2018 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

Upload Your ADR and RSR From Your EMR: It Can Be Done

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Disclosures

Presenter(s) has no financial interest to disclose.

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Learning Objectives

At the conclusion of this activity, the participant will be able to:

1. Explore innovative practices to streamline data collection and utilization
2. Identify benefits of data integration for improved service delivery and reporting
3. Utilize Epic to generate the annual Ryan White Services Report (RSR) and the AIDS Drug Assistance Report (ADR)

University of Nebraska Medical Center (UNMC) HIV Clinic

- Provides comprehensive care to patients infected with HIV at all stages of the disease since the beginning of the epidemic.
- Remains the only dedicated facility in the region and a geographic area of almost 70,000 square miles.
- Serves persons infected with HIV in 82 of the 93 counties in the state of Nebraska and 11 counties in Southwest Iowa.
    - 1,019 non-duplicated Ryan White Parts C & D eligible patients received HIV related primary care services during 2017
    - 1,122 non-duplicated Ryan White Part C & D eligible patients enrolled between January 1, 2018 – September 30, 2018
- Used an adaptation of the Organ Transplant Tracking Record (OTTR) (1995-2017); originally developed at UNMC
- Began using Epic in 2012

Resources Available

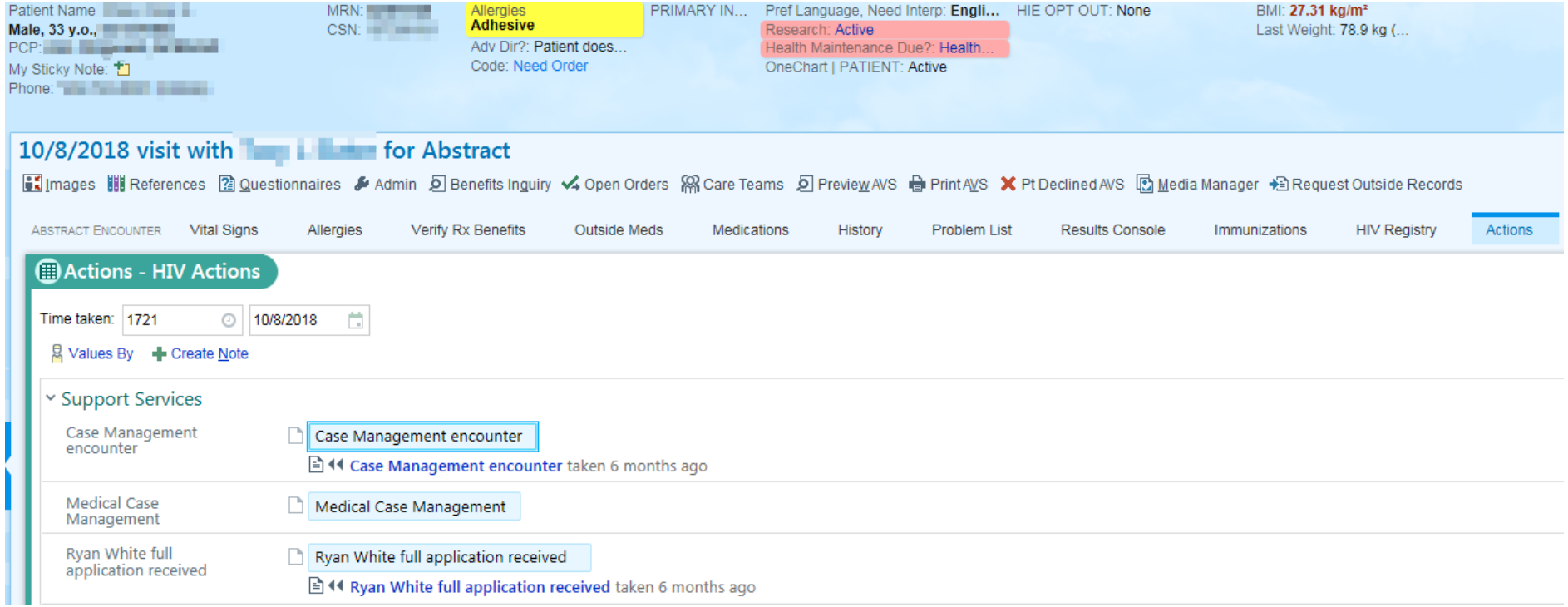
1. Electronic Medical Record (EMR): Epic (One Chart)
2. ADAP rebate funds
3. Nebraska Medicine's Epic Application teams:
    - Ambulatory Applications team
    - Analytics Development
    - Healthy Planet
    - Training team
    - Temporary staff
4. Six Sigma methodology
5. OTTR, Inc. staff members
6. UNMC HIV Clinic staff

Project Structure

Project Steps	Clinical	Six Sigma	Application Build	Analytics
Identify requirements, prioritize and categorize	✓	✓		
Translate clinical needs & documentation to data elements	✓	✓	✓	✓
Evaluate existing tools			✓	✓
Workflow design	✓		✓	
Registry build and configuration			✓	✓
Gap analysis & revisit prior steps if needed	✓	✓	✓	✓
Operational report build	✓		✓	✓
RSR submission file build	✓			✓
ADR submission file build	✓			✓

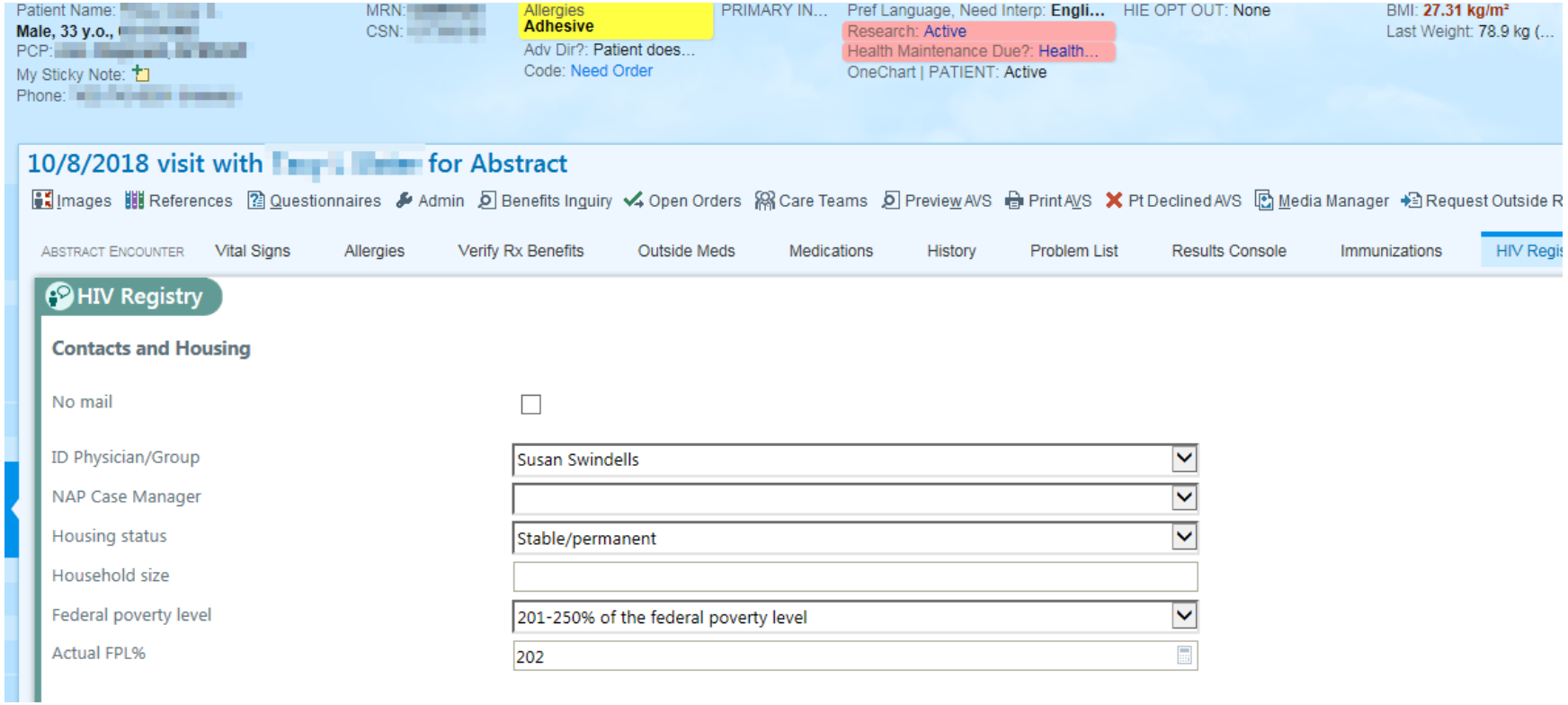
Workflow Design & Build

- Eliminate or minimize duplicate documentation
- Allow backloading of patient data



Workflow Design & Build

- Mimic natural workflow
- Ensure all required fields are present



Registries in Epic

- Large library of Epic-built registries and metrics available (including HIV)
- Built to allow customization on top of out-of-the-box tools
- Inclusion rule: Which patients belong to the registry?
- Metric: For every patient in this registry, capture the last value:
  - Demographics
  - Workflow documentation
  - Clinical data (diagnosis, lab value, etc.)
  - Care utilization (visits, admissions, readmissions, etc.)
- Makes reporting much quicker and simpler
- Epic XGM 2017 presentation: *ClinAC51 Managing Ryan White Grant Patients with Epic HIV Registries*

Submission Data Report Build: Part 1

- Query construction- SQL queries pull data from Epic database
- Utilize registry tables whenever possible
- Group similar data elements together
- EUCI generation and setting of 41st character
- Retaining EUCI from last year
- Final result: Twelve separate SQL queries, all required data elements represented

Submission Data Report Build: Part 2

- We have the data!
- Validate:
  - Technical peer review of SQL
  - Clinical user review
- Format as .xml with python code:
  - Connect to database and SQL execute code
  - Store resulting values in python dictionaries
  - Reference a "roadmap" with instructions on how to arrange data elements (.yaml file)

Benefits to Uploading the RSR & ADR From Your EMR

- Reduced manual data entry burden
- Eliminate duplication of data entry in multiple systems
- Provider “buy in”
  - Increased data access for outreach opportunities:
    - Ryan White recertification
    - ACA insurance enrollment outreach
    - Suspended and closed Ryan White accounts
- Utilized majority of the RSR SQL code to generate ADR data file (Excel file delivered to ADAP coordinator)

Benefits to the Overall Program From Using EMR

- Increased communication between program staff and clinical staff (multiple clinics)
- Increased efficiency for clinical and program staff
- Improved team workflow
- Improved service delivery
- Increased identification of gaps in care and quality improvement opportunities
- Increased access to required clinical data through Care Everywhere
- Generating RSR and ADR reports?

Lessons learned:

- Technical build:
  - Smart data elements and flowsheets
  - Patient-level and encounter-level data
  - Metric rules: single value vs. delimited
  - Custom Clarity table creation
- Backloading of data:
  - Electronic vs. manual
  - QA checks, training, validation
- Definition of HIV diagnoses; Is the registry capturing the right patients?

Next Steps:

- Streamline action documentation (screenings and others)
- Possible increase of ADR automation
- Adapt submission file queries for 2018 specifications

Obtaining CME/CE Credit

If you would like to receive continuing education credit for this activity, please visit:

http://ryanwhite.cds.pesgce.com

If You Have Questions:

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Appendix: Technical Details

- Separate .sql queries required whenever number of rows per patient could be different
- SQL code combined into a single .txt file which also included tags for each of the data elements returned
- .yaml file representing .xml schema that the final file needs to conform to and also includes corresponding data element tags
- Python code to connect to Clarity, execute SQL in order, store values in python dictionaries, then use .yaml file to know what process to follow for each tag (ie parent-child relationships) and compile actual .xml file

Appendix: Technical Details

- EUCI generation:
  - Clean patient names removing spaces, punctuation, and accented letters using Collate SQL_Latin1_General_CP1253_CI_AI on a Varchar input
  - Add “9” as the 3rd character of short names
  - Encrypt using HASHBYTES function and SHA1 algorithm
  - Use Count() function, partitioning by UCI to check for duplicates, assign U as 41st character if unique
  - Use ROW_NUMBER() function, partitioning by UCI to A-Z for non-unique UCIs

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