

metree



MeTree™  
Family Health History Based  
Risk Assessment and Clinical Decision  
Support Program

# Barriers by Stakeholder



## Patient

- *Education*
- *Accuracy*



## Health System

- *Inadequate systems for collecting data & providing actionable information*
- *Awareness of value for their population*

## Provider

- *Time*
- *Awareness*
- *Complexity*



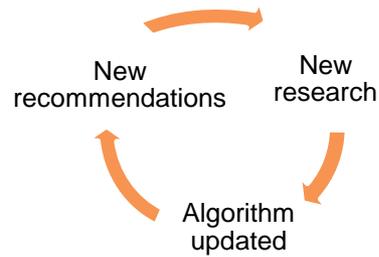
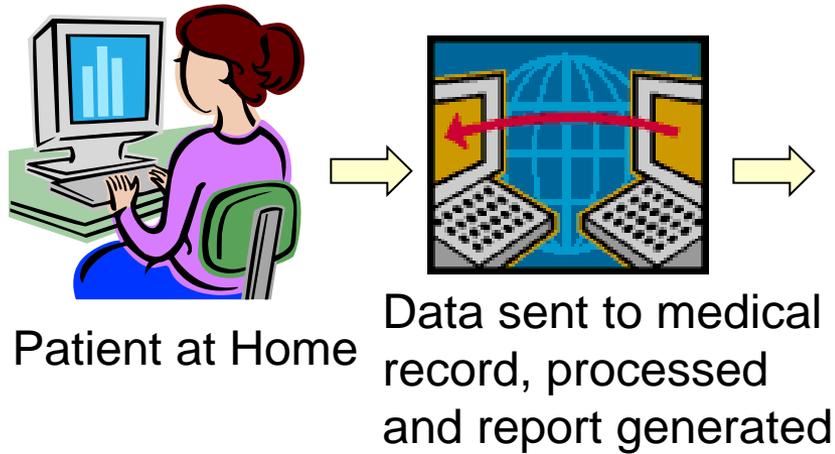
### The Logistic Function

$$\text{Log} \left[ \frac{Y}{(1-Y)} \right] = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + \dots + b_n X_n$$

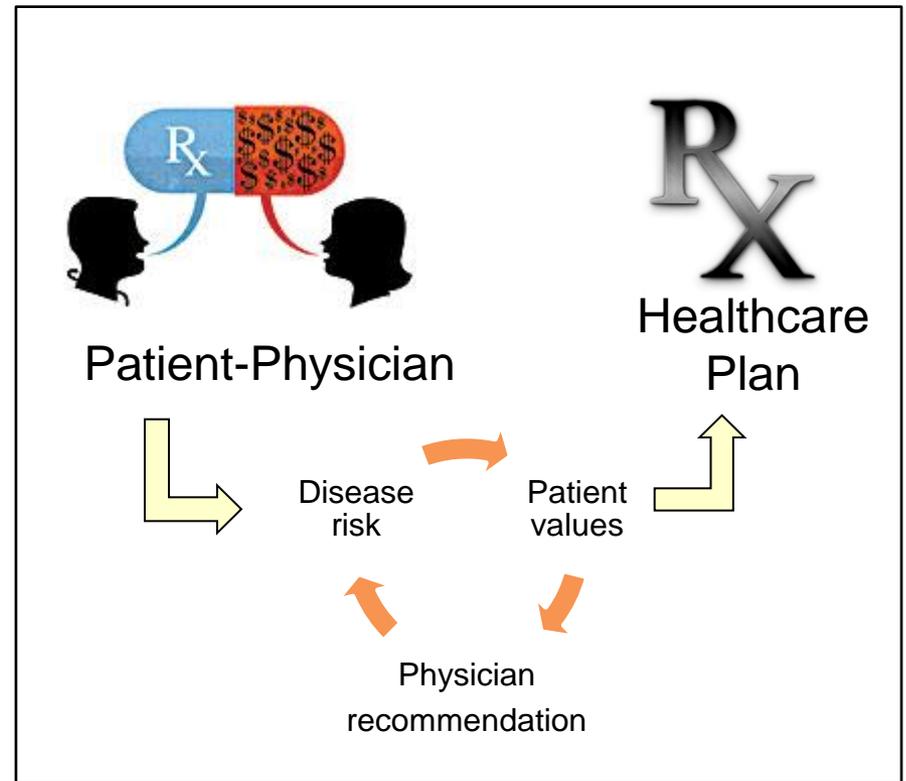
Log(Likelihood)      diet score (0-15)      age group (0/1)      sex (0/1)



# Ideal Flow of FHH Information



## Appointment



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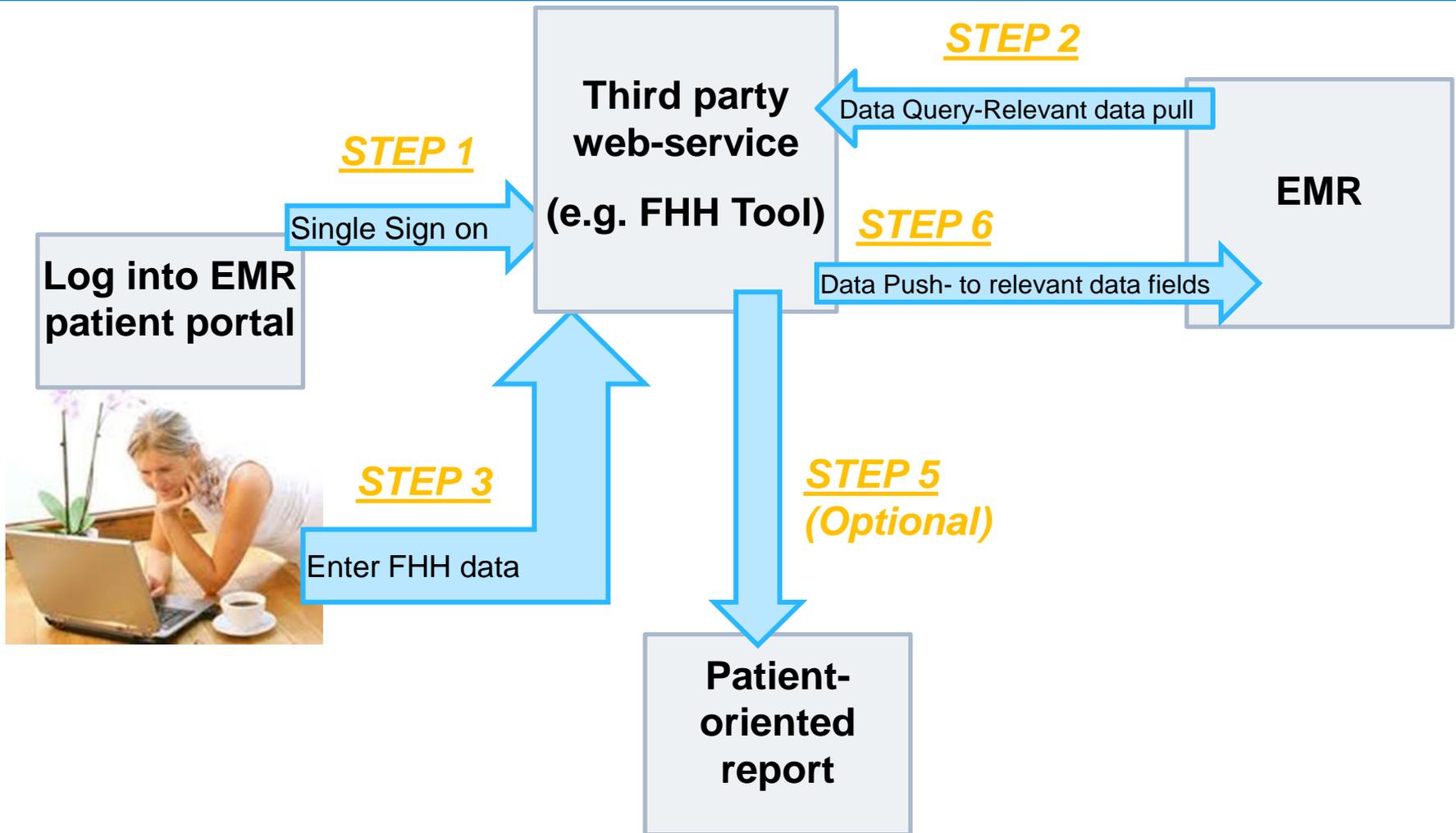
# **Smart-on-FHIR**

MORE THAN JUST A DATA  
STANDARD...

# Key Features of SMART on FHIR

- Takes advantage of standards-based modern technology expanding accessibility, scalability, and interoperability.
  - HL7 now considers FHIR to be the next generation .api
  - These tools are already in use by systems like facebook and google so widely familiar to programmers outside the healthcare space
- SMART and FHIR combine authentication and data transmission in a single plug and play app
- Open source with no license fees
  - Prior to 2013 HL7 charged licensing fees and even now in some cases fees apply
- Narrowly defined data for plug and play capacity
  - The Argonaut project supported by all major stakeholders developed narrowly defined data to avoid the use of "optionality" as much as possible
  - Extension permit optionality when needed and once built by early adopters submitted to help establish a new data standard
- Widely supported by major EMR vendors

# Patient Flow



# Provider Flow

## STEP 1

**Log into  
EMR**

New Access Link to Web-Service creates an “applet” view in EMR window

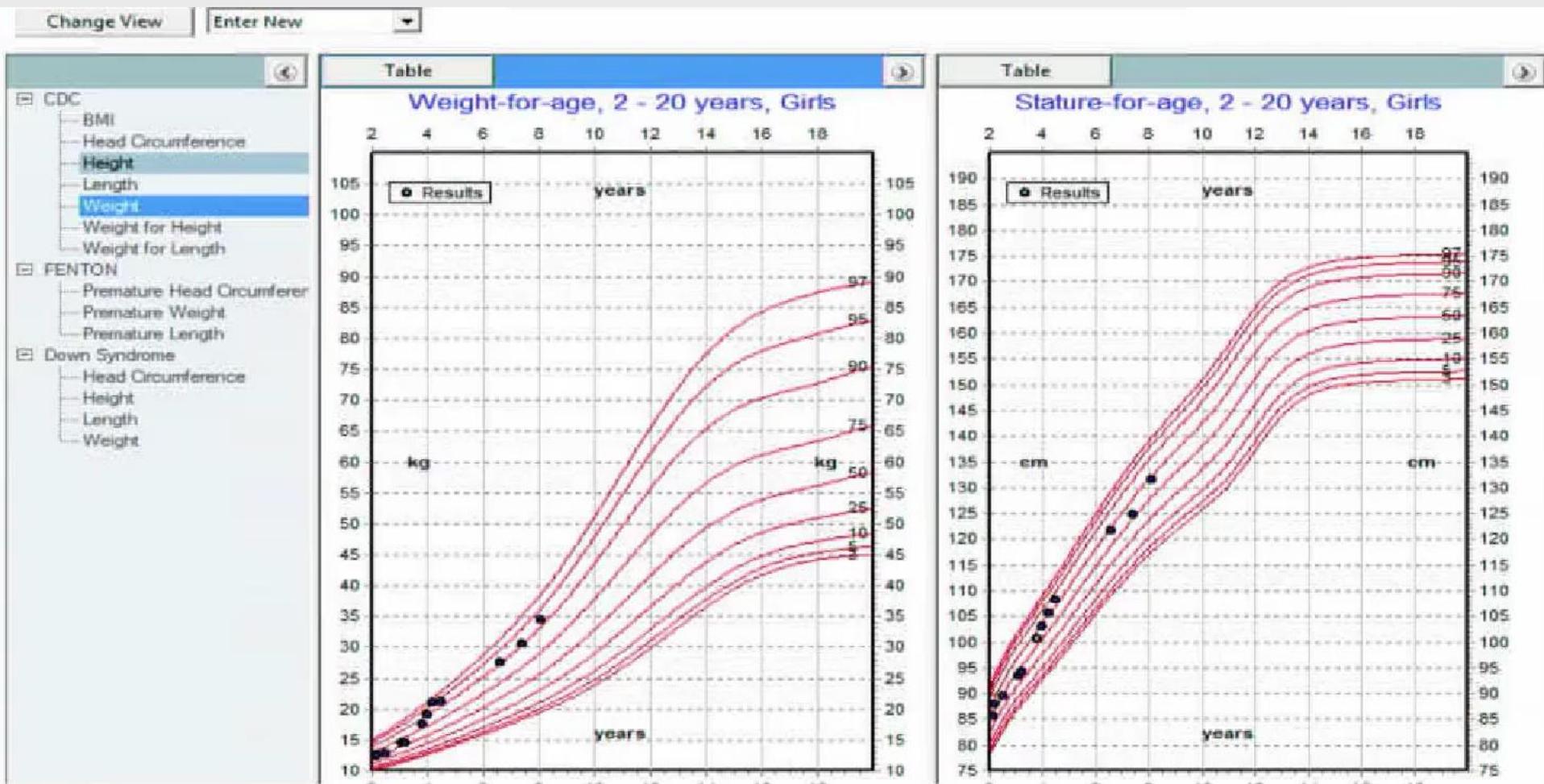
**Interactive  
Graphical  
Interface with  
web-service**

**Supporting  
“multiple” views**

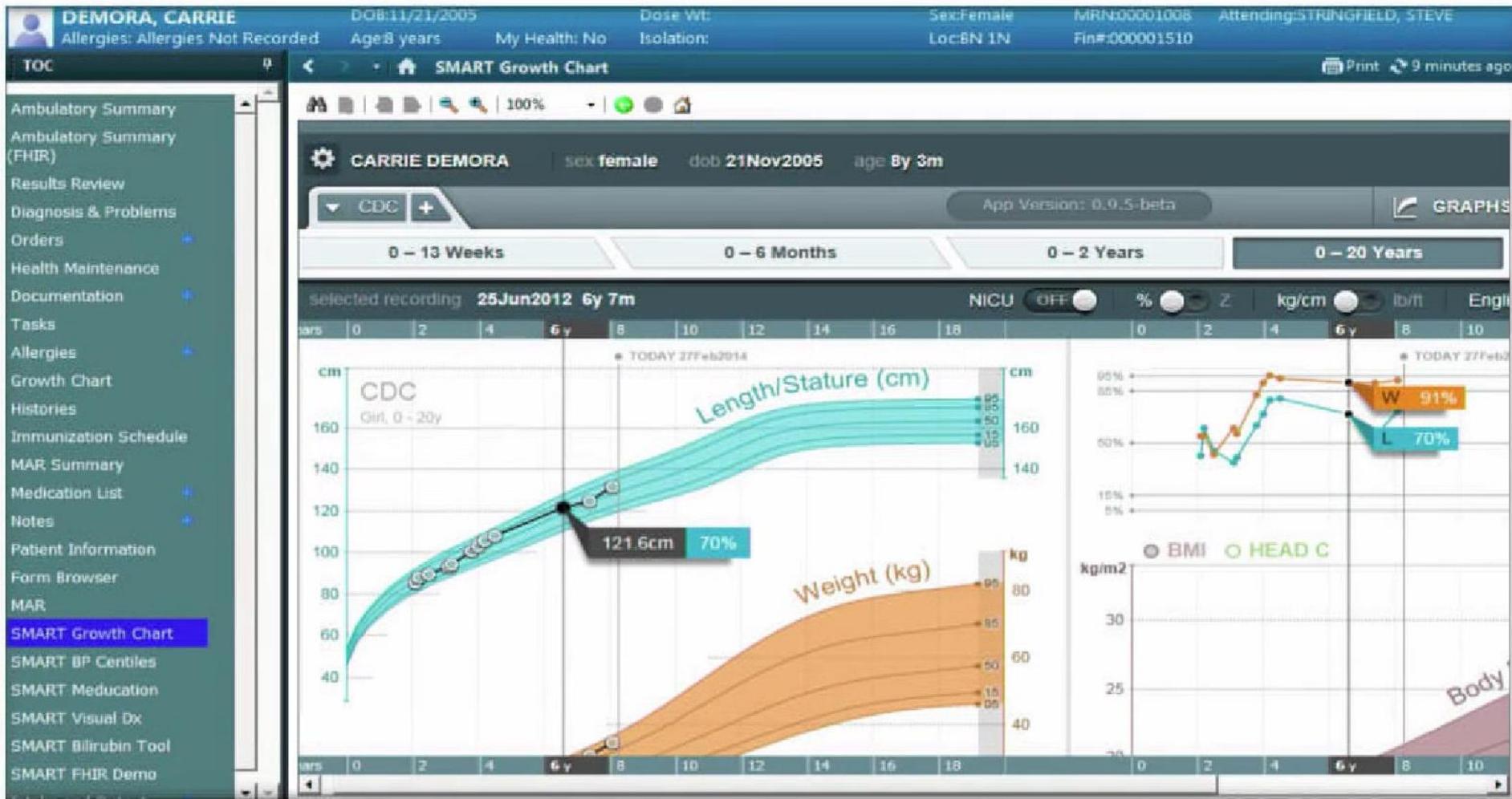
**EMR  
contains  
updated  
information**



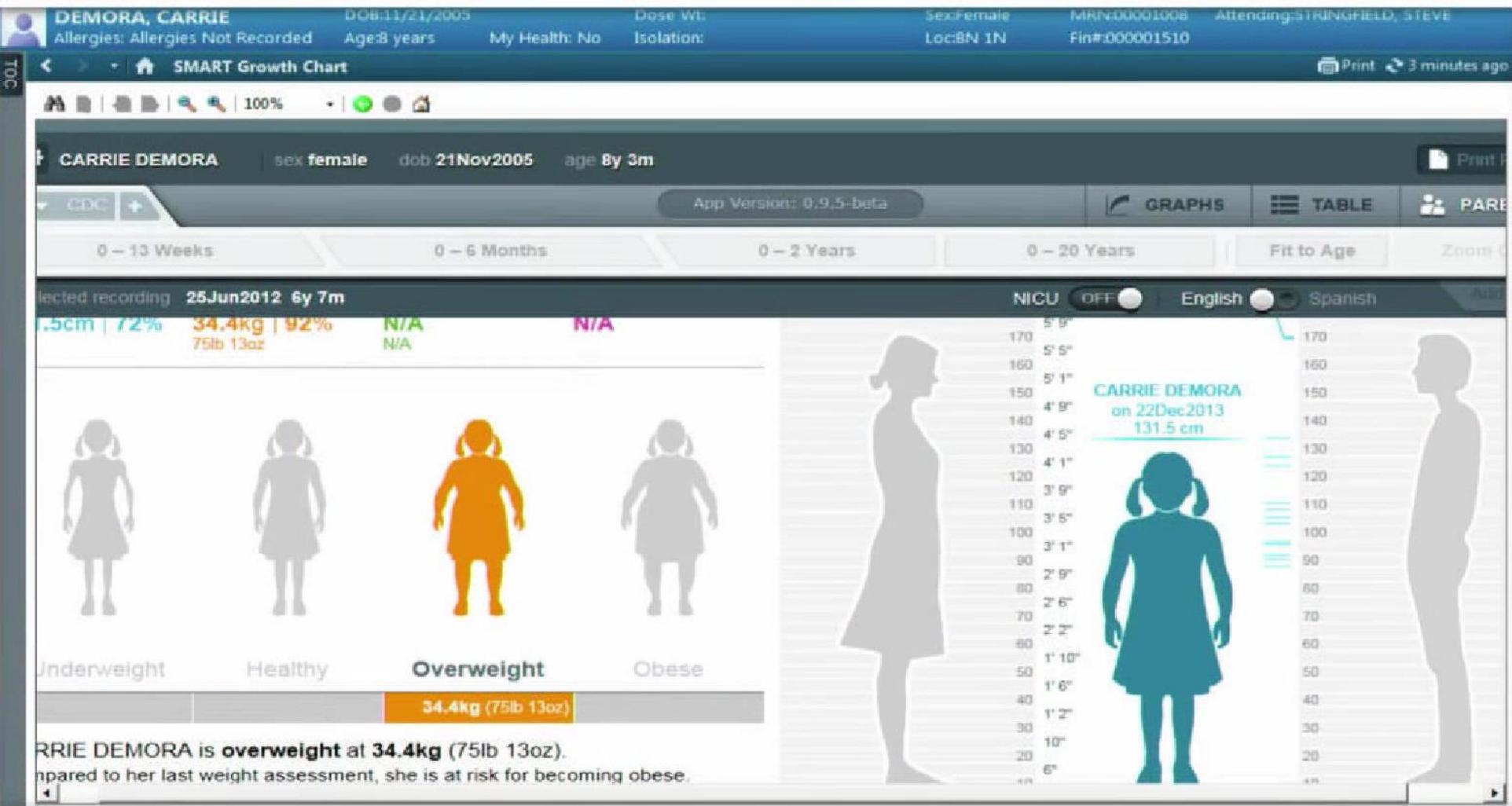
# Example Provider View in Epic



# Multiple views



# Multiple Views: Patient-oriented



# What exactly is SMART-on-FHIR

## SMART

- Substitutable medical apps, Reusable Technology
- Authentication through OAuth2
- HTML5 and Javascript permits views in an “app window”
- Microinteractions which allows wrapping of data into different “views”

## FHIR

- Fast health interoperability resource
- ReSTful API (resource oriented)
  - Bi-directional data transfer
- FHIR profiles
  - include a growing list of defined resources
  - Permits plug and play interoperability
  - Leverages standardized nomenclatures (snomed, rxnorm, loinc, CVX, etc..)
- Extensions for data not already defined

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# Thank You