



Using and Developing Survey Metadata

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Agenda

- Who we are
- Survey creation: process and roles
- Metadata key features
- Metadata hierarchy
- Metadata attributes
- Metadata XML structure
- Meta Editor – authoring tool



What is NHANES?

- The National Health and Nutrition Examination Survey (NHANES) is one of several Centers for Disease Control and Prevention (CDC) surveys used for assessing the health of the United States population.
- The primary objective of NHANES is to collect high quality health and nutrition data and to release it for public use in a timely manner.



NHANES

- 5000 Participants
- 15 Cities / year
- All ages
- 12 months / year
- HH screening and interview
- Mobile Exam Center exam, interview, blood draw



NHANES



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Typical Survey Creation Roles

- Content expert
 - Content design: specifications, protocols, other documents
- Content developer
 - Content creation: codebooks, metadata
 - Content maintenance
- Software developer
 - Survey software development
 - Survey software deployment
 - Survey software maintenance



CHITA Main Concepts

- Clear separation between survey content (creation and management) and survey software (creation and management)
- Content expert plays dominant role
- Software developer plays minimized role
- Using WYSIWYG visual editor to create content
- Content exists as Metadata in metadata repository

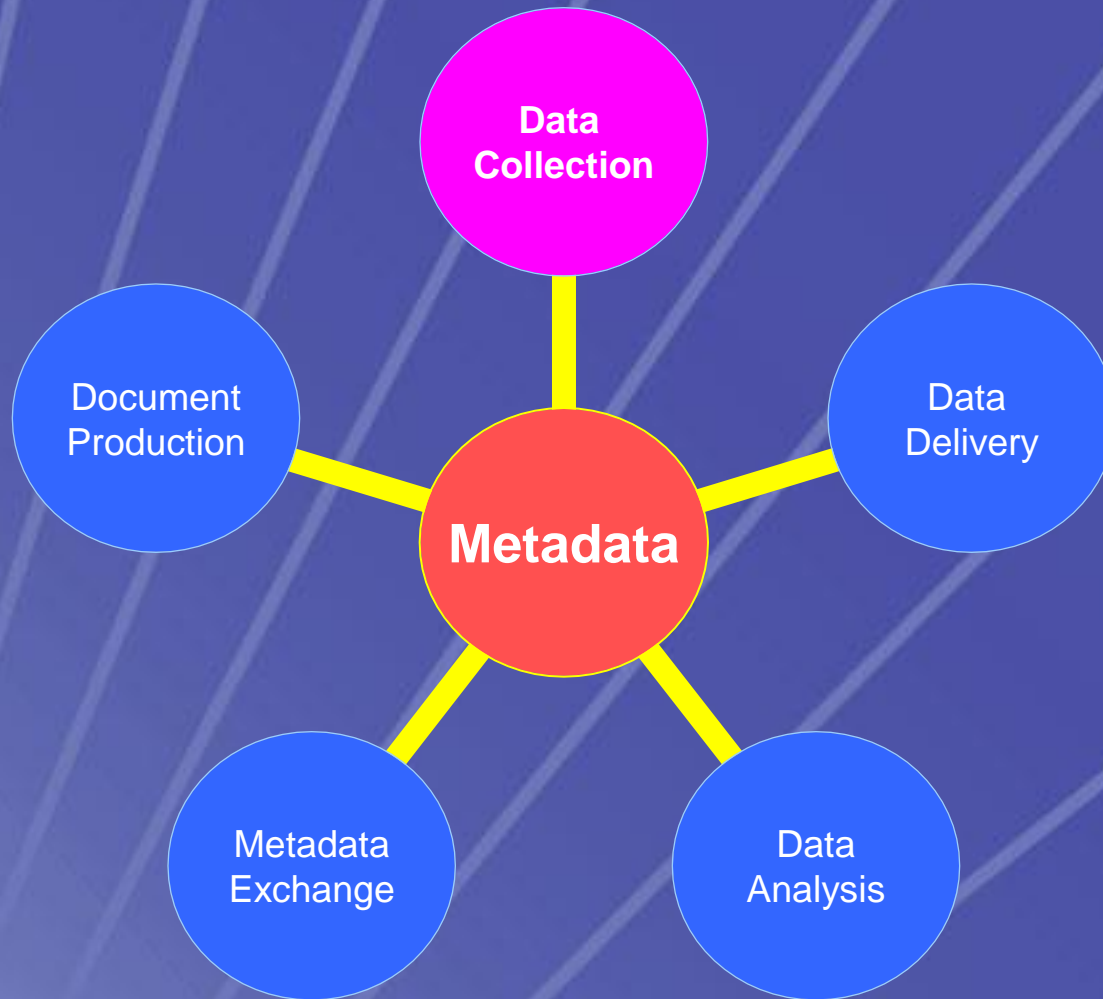


CHITA Survey Creation Roles

- Content expert
 - Content design: specifications, protocols, other documents
 - **Content maintenance**
- Content developer
 - Content creation: codebooks, metadata
 - Content maintenance
 - **Content deployment**
 - **Survey maintenance**
- Software developer
 - **Survey tools development**
 - Survey software development
 - Survey software deployment
 - Survey software maintenance



Metadata Usage

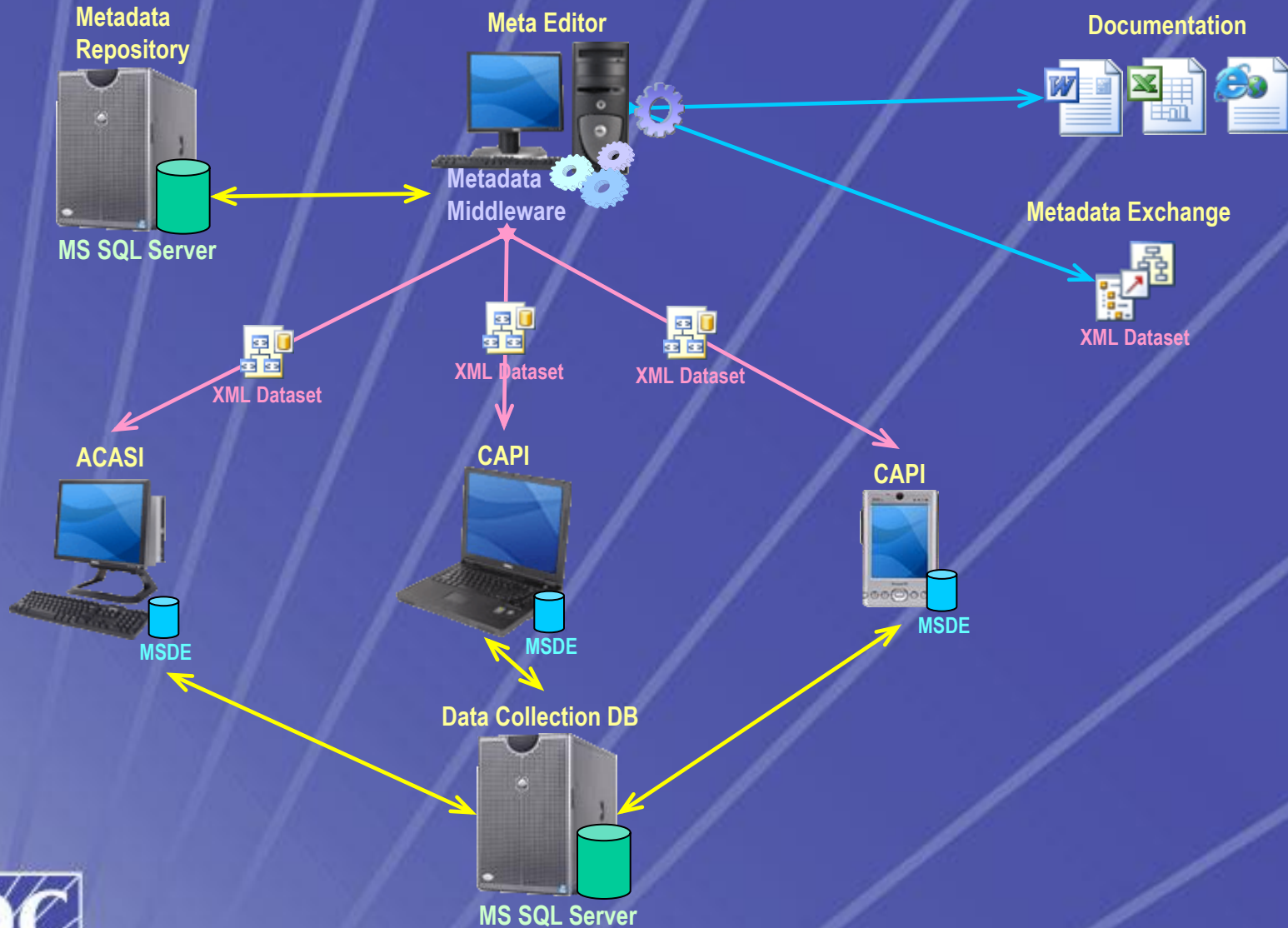


Metadata Use

- Metadata describes survey content
- Metadata created via visual tool
- Metadata resides in metadata repository in relational database and in XML
- Metadata used for:
 - Data collection
 - Data delivery
 - Data analysis
 - Codebooks, specifications, protocols, and other documents
 - Metadata exchange



Process Flow



Metadata Driven Components

- Questionnaires:
 - CAPI
 - ACASI
 - PDA
 - WEB
- Examination/biologic components:
 - Measurement components (BM, BP, ...)
 - Specimen components (UC, PH, ...)
 - Environmental components (Air, Water, ...)



Metadata Main Features

- Hierarchy: survey/module/section/item
- Text: questions, instructions, codes, helps
- Media: sounds, images, video
- Flow: skips, branches, check items
- Validations and custom errors
- Presentation for data collection
- Gender/Proxy/Data dynamic substitutions
- Storage for data collection
- Data analysis / SAS generation



Data Collection Features

- Windows, PDA or WEB front-end
- Rich GUI
- Sound, image and video support
- Phonetic multi-column dictionary support
- Local and/or remote data storage with synchronization



Meta Editor

- Visual Tool to create Metadata
- Oriented toward content experts and power users
- Insert/Delete/Copy/Paste
- Templates for common tasks
- Validation on the fly
- Item data and item flow preview
- Maintains master repository with export/import
- Maintains surveys
- Generates XML to drive data collection and data analysis



Metadata Key Features

- Sophisticated hierarchical data structure
- Built-in version control
- Stored in relational database
- No limits on number of modules, sections, subsections, nodes
- Multiple node and item types
- 50+ node and item attributes
- Sub items support
- Media file support
- XML import/export support



Metadata Key Features II

- Multiple target support
- Multiple code/response support
- Sophisticated data collection validation
- Data collection presentation
- Skip pattern and check item support
- Substitution pattern support
- Data delivery formats
- Shared between CAPI, ACASI, CIDI, ...



Metadata Hierarchy

- Repository root
 - Survey1
 - Survey2
 - Component1
 - Module1
 - Module2
 - ...
 - Component2
 - ...
 - Survey3
 - ...
 - ...



Metadata Hierarchy II

- Module1
 - Section1
 - Item1
 - Subitem 1
 - Subitem 2
 - Item2
 - ...
 - Section2
 - Item1
 - Item2
 - ...
 - ...
- Module2
- ...



Meta Editor: Master Repository

Metadata Editor

File Edit Tools Help

Name	Node Type	Description	Targets	Item ID	Item ...	SAS Label	Text
MI-BLAISE	Module	Blaise Module	Both, 8 Years - 150 Years				
MI-CAPI	Module	CAPI Module	Both, 12 Years - 150 Years				
MI-ACASI	Module	Audio CASI ...	Both, 12 Years - 59 Years				
MI-CDI	Module	Critical Data ...	Both, 12 Years - 150 Years				

General | Targets | Ranges and Sounds | Text | Codes | Help | Versions | Preview

General Properties (ID: 11026; Index: 0)

Sequence # :
 Name : *
 Type :
 Description :

Database Properties

Collection Item ID :
 Analytic Item ID :
 Database Table :
 Database Type :

Item Properties

Item Type : SAS Type :
 Lookup Field : Length :
 Label :

Root MI-05 NCHS\NHANES-05\MI-05 (local).NCS_META_editor_test_db



Meta Editor: Creating Question

The screenshot displays the Metadata Editor application window. The title bar reads "Metadata Editor" and includes standard window controls. The menu bar contains "File", "Edit", "Tools", and "Help". Below the menu is a toolbar with icons for file operations, navigation, and editing. The main interface is divided into two panes. The left pane shows a hierarchical tree view of the project structure, with "NCS" expanded to show "NCS-Surveys" and "NCS-ACASI" selected. The right pane has tabs for "General", "Targets", "Text", "Codes", "Help", "Versions", and "Preview", with "Text" currently active. The "Text" tab contains five sections: "English Text" with the question "During your life, on how many days have you had at least one drink of alcohol?"; "English Instructions" with "Please select one of the following choices."; "Spanish Text" with "Durante su vida, ¿cuántos días ha tomado al menos un trago de alcohol?"; "Spanish Instructions" with "Por favor seleccione una de las siguientes opciones."; and "CAPI Instructions" which is currently empty. At the bottom of the right pane is a "Sounds" section with two entries: "English" and "Spanish", both pointing to the file "C:\CHITA05\NCSACASI\NHANES Sounds\ Sounds\English\ALQ\alq022.wav" and "C:\CHITA05\NCSACASI\NHANES Sounds\ Sounds\Spanish\ALQ\alq022.wav" respectively. The status bar at the bottom shows "SP: 0", "N/A", "Unknown", "0 years", "Appt: 0", "Session: N/A", "Stand: N/A", and the current item path "Item ALQ022 NCS\NCS-Surveys\ACASI-Survey\NCS-ACASI\ALQ\ALQ022" and database name "(local).NCS_META_editor_test_db".

Meta Editor: Creating Response

Metadata Editor

File Edit Tools Help

General Targets Text Codes Help Versions Preview

Item Codes

Idx	ID	Item ID	Code ID	Type	Value	English Label	Spanish Label	Next Item	Links	Lookup	Soft Range
0	30090	ALQ031		Response	1	0 days	0 días	EOS	0		
1	30084	ALQ031		Response	2	1 or 2 days	1 o 2 días		0		
2	30091	ALQ031		Response	3	3 to 5 days	3 a 5 días		0		
3	30092										
4	30093										
5	30094										
6	30095										
7	27609										
8	27610										

Code Properties (ID: 30094)

General Links (0)

Index : 5

Collection ID :

Value : * 6

English Label : * 20 to 29 days

Spanish Label : 20 a 29 días

Type : * Generic Response

Fill Value :

Next Item :

Lookup Field :

Preset :

EOS :

English Audio File : C:\CHITA05\NCSACASI\NHANES Sounds\Sounds\English\ALQ\Alq031- ...

Spanish Audio File : C:\CHITA05\NCSACASI\NHANES Sounds\Sounds\Spanish\ALQ\Alq031- ...

Image File :

Soft Range :

Hard Range :

OK Cancel Validate

SP: 0 N/A Unknown 0 years Appt: U Session: N/A Stand: N/A

Item ALQ031 NCS\NCS-Surveys\ACASI-Survey\NCS-ACASI\ALQ\ALQ031 (local).NCS_META_editor_test_db



Meta Editor: Preview

The screenshot shows the Metadata Editor application window. The title bar reads "Metadata Editor". The menu bar includes "File", "Edit", "Tools", and "Help". The toolbar contains icons for file operations, undo, redo, search, language selection (US and Spanish), and navigation. The left pane displays a hierarchical tree structure:

- NCHS
 - DUC
 - CHANGES
 - NYC-HANES
 - EXAM
 - INTV
 - CAPI
 - DMQ
 - DMQ000_
 - DMQ140
 - SFQ180
 - DMQ075
 - DMQ080
 - DMQ090
 - DMQ100
 - DMQ105
 - DMQ111
 - DMQ120
 - DMQ130
 - DMQ150
 - DMQ161
 - DMQ240
 - DMQ251
 - DMQ265
 - DMQ270

The right pane has tabs for "General", "Targets", "Text", "Codes", "Help", "Versions", and "Preview". The "Preview" tab is active and displays the following content:

What is your maiden name?

VERIFY SPELLING.

Enter maiden name

Same as current last name Smith

The status bar at the bottom shows: SP: 0, Jane Smith, Self, Female, 20 years, Appt: 0, Session: 410331, Stand: 410 Test. The taskbar at the bottom indicates the logical item is DMQ090, the path is NCHS\CHANGES\NYC-HANES\INTV\CAPI\DMQ\DMQ090, and the database is ANCH-HVL-NYC_A.NYC_META_Editor_test_db.



Metadata XML Generation

Metadata Editor

File Edit Tools Help

Save
 Generate ▶ HTML
 Import ▶ XML ▶ Instrument
 Exit

Analytic Tables
 Analytic Tables DB Script
 Component Data
 Component SQL Script

Node Type	Description	Targets	Item ID	Item ...	SAS Label	Text
Module	Blaise Module	Both, 8 Years - 150 Years				
Module	CAPI Module	Both, 12 Years - 150 Years				
Module	Audio CASI ...	Both, 12 Years - 59 Years				
Module	Critical Data ...	Both, 12 Years - 150 Years				

INTV
 LAB
 ADMIN
 EOE
 EOE
 NHANES-05
 MI-05
 MI-BLAISE
 MI-CAPI
 MI-ACASI
 MI-CDI
 EOE
 EOE
 NCS
 Testing
 Development
 NCS-Surveys
 CAPI-Survey
 ACASI-Survey
 NCS-BMXBPX
 NIH-UC
 NIH-AIR
 NIH-WATER
 NIH-PH
 NIH-DUST
 NIH-SOIL
 EOE
 EOE
 DEMO
 EOE

General Targets Ranges and Sounds Text Codes Help Versions Preview

General Properties (ID: 11026; Index: 0)

Sequence # : 6
 Name : *MI-05
 Type : Survey
 Description : NHANES MI 05

Database Properties

Collection Item ID :
 Analytic Item ID :
 Database Table :
 Database Type :

Item Properties

Item Type : SAS Type :
 Lookup Field : Length :
 Label :

Root MI-05 NCHS\NHANES-05\MI-05 (local).NCS_META_editor_test_db



Metadata XMLs

- Component/questionnaire content XML
- Substitution patterns XML
- Cross-component media files XML
- Multi-column dictionary (s) XML(s)



Metadata XML Structure



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Content XML Modules

```
<?xml version="1.0" standalone="no" ?>
<!DOCTYPE Survey (View Source for full doctype...)>
<!-- Survey Metadata: Created on 10/4/2005 -->
- <Survey>
- <Node ID="11026" Name="MI-05" Path="NHANES-05\MI-05" Type="1" Description="Mec Interview 2005" Index="0"
  Sequence="6" Comments="" Status="0" Hard-coded="False" Audio="False">
- <Versions>
  <Version ID="633" Type="2" Major="1" Minor="0" Description="NHANES 2005" Created-by="MV" Effective-
    DT="9/30/2004 12:00:00 AM" Specification-DT="1/1/0001 12:00:00 AM" Status="False" Effective-
    Stands="750" />
</Versions>
- <Targets>
  <Target ID="14676" Name="Name" Description="Desc" Age-low="0" Age-high="150" Age-low-unit="0" Age-
    high-unit="0" Sex="3" />
</Targets>
- <Subnodes>
+ <Node ID="11024" Name="MI-BLAISE" Path="NHANES-05\MI-05\MI-BLAISE" Type="2" Description="Blaise
  Module" Index="0" Sequence="0" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Node ID="10756" Name="MI-CAPI" Path="NHANES-05\MI-05\MI-CAPI" Type="2" Description="CAPI
  Module" Index="1" Sequence="1" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Node ID="10452" Name="MI-ACASI" Path="NHANES-05\MI-05\MI-ACASI" Type="2" Description="Audio
  CASI Module" Index="2" Sequence="2" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Node ID="11023" Name="MI-CDI" Path="NHANES-05\MI-05\MI-CDI" Type="2" Description="Critical Data
  Items Module" Index="3" Sequence="4" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Node ID="0" Name="EOE" Path="" Type="92" Description="MI-05: End of Exam" Index="4" Sequence="0"
  Comments="" Status="0" Hard-coded="False" Audio="False">
</Subnodes>
</Node>
</Survey>
```



Content XML Sections

```
- <Survey>
- <Node ID="11026" Name="MI-05" Path="NHANES-05\MI-05" Type="1" Description="Mec Interview 2005" Index="0" Sequence=
  Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Versions>
+ <Targets>
- <Subnodes>
+ <Node ID="11024" Name="MI-BLAISE" Path="NHANES-05\MI-05\MI-BLAISE" Type="2" Description="Blaise Module"
  Index="0" Sequence="0" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Node ID="10756" Name="MI-CAPI" Path="NHANES-05\MI-05\MI-CAPI" Type="2" Description="CAPI Module" Index="1"
  Sequence="1" Comments="" Status="0" Hard-coded="False" Audio="False">
- <Node ID="10452" Name="MI-ACASI" Path="NHANES-05\MI-05\MI-ACASI" Type="2" Description="Audio CASI Module"
  Index="2" Sequence="2" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Versions>
+ <Targets>
- <Subnodes>
- <Node ID="7434" Name="TUQ" Path="NHANES-05\MI-05\MI-ACASI\TUQ" Type="5" Description="Tutorial" Index="0"
  Sequence="0" Comments="" Status="0" Hard-coded="False" Audio="True">
+ <Versions>
+ <Targets>
+ <Subnodes>
</Node>
+ <Node ID="10785" Name="FSQ" Path="NHANES-05\MI-05\MI-ACASI\FSQ" Type="5" Description="Food Security
  Questionnaire" Index="1" Sequence="1" Comments="" Status="0" Hard-coded="False" Audio="True">
+ <Node ID="10455" Name="SMQ" Path="NHANES-05\MI-05\MI-ACASI\SMQ" Type="5" Description="Smoking and
  Tobacco Use" Index="2" Sequence="2" Comments="" Status="0" Hard-coded="False" Audio="True">
+ <Node ID="10453" Name="ALQ" Path="NHANES-05\MI-05\MI-ACASI\ALQ" Type="5" Description="Alcohol Use"
  Index="3" Sequence="3" Comments="" Status="0" Hard-coded="False" Audio="True">
+ <Node ID="10454" Name="DUQ" Path="NHANES-05\MI-05\MI-ACASI\DUQ" Type="5" Description="Drug Use"
  Index="4" Sequence="4" Comments="" Status="0" Hard-coded="False" Audio="True">
+ <Node ID="10456" Name="SXQ" Path="NHANES-05\MI-05\MI-ACASI\SXQ" Type="5" Description="Sexual Behavior"
  Index="5" Sequence="5" Comments="" Status="0" Hard-coded="False" Audio="True">
+ <Node ID="0" Name="EOM" Path="" Type="91" Description="MI-ACASI: End of Section" Index="6" Sequence="0"
  Comments="" Status="0" Hard-coded="False" Audio="False">
</Subnodes>
</Node>
+ <Node ID="11023" Name="MI-CDI" Path="NHANES-05\MI-05\MI-CDI" Type="2" Description="Critical Data Items Module"
```

Content XML Items

```
- <Subnodes>
- <Node ID="10982" Name="SMQ620_" Path="NHANES-05\MI-05\MI-ACASI\SMQ\SMQ620_" Type="4"
  Description="" Index="0" Sequence="26" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Versions>
+ <Item ID="10898" Collection-ID="" Collection-dbtable="" Collection-dbtype="" Analytic-ID="SMQ620_"
  Type="21" Lookup-field="" SAS-type="1" SAS-length="0" SAS-format="" SAS-label="" Display-type="1"
  Display-type-params="" CAPI-instructions="">
+ <Targets>
</Node>
- <Node ID="10682" Name="SMQ620" Path="NHANES-05\MI-05\MI-ACASI\SMQ\SMQ620" Type="4"
  Description="" Index="1" Sequence="32" Comments="" Status="0" Hard-coded="True" Audio="False">
+ <Versions>
+ <Item ID="10604" Collection-ID="SMQ620" Collection-dbtable="" Collection-dbtype="smallint" Analytic-
  ID="SMQ620" Type="5" Lookup-field="" SAS-type="0" SAS-length="1" SAS-format="1." SAS-label="Ever
  tried cigarette smoking" Display-type="0" Display-type-params="" CAPI-instructions="">
+ <Targets>
</Node>
- <Node ID="10684" Name="SMQ630" Path="NHANES-05\MI-05\MI-ACASI\SMQ\SMQ630" Type="4"
  Description="" Index="2" Sequence="34" Comments="" Status="0" Hard-coded="True" Audio="False">
+ <Versions>
+ <Item ID="10606" Collection-ID="SMQ630" Collection-dbtable="" Collection-dbtype="smallint" Analytic-
  ID="SMQ630" Type="22" Lookup-field="" SAS-type="0" SAS-length="2" SAS-format="2." SAS-label="Age
  first smoked whole cigarette" Display-type="0" Display-type-params="" CAPI-instructions="">
+ <Targets>
</Node>
- <Node ID="10685" Name="SMQ640" Path="NHANES-05\MI-05\MI-ACASI\SMQ\SMQ640" Type="4"
  Description="" Index="3" Sequence="37" Comments="" Status="0" Hard-coded="False" Audio="False">
+ <Versions>
+ <Item ID="10607" Collection-ID="SMQ640" Collection-dbtable="" Collection-dbtype="smallint" Analytic-
  ID="SMQ640" Type="22" Lookup-field="" SAS-type="0" SAS-length="2" SAS-format="2" SAS-label="#days
  smoked cigarettes/past month" Display-type="0" Display-type-params="" CAPI-instructions="CAPI
  INSTRUCTION: ACCEPTABLE VALUES: 0-30, Refused, Don't Know If SMQ640 > 30 then ERROR ("Your
  response cannot exceed 30 days. Please try again.") |__|__| ENTER NUMBER OF DAYS REFUSED
  77 DON'T KNOW 99">
+ <Targets>
```

Content XML Item

```
- <Node ID="10682" Name="SMQ620" Path="NHANES-05\MI-05\MI-ACASI\SMQ\SMQ620" Type="4"
  Description="" Index="1" Sequence="32" Comments="" Status="0" Hard-coded="True" Audio="False">
+ <Versions>
- <Item ID="10604" Collection-ID="SMQ620" Collection-dbtable="" Collection-dbtype="smallint" Analytic-
  ID="SMQ620" Type="5" Lookup-field="" SAS-type="0" SAS-length="1" SAS-format="1." SAS-label="Ever
  tried cigarette smoking" Display-type="0" Display-type-params="" CAPI-instructions="">
- <Codes>
  - <Code ID="26666" Item-collection-ID="SMQ620" Type="1" Name="" Index="0" Selected="False"
    Description="" Value="1" Fill-value="" Skip-node-ID="0" Skip-node-name="" EOS="False" Code-
    preset="">
    <Label Language="English">Yes</Label>
    <Label Language="Spanish">Sí</Label>
  - <Sounds Language="English">
    <Sound Path="YES.wav" />
    </Sounds>
  - <Sounds Language="Spanish">
    <Sound Path="YES.wav" />
    </Sounds>
  - <Ranges>
    <Range ID="0" Name="Soft Edit" Description="Soft Edit" Type="0" From="" To="" />
    <Range ID="0" Name="Hard Edit" Description="Hard Edit" Type="1" From="" To="" />
    </Ranges>
  </Code>
  - <Code ID="26667" Item-collection-ID="SMQ620" Type="1" Name="" Index="1" Selected="False"
    Description="" Value="2" Fill-value="" Skip-node-ID="10983" Skip-node-name="SMQ680_"
    EOS="False" Code-preset="">
    <Label Language="English">No</Label>
    <Label Language="Spanish">No</Label>
  - <Sounds Language="English">
    <Sound Path="NO.wav" />
    </Sounds>
  - <Sounds Language="Spanish">
    <Sound Path="NO.wav" />
    </Sounds>
  - <Ranges>
```



Substitution XML

- <Pattern ID="169" Text="{su(SE) Número de Seguro Social/el Número de Seguro Social de SP}">
 - <Substitution Type="5" Text="el Número de Seguro Social de FULL_NAME" />
 - <Substitution Type="1" Text="su Número de Seguro Social" /></Pattern>
 - <Pattern ID="257" Text="{él(MPR)/ella(FPR)}">
 - <Substitution Type="7" Text="ella" />
 - <Substitution Type="6" Text="él" /></Pattern>
 - <Pattern ID="168" Text="{su(SE) raza/la raza de SP}">
 - <Substitution Type="5" Text="la raza de FULL_NAME" />
 - <Substitution Type="1" Text="su raza" /></Pattern>
- </LanguagePatterns>
- <LanguagePatterns Language="English">
 - <Pattern ID="25" Text="{carry/carries}">
 - <Substitution Type="5" Text="carries" />
 - <Substitution Type="1" Text="carry" /></Pattern>
 - <Pattern ID="6" Text="{his/her/your}">
 - <Substitution Type="7" Text="her" />
 - <Substitution Type="6" Text="his" />
 - <Substitution Type="1" Text="your" /></Pattern>
 - <Pattern ID="343" Text="{you/your child}">
 - <Substitution Type="5" Text="your child" />
 - <Substitution Type="1" Text="you" /></Pattern>
 - <Pattern ID="149" Text="{you were}">
 - <Substitution Type="1" Text="you were" /></Pattern>
 - <Pattern ID="269" Text="{you have/s/he/SP has}">
 - <Substitution Type="5" Text="FULL_NAME has" />



Media XML

```
<?xml version="1.0" standalone="no" ?>
<!-- Common sounds: Created on 1/17/2006 -->
- <CommonSounds>
- <LanguageSounds Language="English">
  <Sound Type="1" Path="Retry.wav" />
  <Sound Type="2" Path="Next.wav" />
  <Sound Type="3" Path="WhyNot.wav" />
  <Sound Type="4" Path="REFUSAL.wav" />
  <Sound Type="5" Path="DontKnow.wav" />
  <Sound Type="6" Path="InactivitySound_EN.wav" />
</LanguageSounds>
- <LanguageSounds Language="Spanish">
  <Sound Type="1" Path="Retry.wav" />
  <Sound Type="2" Path="Next.wav" />
  <Sound Type="3" Path="WhyNot.wav" />
  <Sound Type="4" Path="REFUSAL.wav" />
  <Sound Type="5" Path="DontKnow.wav" />
  <Sound Type="6" Path="InactivitySound_SP.wav" />
</LanguageSounds>
</CommonSounds>
```



Dictionary XML

```
- <Table>
  <lookup_fid>OTC</lookup_fid>
  <lookup_key>KAVA KAVA</lookup_key>
  <lookup_title1>Kava (Piper methysticum)</lookup_title1>
  <lookup_title2>953303</lookup_title2>
  <lookup_title3>*ALTERNATIVE MEDICINES*/*Alternative Medicine - K's**/*Alternative Medicine - Ka's***</lo
  <lookup_title5 />
  <lookup_title6 />
  <lookup_title7 />
</Table>
- <Table>
  <lookup_fid>OTC</lookup_fid>
  <lookup_key>KAVA KAVA ADVANCEDMULA</lookup_key>
  <lookup_title1>Kava (Piper methysticum)</lookup_title1>
  <lookup_title2>953303</lookup_title2>
  <lookup_title3>*ALTERNATIVE MEDICINES*/*Alternative Medicine - K's**/*Alternative Medicine - Ka's***</lo
  <lookup_title5 />
  <lookup_title6 />
  <lookup_title7 />
</Table>
- <Table>
  <lookup_fid>OTC</lookup_fid>
  <lookup_key>KAVA KAVA EXTRACT</lookup_key>
  <lookup_title1>Kava (Piper methysticum)</lookup_title1>
  <lookup_title2>953303</lookup_title2>
  <lookup_title3>*ALTERNATIVE MEDICINES*/*Alternative Medicine - K's**/*Alternative Medicine - Ka's***</lo
  <lookup_title5 />
  <lookup_title6 />
  <lookup_title7 />
```



Metadata in Action



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CAPI: single selection

CAPI Interview

SP: 322236 George T. Hollister Self Male 53 years Appt: 1076755 Session: 107051 Stand: 107

CAPI\PAQ Physical Activity and Physical Fitness PAQ481 Daily hours of TV or video watching

Now I will ask about TV watching. Over the past 30 days, on a typical day how much time altogether did you spend sitting and watching TV or videos? Would you say . . .

Less than 1 hour,

1 hour,

2 hours,

3 hours,

4 hours,

5 hours or more, or

None (you do/SP does) not use a computer outside of work?

Survey data loaded

Begin Previous Last Next End

CAPI: multiple selection

CAPI Interview

SP: 322236 George T. Hollister Self Male 53 years Appt: 1076755 Session: 107051 Stand: 107

CAPI\HIQ Health Insurance HIQ230 Insurance holder lost/changed job

Which of these are reasons you stopped being covered by or do not have health insurance?

HAND CARD HIQ3. CODE ALL THAT APPLY.

Multiple Choice Question

Person in family with health insurance lost job or changed employers

Got divorced or separated/death of spouse or parent

Became ineligible because of age/left school

Employer does not offer coverage/or not eligible for coverage

Cost is too high

Insurance company refused coverage

Medicaid/medical plan stopped after pregnancy

Lost medicaid/medical plan because of new job or increase in income

Lost medicaid (other)

Other (specify)

Survey data loaded

Begin Previous Last Next End

Phlebotomy: Specimen Collection

NIH-PH Instrument

SP: 795826 Alana Practice07 Self Female 25 years Appt: 5017307 Session: 501155 Stand: 501

NCHS\NCS\NCS-Surveys\NIH-PH\PHLEBOTOMY\PHC Phlebotomy Section PHC140 2 ml Gray Top

Please collect all samples

Name	Volume	Bar Code	Collected	Timestamp	Comments
Gray Top	2 ml	11223333	Fully	1/16/2006 1:01:45 PM	
Gold Top	4 ml	11223334	Partially	1/16/2006 1:01:47 PM	Equipment Failure
Lavender Top	3 ml	11223335	Fully	1/16/2006 1:01:48 PM	
Lavender Top	3 ml	11223336	Partially	1/16/2006 1:01:50 PM	
Red Top	10 ml	11223337	None	1/16/2006 1:01:51 PM	Equipment Failure
Red Top	10 ml	11223338	Partially	1/16/2006 1:01:55 PM	Equipment Failure

Overall Comment

Ready

Disconnected

Begin Previous Next End



Air: Environmental Collection

NIH-AIR Instrument

SP: 795826 | Alana Practice07 | Self | Female | 25 years | Appt: 5017307 | Session: 501155 | Stand: 501

Air | AC110 | AC110a

Oxidant Badge Please check the Expiration Date for the Air Collection Device. If the Expiration Date is not within the acceptable limits, obtain a backup device. If a backup device is not available, do not perform sample collection until an acceptable device is obtained. Record Comments for that device below.

Oxidant Badge

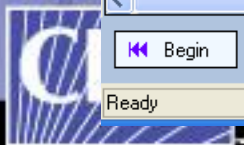
Device Name:	Oxidant Badge	Started:	1/16/2006 1:33:57 PM
Device Barcode:	12345	Ended:	Press to Stop
Device Expiration Date:	1/1/2010	Secure According to SOP?:	<input checked="" type="checkbox"/>
Location:	Master Bedroom	Evidence of Damage?:	<input checked="" type="checkbox"/>
Location in Room:	Above Bed	Comments:	
Distance off the Floor (ft):	1.1	Period:	24 Hour
Confounding Factors:	Open Windows	Elapsed Time:	01 min 41 sec
Container Barcode:	987654	Remaining Time:	23 hour 58 min 18 sec

Comment

Comment:

Ready

Disconnected



Water: Environmental Collection

NIH-WATER Instrument

SP: 795826 Alana Practice07 Self Female 25 years Appt: 5017307 Session: 501155 Stand: 501

Water WC135 WC135a

Water Sample Collection -VOAs

VOA Vial 1

Container Name: VOA Vial 1	Preservatives Added?: <input checked="" type="checkbox"/>
Container ID: <input type="text" value="123456"/>	Date/Time of Collection: Date/Time of Collection
Location: <input type="text" value="Bathroom"/>	Collected According to SOP?: <input checked="" type="checkbox"/>
Water Filter Used?: <input checked="" type="checkbox"/>	Observations About Water: <input type="text" value="Clear"/>
Filter On When Collected?: <input checked="" type="checkbox"/>	Comments: <input type="text"/>

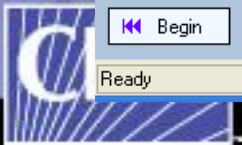
VOA Vial 2

Container Name: VOA Vial 2	Preservatives Added?: <input checked="" type="checkbox"/>
Container ID: <input type="text" value="123457"/>	Date/Time of Collection: Date/Time of Collection
Location: <input type="text" value="Bathroom"/>	Collected According to SOP?: <input checked="" type="checkbox"/>
Water Filter Used?: <input checked="" type="checkbox"/>	Observations About Water: <input type="text" value="Milky"/>
Filter On When Collected?: <input checked="" type="checkbox"/>	Comments: <input type="text" value="Device Relocated"/>

VOA Vial 3

◀ ◀◀ Begin ◀ Previous [Progress Bar] Next ▶▶ End ▶▶

Ready Disconnected

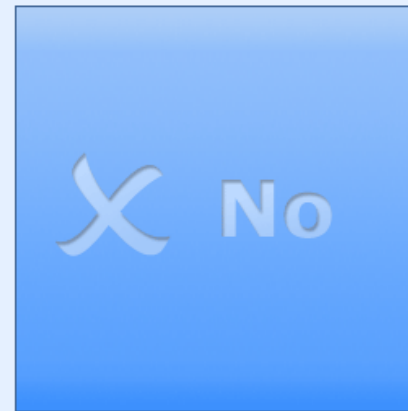


ACASI: Yes/No

Here is an example of one type of question: 'Are you tired?'



Please select ...



◀ Back

 Clear

Next ▶

ACASI: Numeric Pad

Another type of question requires a number response. Answer by pressing the number buttons on the keypad. 'How many hours did you sleep last night?'



Please enter a number.

88888888886			
1	2	3	←
4	5	6	0
7	8	9	



ACASI: Validation Error

How old were you when you smoked a whole cigarette for the **first** time?



Please enter

Error



Your response is older than your recorded age.

Please press the "Back" button, press "Clear" and try again.

Back

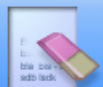
7

8

9



Back



Clear

Next



ACASI: Single Selection

During the past **30 days**, on the days that you smoked, which brand of cigarettes did you **usually** smoke?



Please select one of the following choices.

Marlboro

Winston

Camel

Benson and Hedges

Newport

Salem

Kool

Some other brand

 **Back**

 **Clear**

Next 

Technology Used

- .net 1.1, .net 2.0, C#
- MS SQL Server 2000, 2005
- XML
- DirectX



What Next?

- Integration with other metadata sources
- Complying with metadata standards
- Shared repository



Summary

- Metadata is heart of CHITA software suite
- Metadata is cleanly separated from software and maintained by visual editor
- Metadata stored in relational database and exported/imported to/from XML
- Master repository can be shared between surveys and organizations
- Metadata used for data collection, delivery and analysis
- Metadata used for CAPI, ACASI, Exams and other components

