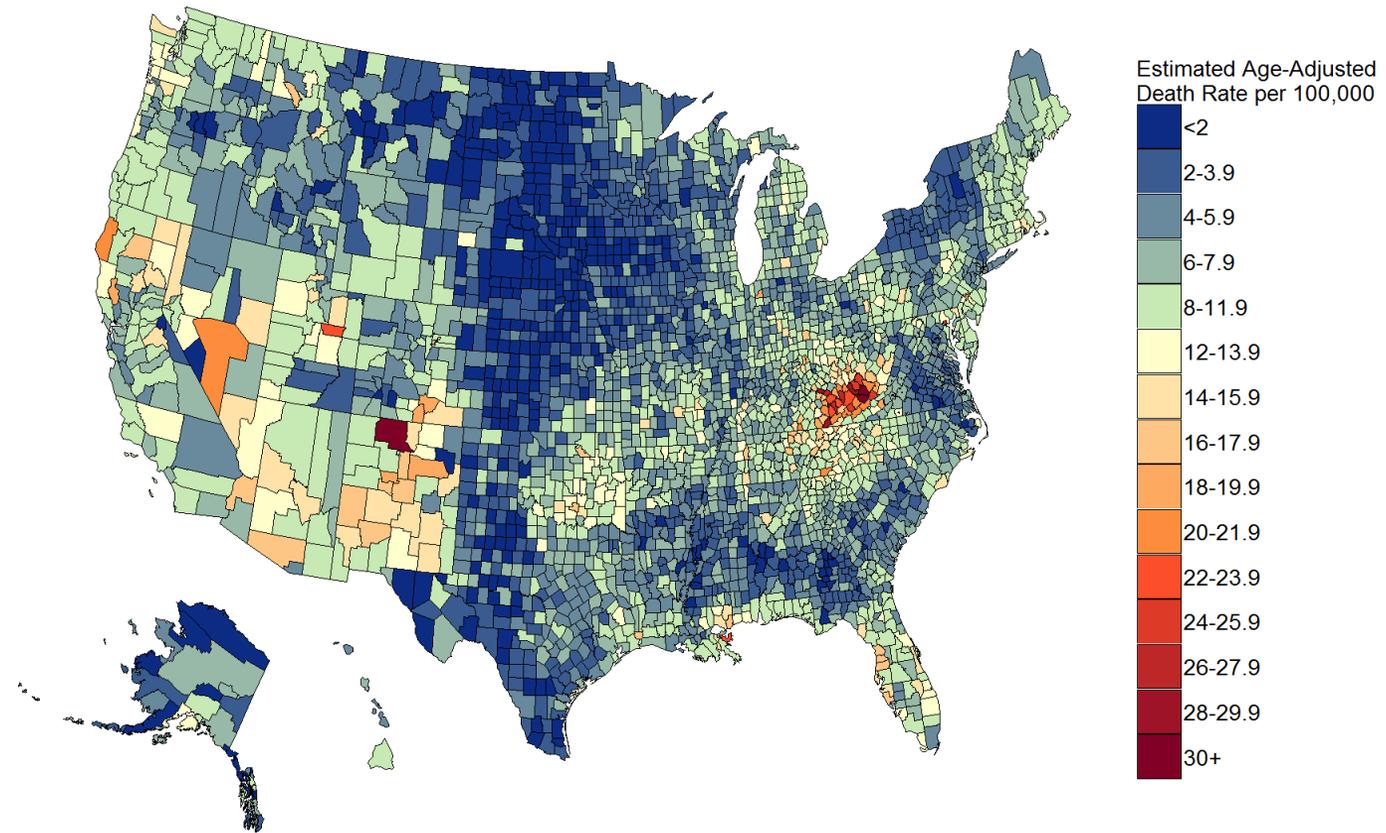
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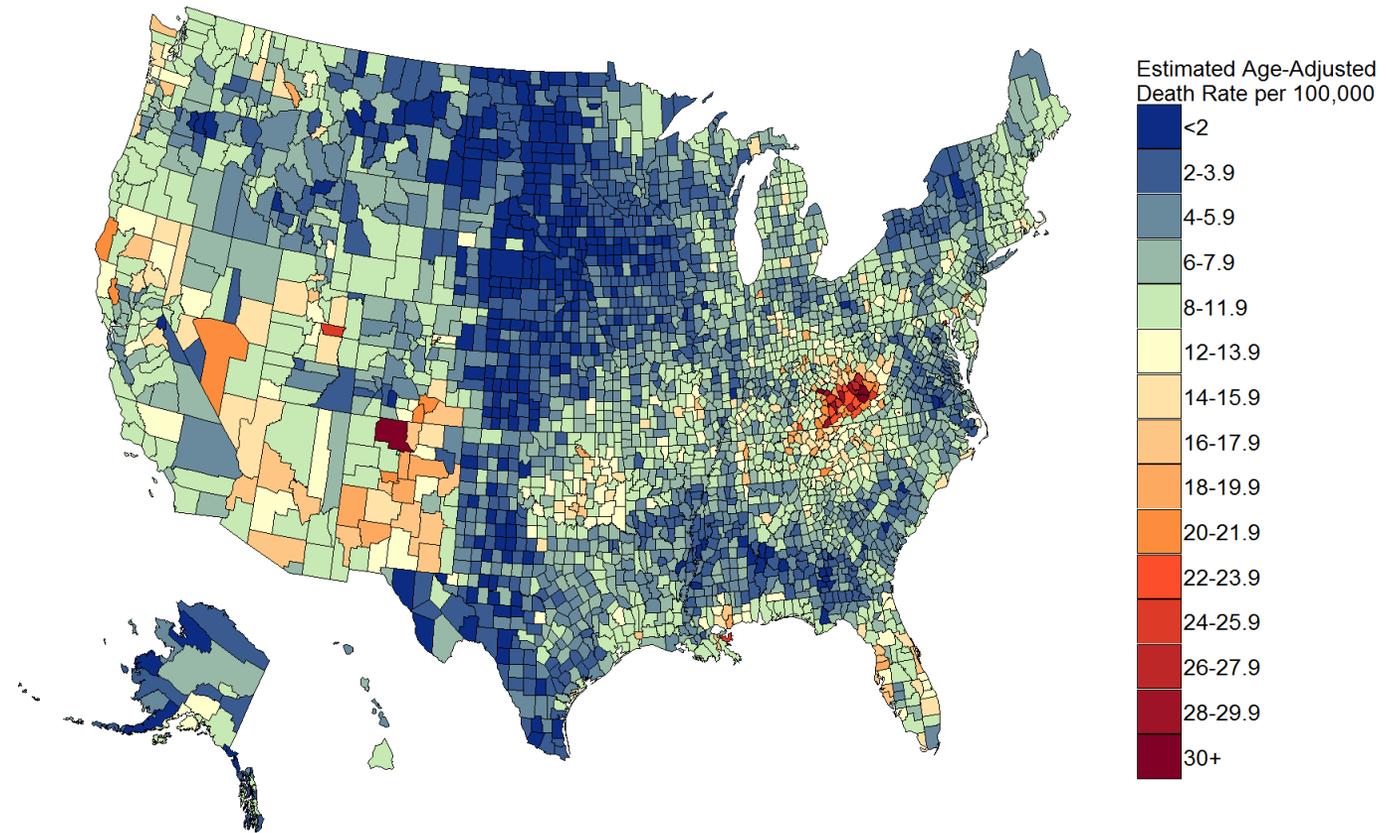
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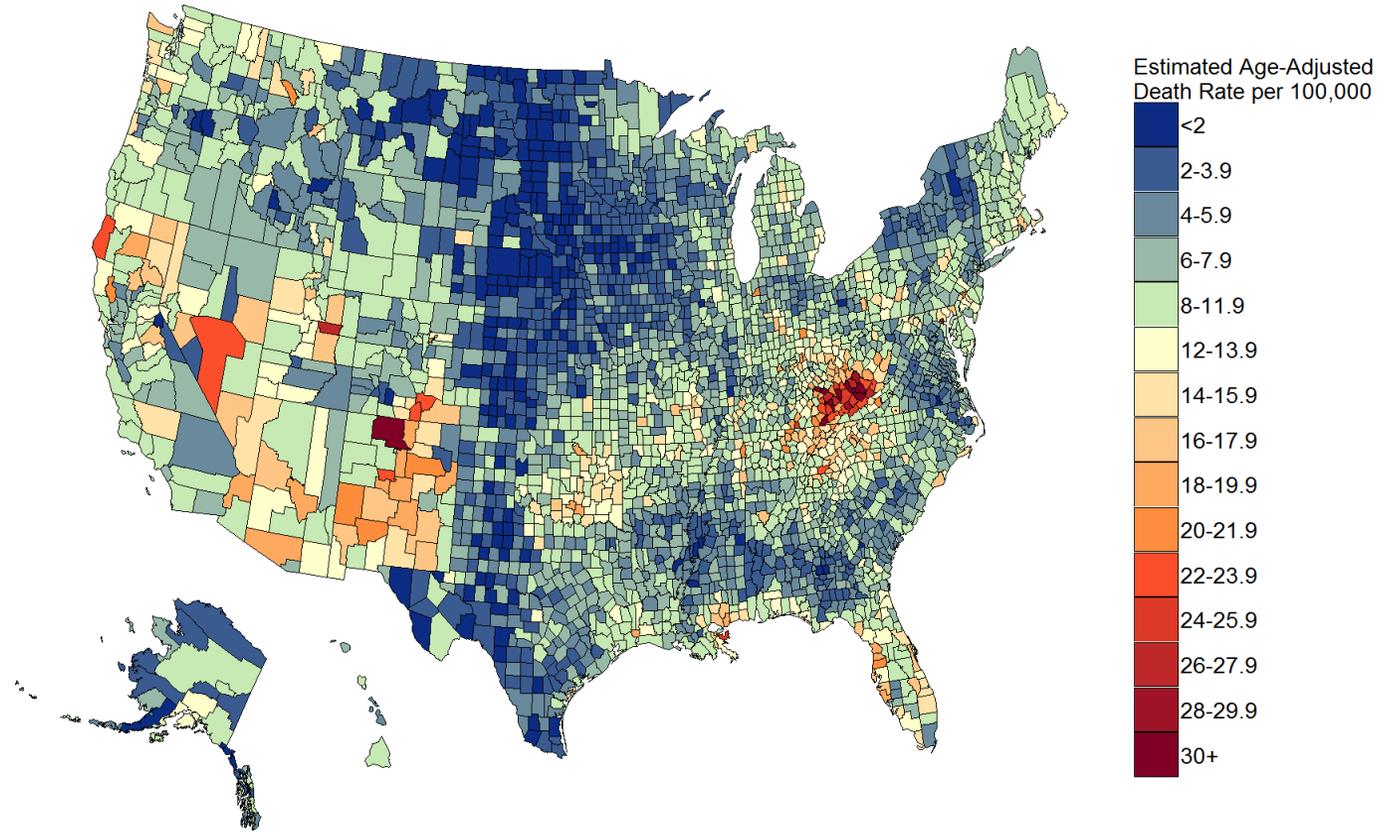
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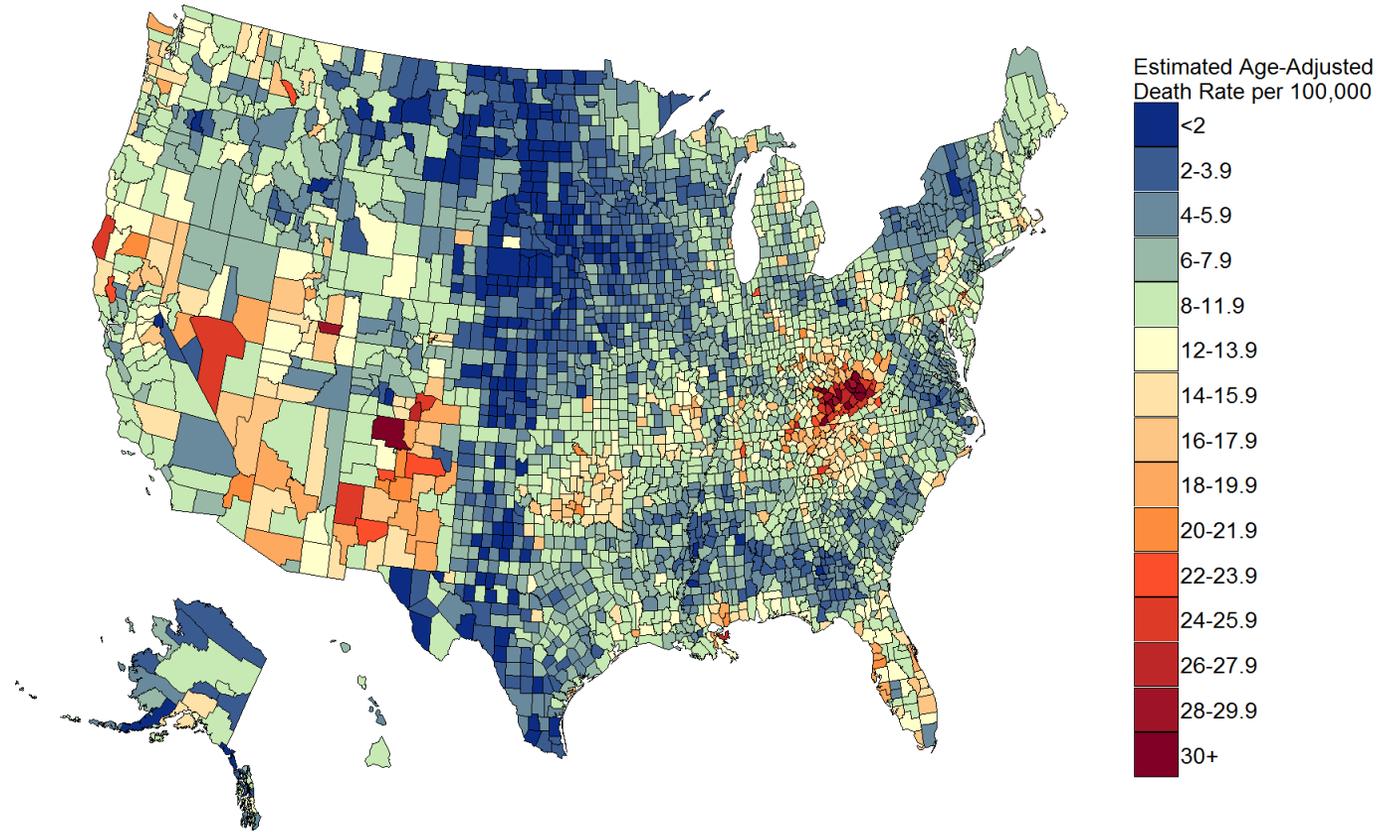
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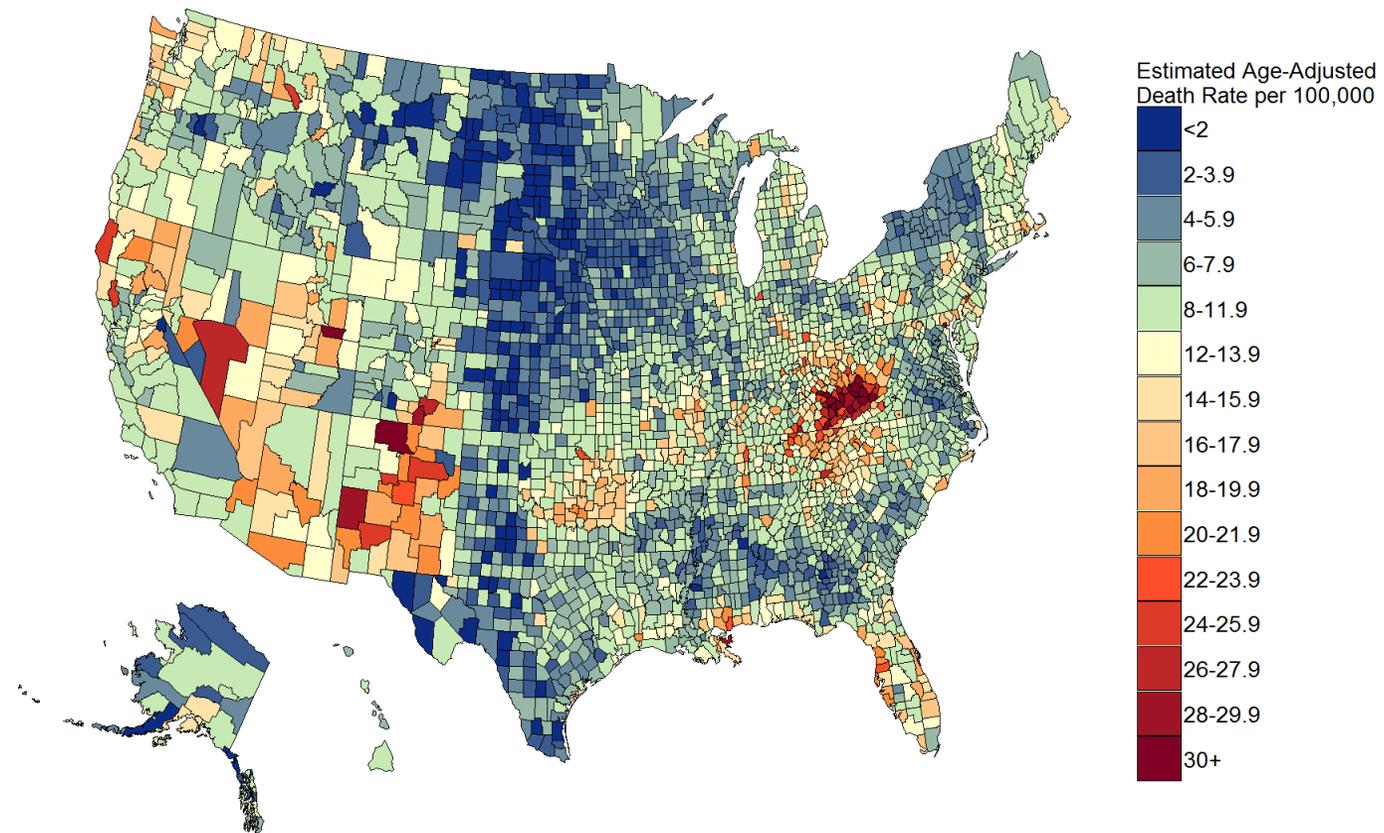
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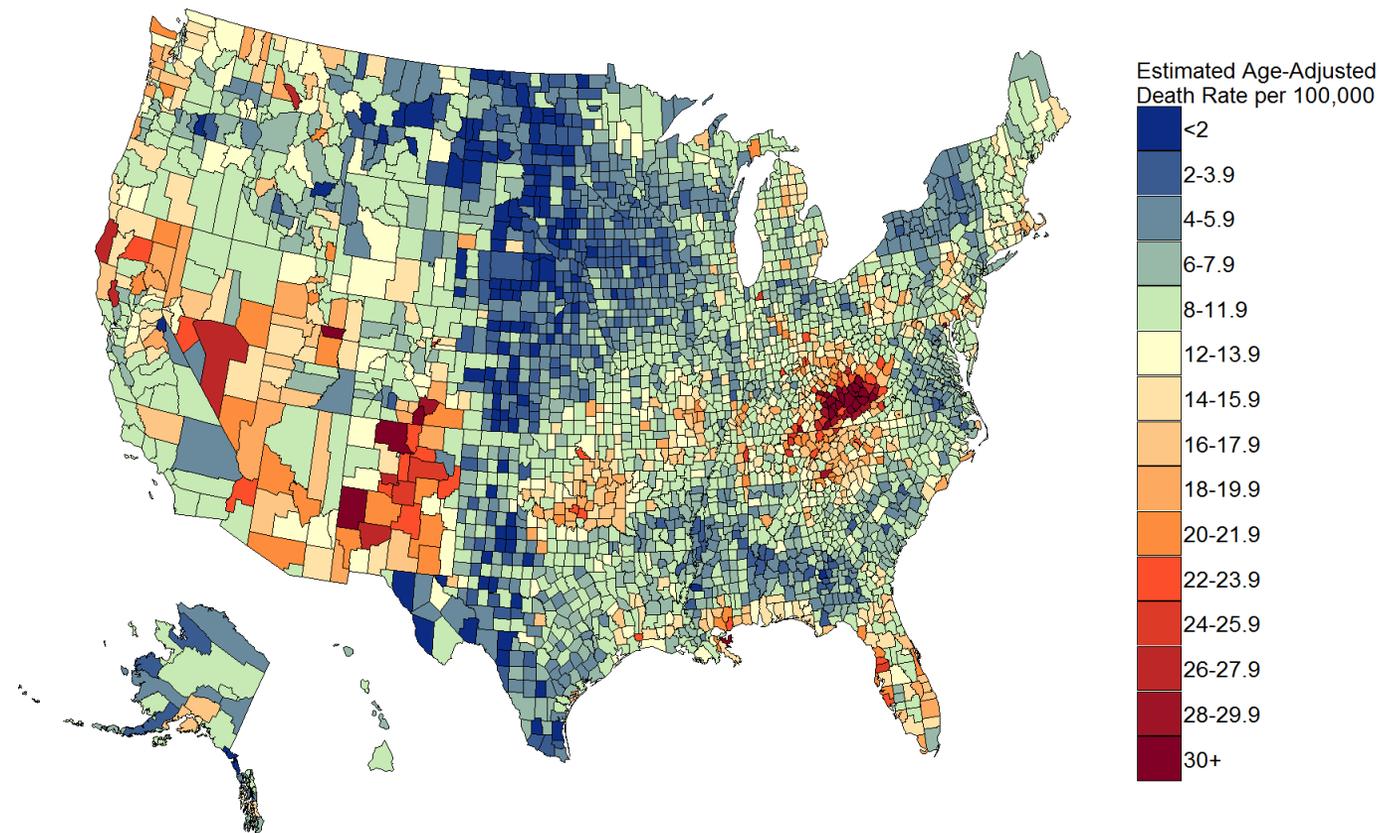
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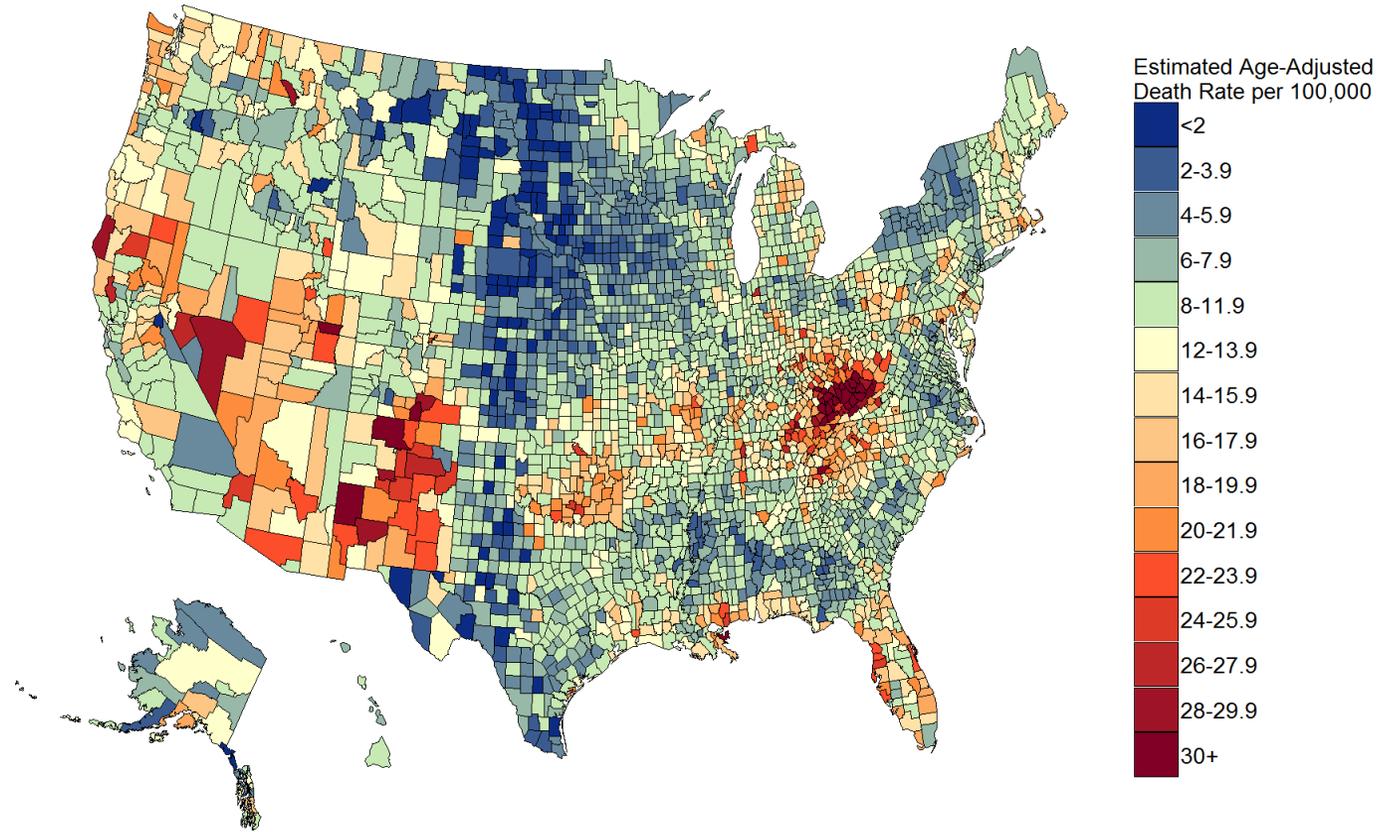
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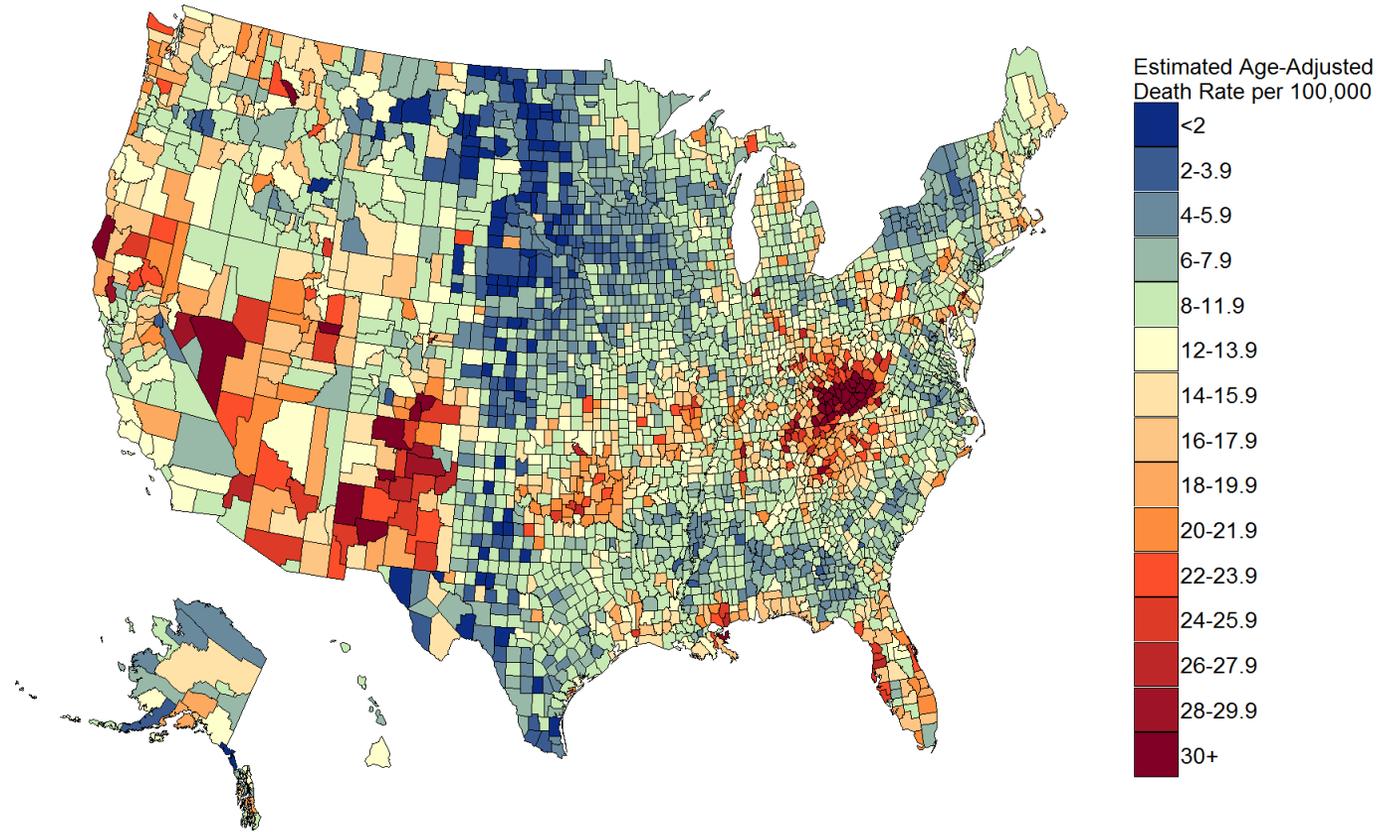
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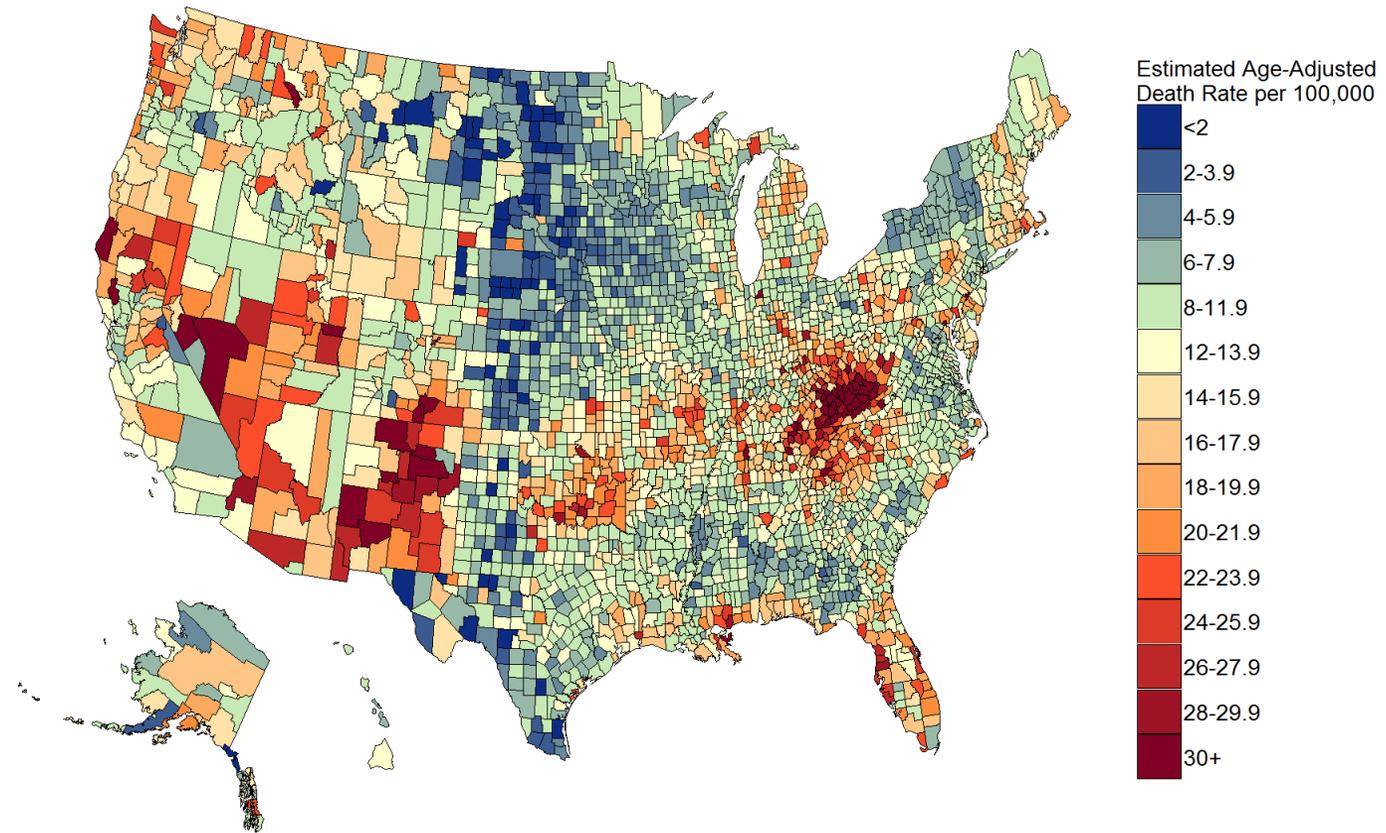
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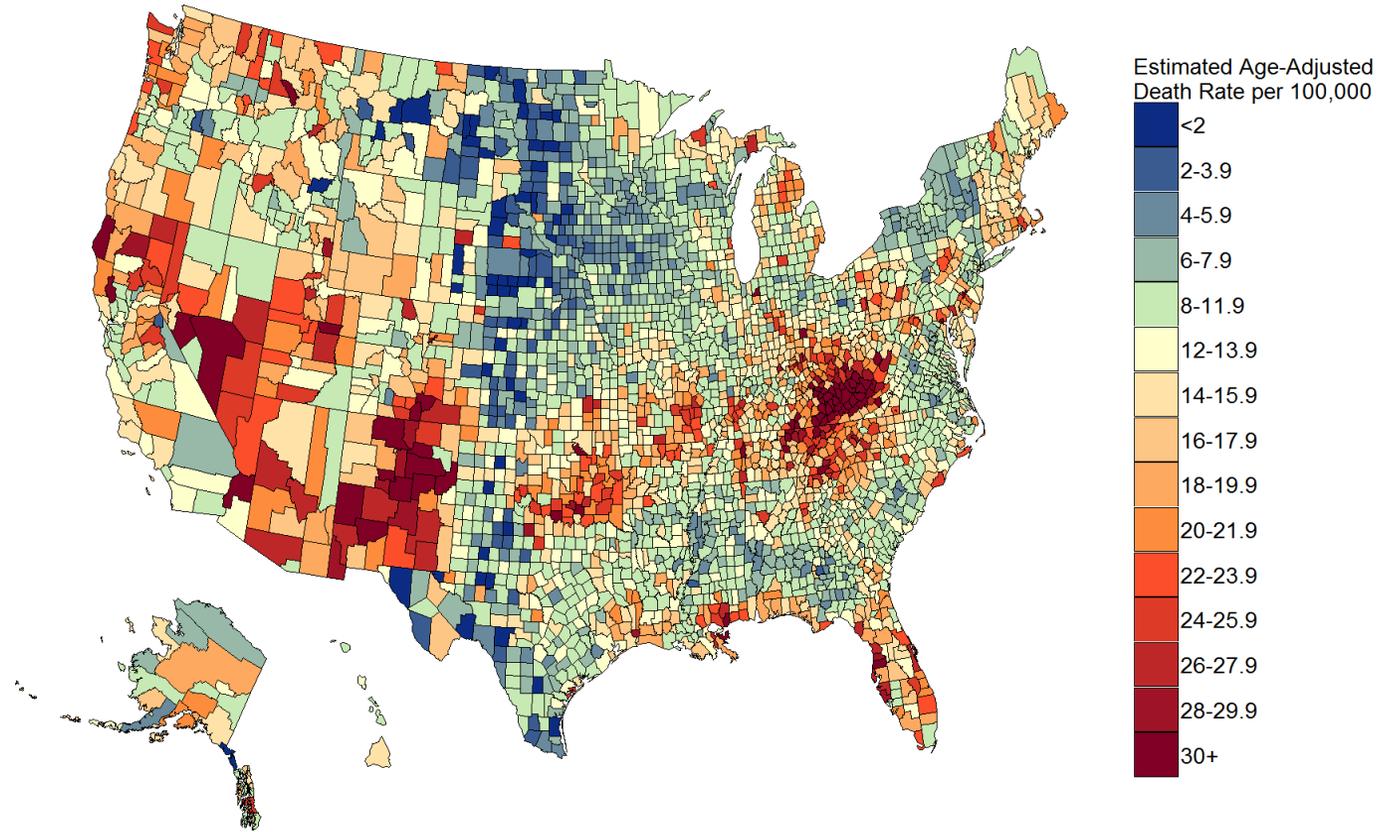
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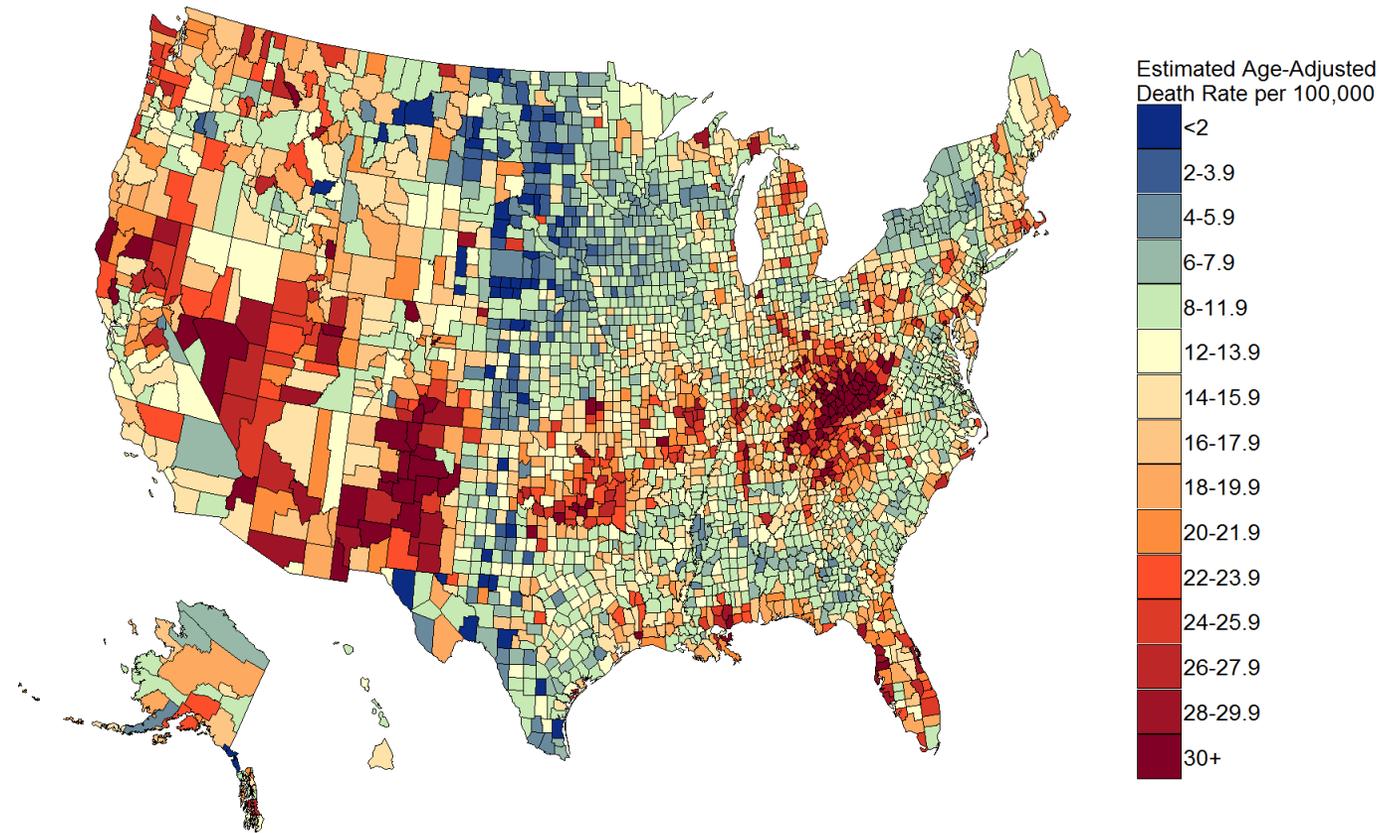
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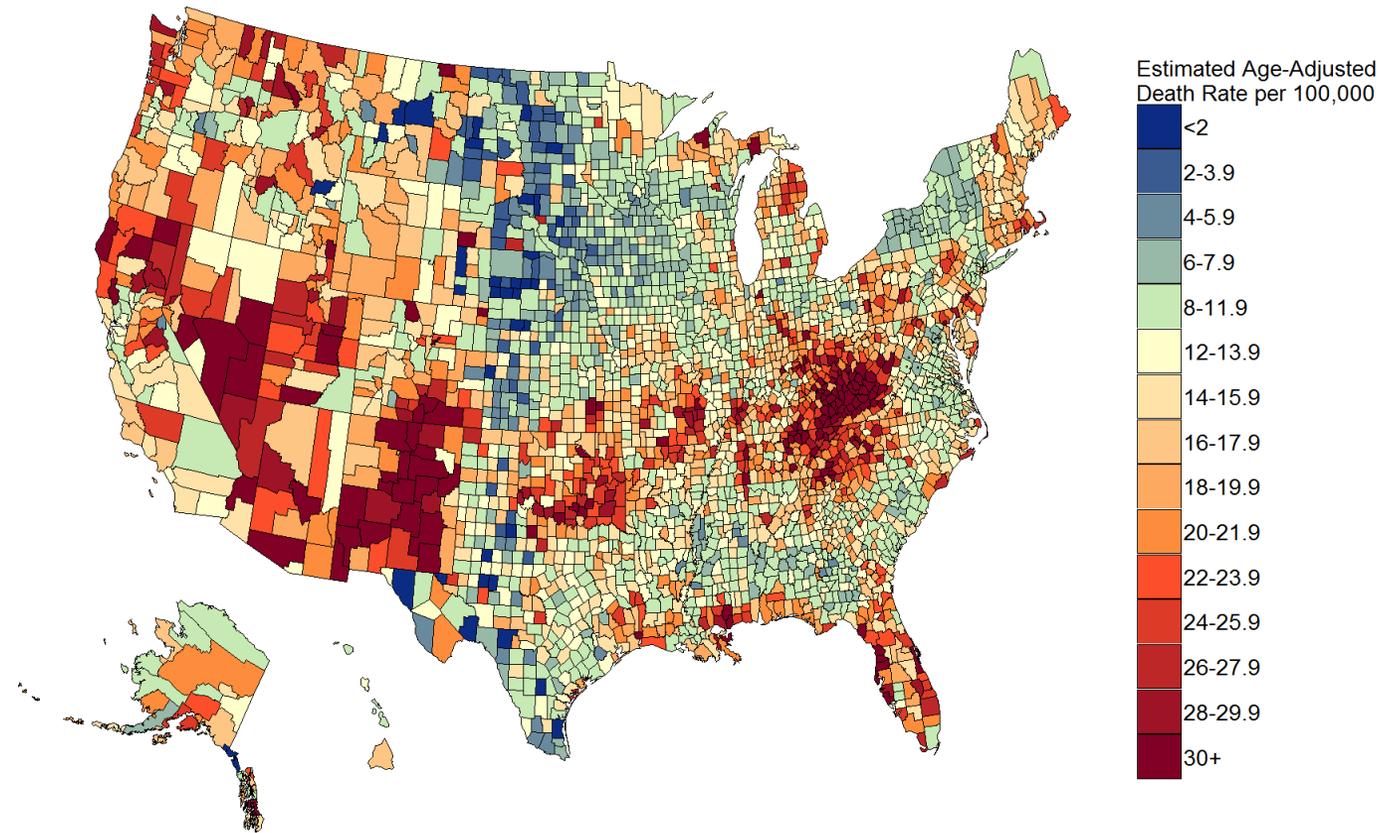
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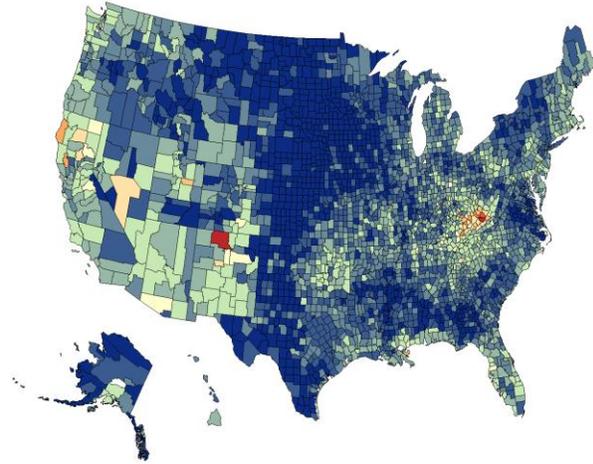
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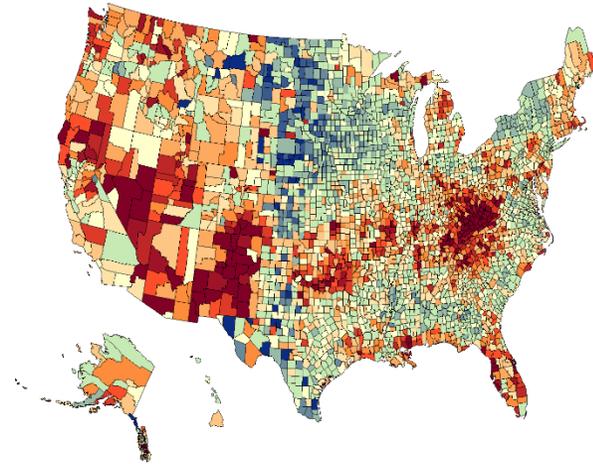
2015



1999



2015



Improve Medical Examiner Access to Controlled Substances Database

Develop a FHIR interface for the Utah Controlled Substances Database to enable users to access prescription history from within the Office of the Medical Examiner's case management system.



Provide Prescription Drug History Within Medical Examiner's Workflow

Decedent Information Identification Decedent Residence Informant 1 2 Scene 2 Death Information Trauma/Incident Medical History
Decedent Information 2 Education Next of Kin Scene Scene 3 Transport Trauma/Incident 2 Narrative

DECEDENT INFORMATION

Release to Editor Remove from UMED ME Case Number _____
Lock Record Unlock Record State File Number _____
Investigator Edit SynNum _____

Regular Case Inquiry Case Terminated Case Rapid Inquiry Entry **Rx History**
 Animal Ancient Skeletal Remains

*Social Security Number 123-45-6678
*Decedent First Name John
*Decedent Middle Name Harold
*Decedent Last Name Doe
Decedent Suffix
AKA 1 First Name
AKA 1 Middle Name
AKA 1 Last Name
AKA 2 First Name
AKA 2 Middle Name
AKA 2 Last Name
Decedent Sex Male Female Unknown

[New](#) [Parent Cases](#) [Comprehensive Search](#) [Return to Comprehensive Search Results](#) [Print Functions](#) [Save](#) [Delete](#) [Exit](#)

CSO Matches

Family Name: Doe

Results (4)

- Jane Doe (40)
City, State, Zip
- John Doe (54)
City, State, Zip
- Sarah Doe (27)
City, State, Zip
- James Doe (18)
City, State, Zip

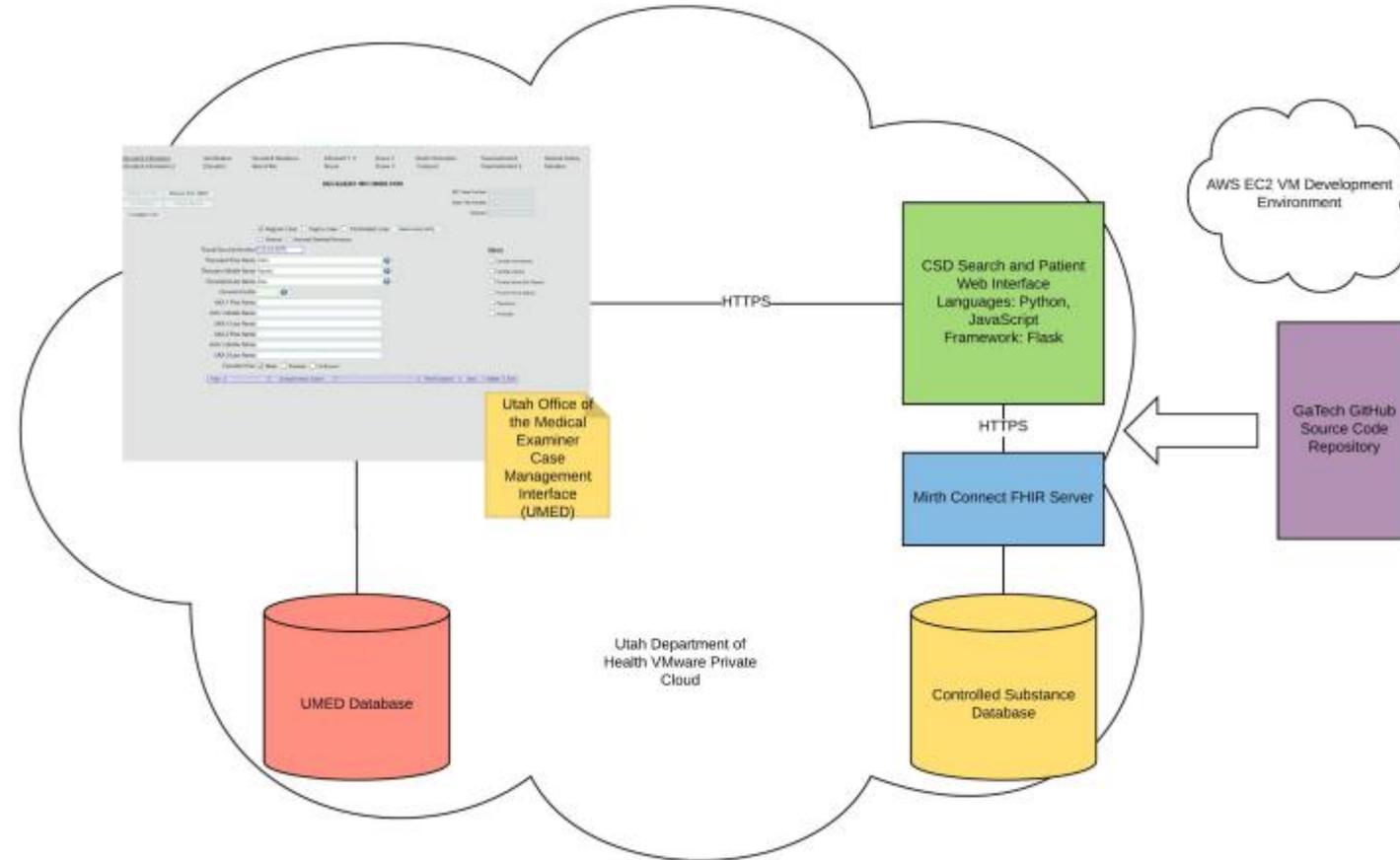
Jane Doe
Age: 40 Address 1
Born: January 1, 1970 Address 2
Died: January 1, 2010 City, State

Medication Name: NDC
First Prescribed: Validity Period Start Date
Number of Repeats: 0
Dosage: 100 mg
Quantity: 90

Medication Name: NDC
First Prescribed: Validity Period Start Date
Number of Repeats: 0
Dosage: 100 mg
Quantity: 90

Medication Name: NDC
First Prescribed: Validity Period Start Date
Number of Repeats: 0
Dosage:
Quantity: 90

Scalable Solution



Now Accepting App Ideas for Fall 2017

Contact Paula Braun: pax1@cdc.gov

Topics for Consideration

Considerations for public health based on lessons learned from FHIR

- What are the most important things that need to be done?
- How can we work together to promote as much coordination and consistency as early as possible in the process?
- What do vendor products currently have the capacity to do? What functionality needs to be added to core products? What options do we have to bridge any gaps?
- How can public health data collection better fit within data providers' workflow?
- Don't try to solve every problem. Focus on the common 80%, set priorities, and build strong collaborations.

Questions?

Paula A. Braun

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