VHA 2007 eHEALTH UNIVERSITY

INNOVATIONS FOR GENERATIONS

261H CPRS Graphing – not just for the Dow Jones and Stock Market

Harnessing the Power of Graphs

Kevin Meldrum – Salt Lake City, Utah

Sabrina L. Schrader, DO - Oklahoma City VAMC

Dr. Schrader's family

Dr. Schrader's family

Dr. Schrader's family

APR 24 2006

Course Objectives

- By the end of this course, get ready to:
  - View your patient's entire history within a few minutes using graphs, to improve patient care
  - Create your own personal graphs to improve retrieval of pertinent disease related data
  - Request Pre-set Graphs on Reports tab from your CACs, so new docs can utilize graphs immediately

Course overview

- Introduction
- Graphing
  - Old graph function
  - New graphs – On the fly:
    - CTRL button;shift button; right click mouse
- Views, Settings, Sources
  - Creating Personal pre-defined graphs
  - Setting your defaults
  - Use of on the fly graph functions to hone view

Course Overview- continued

- Sneak Peak at v. 27 coming out this month
- Considerations for Report Tab Graphs
  - Perfecting Public Graphs
  - Fileman stuff

If you remember nothing else:

- Ctrl G
  - Control G will get you into the graphing function from any tab in the CPRS chart -

Considerations

- Naming of templates
  - Easy to rename!
- Completeness – e.g. Antibiotics
  - Easy to add anything missing!
- Scale – Y-axis
  - E.g. creatinine
  - E.g. if comparing trigl vs. CRP!

Clinical Examples

- Create a view for Lipid labs
  - LDL, Trigl, HDL, Chol, SGOT, SGPT
- Create a view for Lipid meds
  - Niacin, fish oil, lipid ‘drug class’
- Changing a ‘Public’ view
  - Rx: HTN (find what is missing)

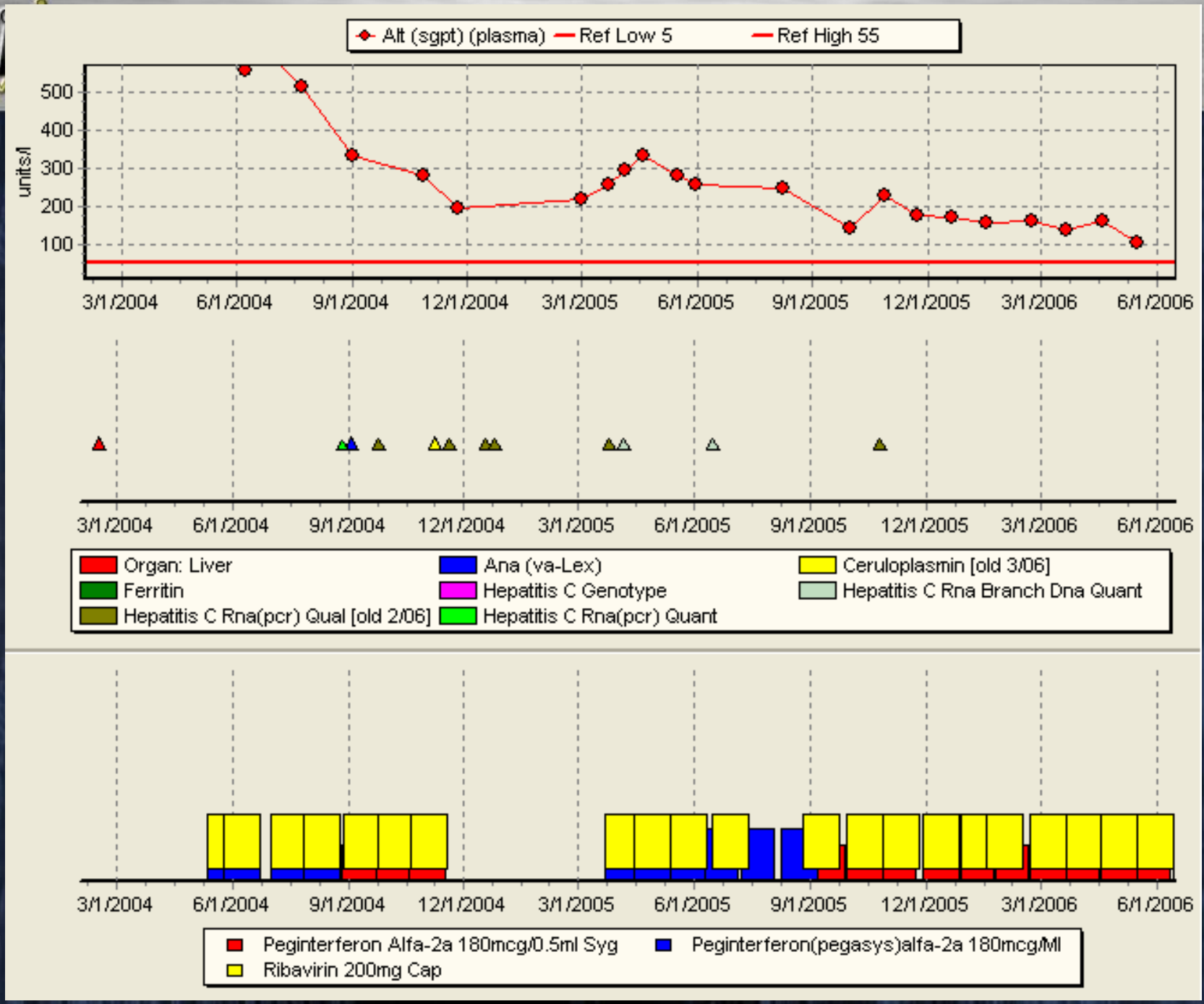
Lets Graph! SIGN ON TO CPRS

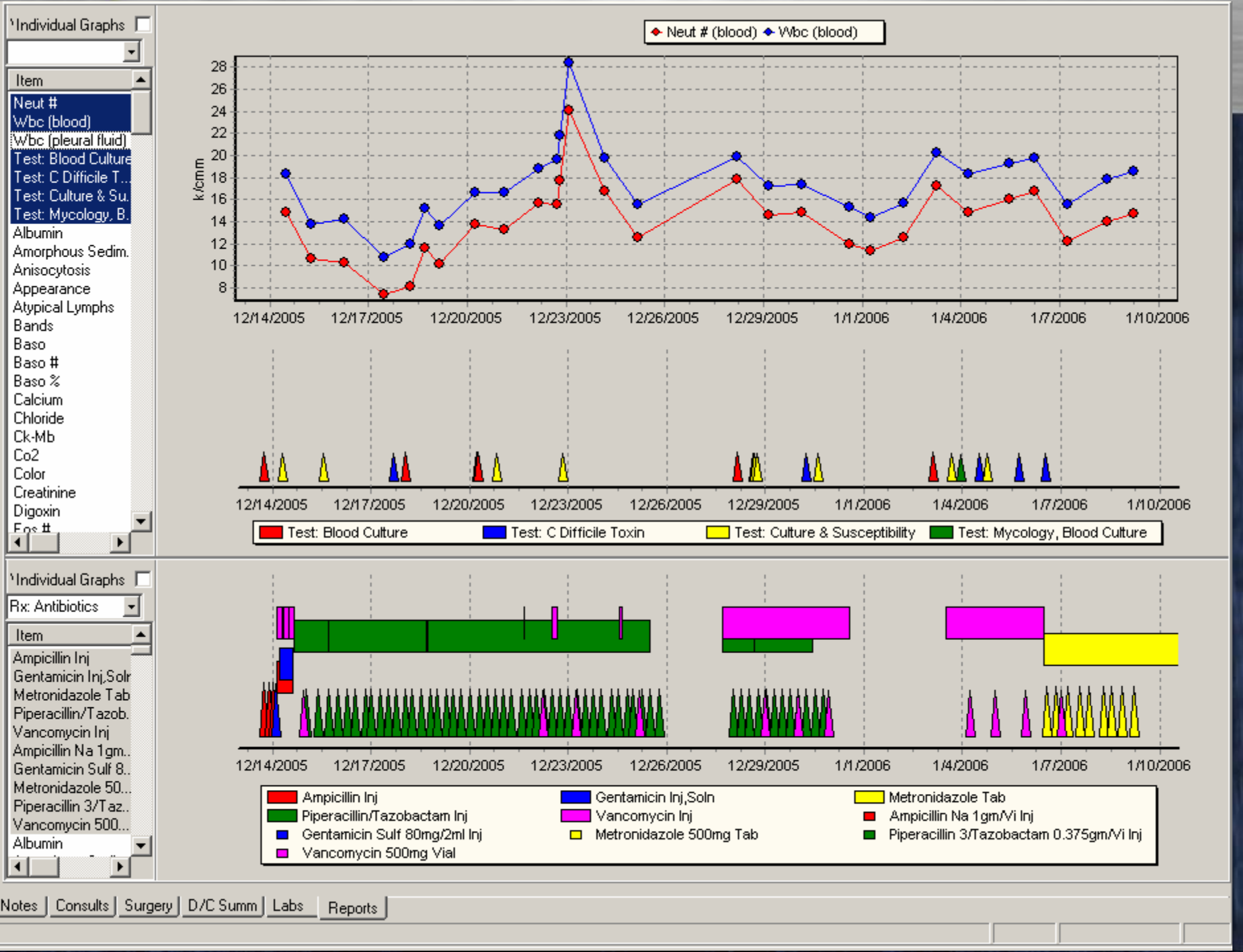
- Find your student number ## by your computer

Click this Icon:

- Access Code: **##VEHU**
- Verify Code: **VEHU##**

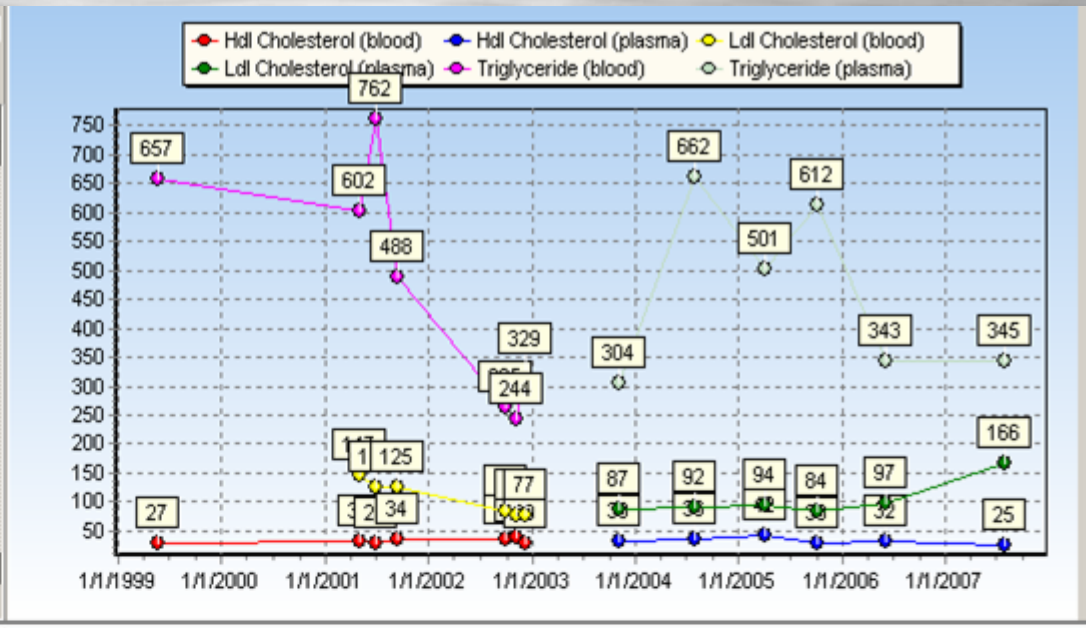
```
example 1: eleven,patient (P11)
example 2: fifteen,patient (P15)
```


Alt (sgpt) (plasma)
Ref Low 5
Ref High 55
units/l
500
400
300
200
100
3/1/2004
6/1/2004
9/1/2004
12/1/2004
3/1/2005
6/1/2005
9/1/2005
12/1/2005
3/1/2006
6/1/2006
Organ: Liver
Ana (va-Lex)
Ceruloplasmin [old 3/06]
Ferritin
Hepatitis C Genotype
Hepatitis C Rna Branch Dna Quant
Hepatitis C Rna(pcr) Qual [old 2/06]
Hepatitis C Rna(pcr) Quant
Peginterferon Alfa-2a 180mcg/0.5ml Syg
Peginterferon(pegasys)alfa-2a 180mcg/Ml
Ribavirin 200mg Cap


Individual Graphs
Item
Neut #
Wbc (blood)
Wbc (pleural fluid)
Test: Blood Culture
Test: C Difficile T...
Test: Culture & Su...
Test: Mycology, B...
Albumin
Amorphous Sedim...
Anisocytosis
Appearance
Atypical Lymphs
Bands
Baso
Baso #
Baso %
Calcium
Chloride
Ck-Mb
Co2
Color
Creatinine
Digoxin
Neut # (blood)
Wbc (blood)
k/cmm
28
26
24
22
20
18
16
14
12
10
8
12/14/2005
12/17/2005
12/20/2005
12/23/2005
12/26/2005
12/29/2005
1/1/2006
1/4/2006
1/7/2006
1/10/2006
Test: Blood Culture
Test: C Difficile Toxin
Test: Culture & Susceptibility
Test: Mycology, Blood Culture
Individual Graphs
Rx: Antibiotics
Item
Ampicillin Inj
Gentamicin Inj,Solr
Metronidazole Tab
Piperacillin/Tazob...
Vancomycin Inj
Ampicillin Na 1gm...
Gentamicin Sulf 8...
Metronidazole 50...
Piperacillin 3/Taz...
Vancomycin 500...
Albumin
Ampicillin Inj
Gentamicin Inj,Soln
Metronidazole Tab
Piperacillin/Tazobactam Inj
Vancomycin Inj
Ampicillin Na 1gm/Vi Inj
Gentamicin Sulf 80mg/2ml Inj
Metronidazole 500mg Tab
Piperacillin 3/Tazobactam 0.375gm/Vi Inj
Vancomycin 500mg Vial
Notes
Consults
Surgery
D/C Summ
Labs
Reports

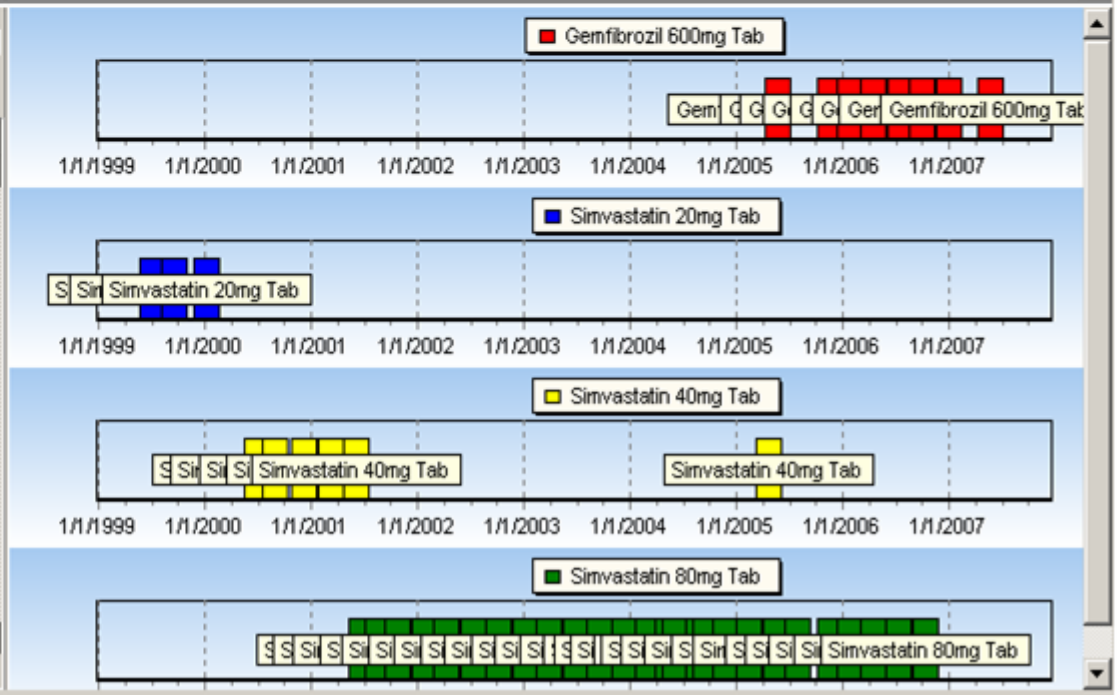
View: Individual Graphs

Item	Type
Cholesterol (blood)	Lab Tests
Cholesterol (plasma)	Lab Tests
Hdl Cholesterol (blood)	Lab Tests
Hdl Cholesterol (plasma)	Lab Tests
Ldl Cholesterol (blood)	Lab Tests
Ldl Cholesterol (plasma)	Lab Tests
Triglyceride (blood)	Lab Tests
Triglyceride (plasma)	Lab Tests
Alb/Creat Ratio	Lab Tests
Albumin	Lab Tests
Alkaline Phosphatase (blood)	Lab Tests
Alkaline Phosphatase (plasma)	Lab Tests
Alt (blood)	Lab Tests



View: Individual Graphs

Item	Type	Vi...	C
Simvastatin	Medication,Bcma	Dr...	D
Simvastatin 8...	Medication,Inpatient	Dr...	D
Gemfibrozil 60...	Medication,Outpatient	Dr...	D
Simvastatin 2...	Medication,Outpatient	Dr...	D
Simvastatin 4...	Medication,Outpatient	Dr...	D
Simvastatin 8...	Medication,Outpatient	Dr...	D
Alb/Creat Ratio	Lab Tests		L
Albumin	Lab Tests		L
Alkaline Phos...	Lab Tests		L
Alkaline Phos...	Lab Tests		L
Alt (blood)	Lab Tests		L
Alt (plasma)	Lab Tests		L
Amphetamine...	Lab Tests		L
Anion Gap	Lab Tests		L



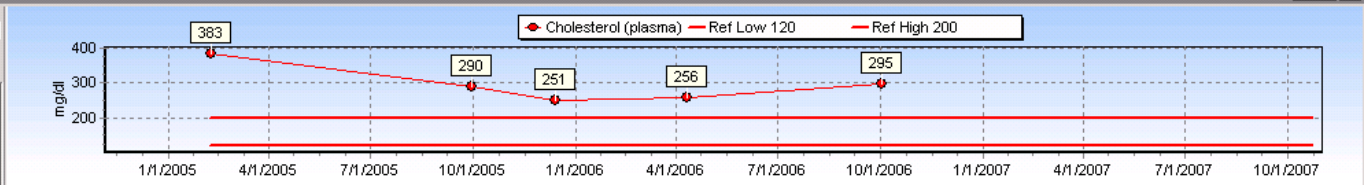
Date Range: All Results | Split Views | Select/Define... | Settings... | Close

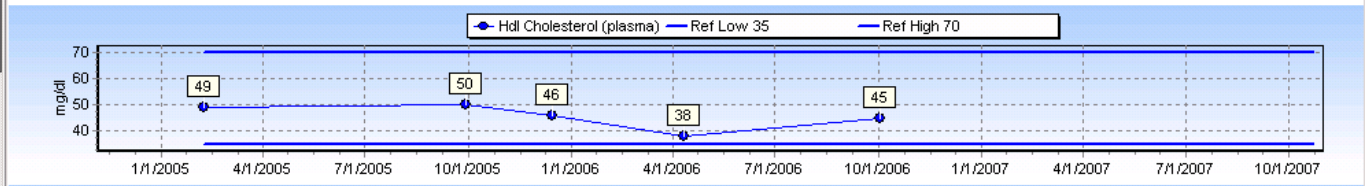
CPRS Graphing - Patien

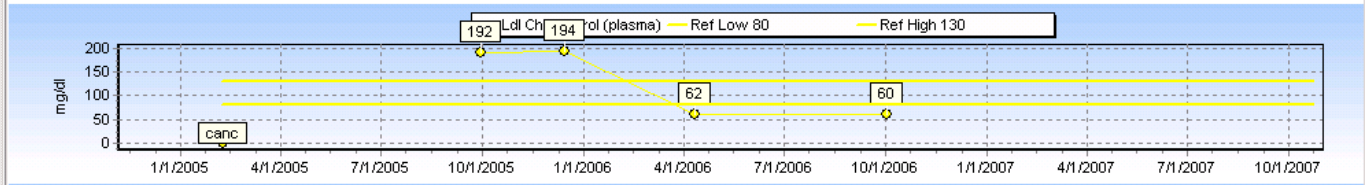
View: Individual Graphs

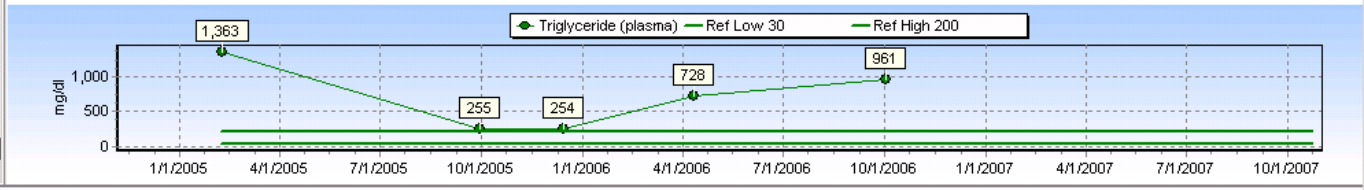
Lab: Lipid

Item	Type
Cholesterol	Lab Tests
Hdl Cholesterol	Lab Tests
Ldl Cholesterol	Lab Tests
Triglyceride	Lab Tests
Alb/Creat Ratio	Lab Tests
Albumin	Lab Tests
Alkaline Phosphatase	Lab Tests
Alt	Lab Tests
Anion Gap	Lab Tests
Antinuclear Antibody	Lab Tests
Appearance	Lab Tests
Ast	Lab Tests
B 12	Lab Tests
Baso %	Lab Tests
Calcium	Lab Tests
Chloride	Lab Tests
Co2	Lab Tests
Creatinine	Lab Tests
Dir. Bilirubin	Lab Tests
Egfr Calculated	Lab Tests
Eosin %	Lab Tests
Fobt#1	Lab Tests
Fobt#2	Lab Tests
Fobt#3	Lab Tests
Folate	Lab Tests





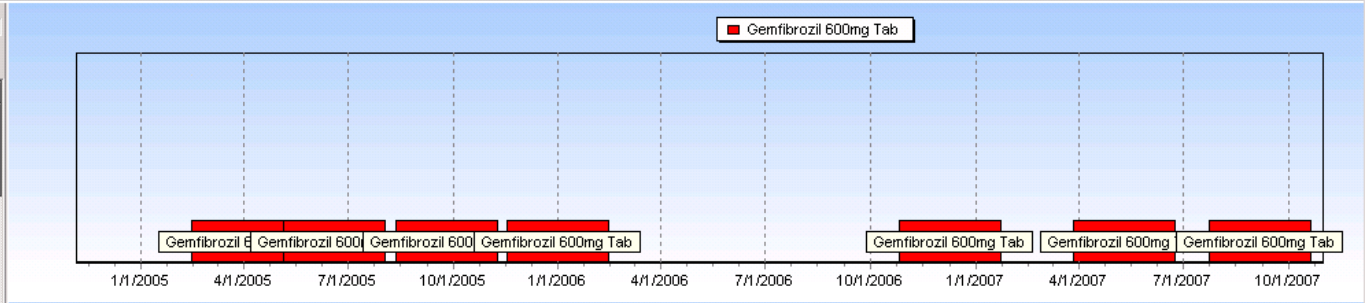


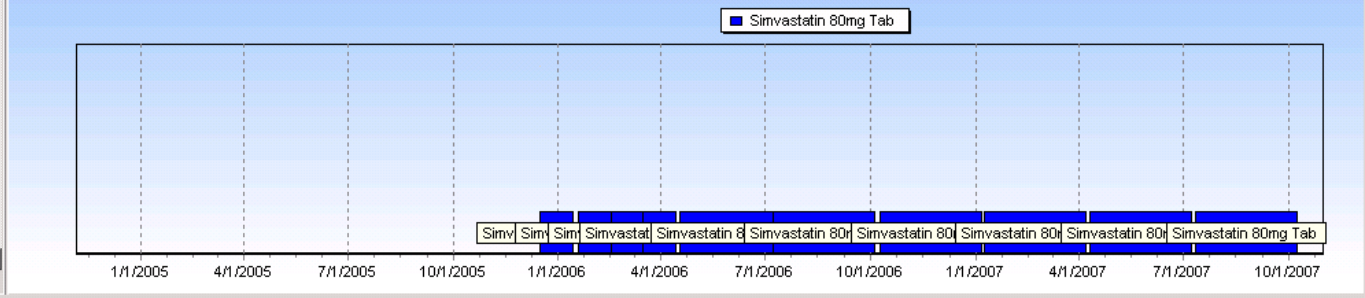


View: Individual Graphs

Drug: Hyperlipidemia

Item	Type	Vi...	C
Gemfibrozil 60...	Medication,Outpatient	Dr...	D
Simvastatin 8...	Medication,Outpatient	Dr...	D
Alb/Creat Ratio	Lab Tests		L
Albumin	Lab Tests		L
Alkaline Phos...	Lab Tests		L
Alt	Lab Tests		L
Anion Gap	Lab Tests		L
Antinuclear An...	Lab Tests		L
Appearance	Lab Tests		L
Ast	Lab Tests		L
B 12	Lab Tests		L
Baso %	Lab Tests		L
Calcium	Lab Tests		L
Chloride	Lab Tests		L
Cholesterol	Lab Tests		L
Co2	Lab Tests		L
Creatinine	Lab Tests		L
Dir. Bilirubin	Lab Tests		L
Egfr Calculated	Lab Tests		L
Eosin %	Lab Tests		L





Date Range: All Results | Split Views | Select/Define... | Settings... | Close

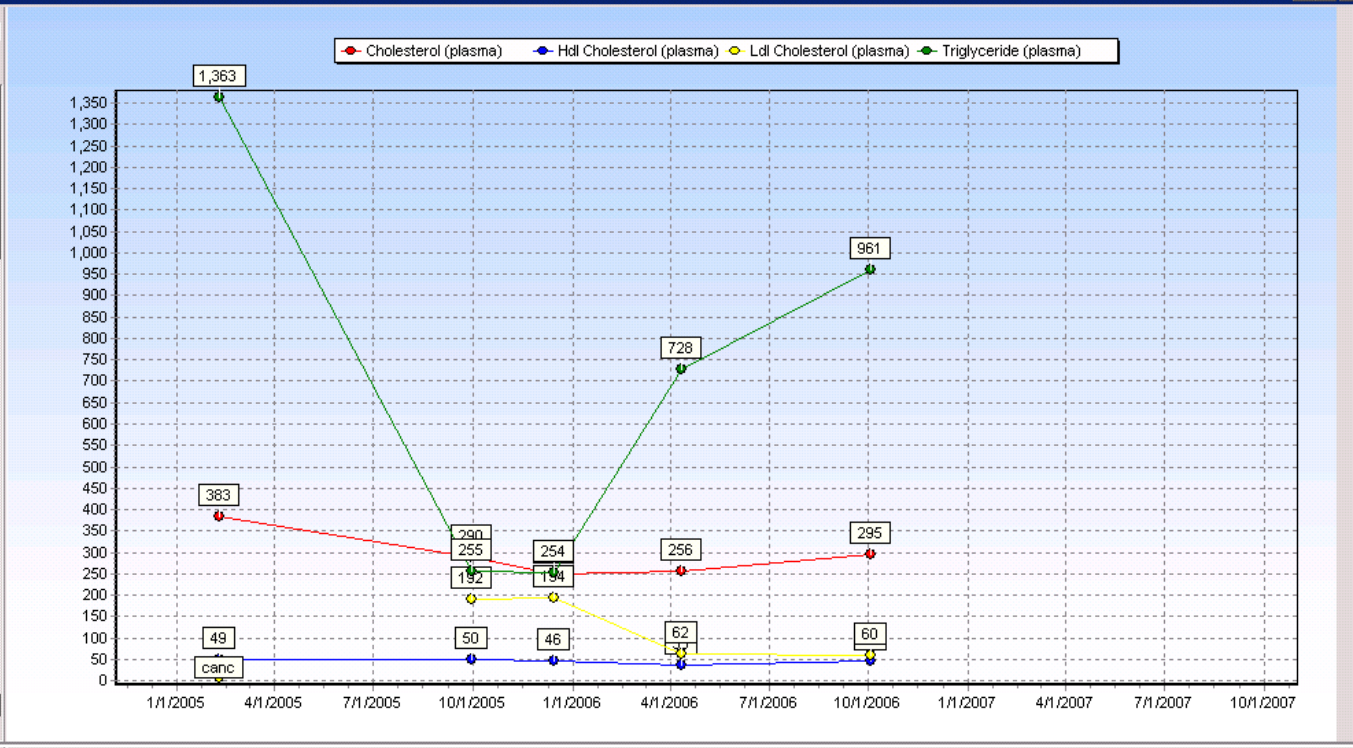
Start | Inbox - Microsoft Outlook | CPRS - Patient Chart | Graphing Class Script - M... | GRAPHING H-266 | Microsoft PowerPoint - [s...

CPRS Graphing - Patien

View: Individual Graphs

Lab: Lipid

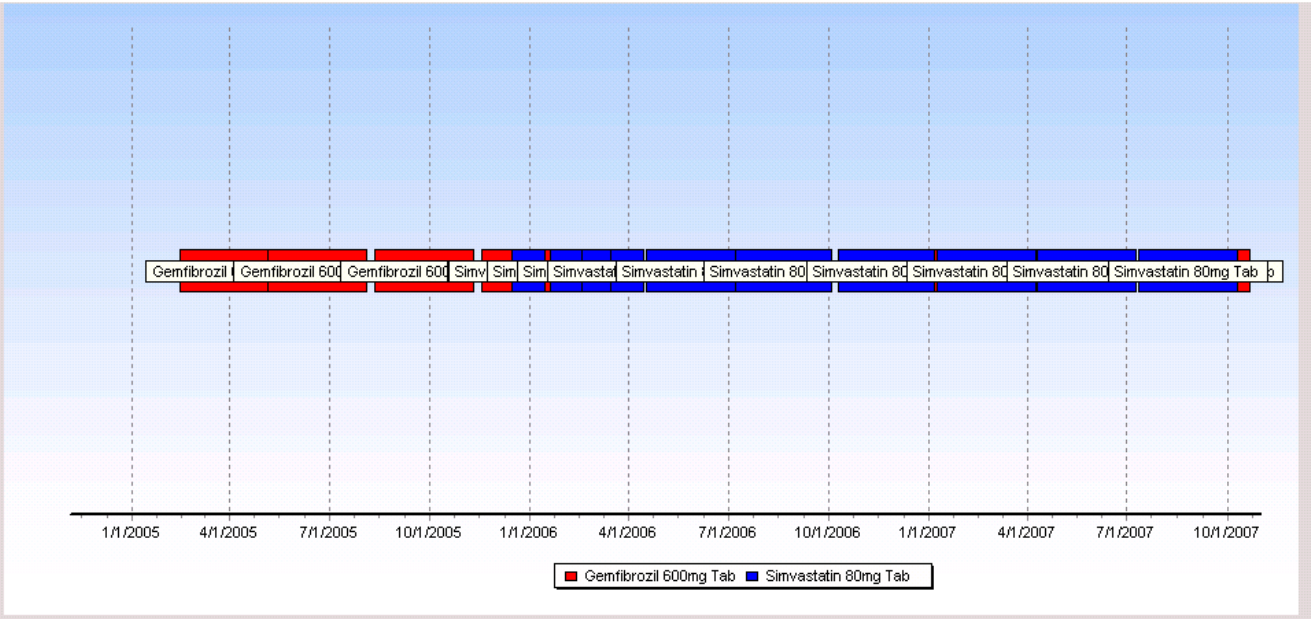
Item	Type
Cholesterol	Lab Tests
Hdl Cholesterol	Lab Tests
Ldl Cholesterol	Lab Tests
Triglyceride	Lab Tests
Alb/Creat Ratio	Lab Tests
Albumin	Lab Tests
Alkaline Phosphatase	Lab Tests
Alt	Lab Tests
Anion Gap	Lab Tests
Antinuclear Antibody	Lab Tests
Appearance	Lab Tests
Ast	Lab Tests
B 12	Lab Tests
Baso %	Lab Tests
Calcium	Lab Tests
Chloride	Lab Tests
Co2	Lab Tests
Creatinine	Lab Tests
Dir. Bilirubin	Lab Tests
Egfr Calculated	Lab Tests
Eosin %	Lab Tests
Fobt#1	Lab Tests
Fobt#2	Lab Tests
Fobt#3	Lab Tests
Folate	Lab Tests



View: Individual Graphs

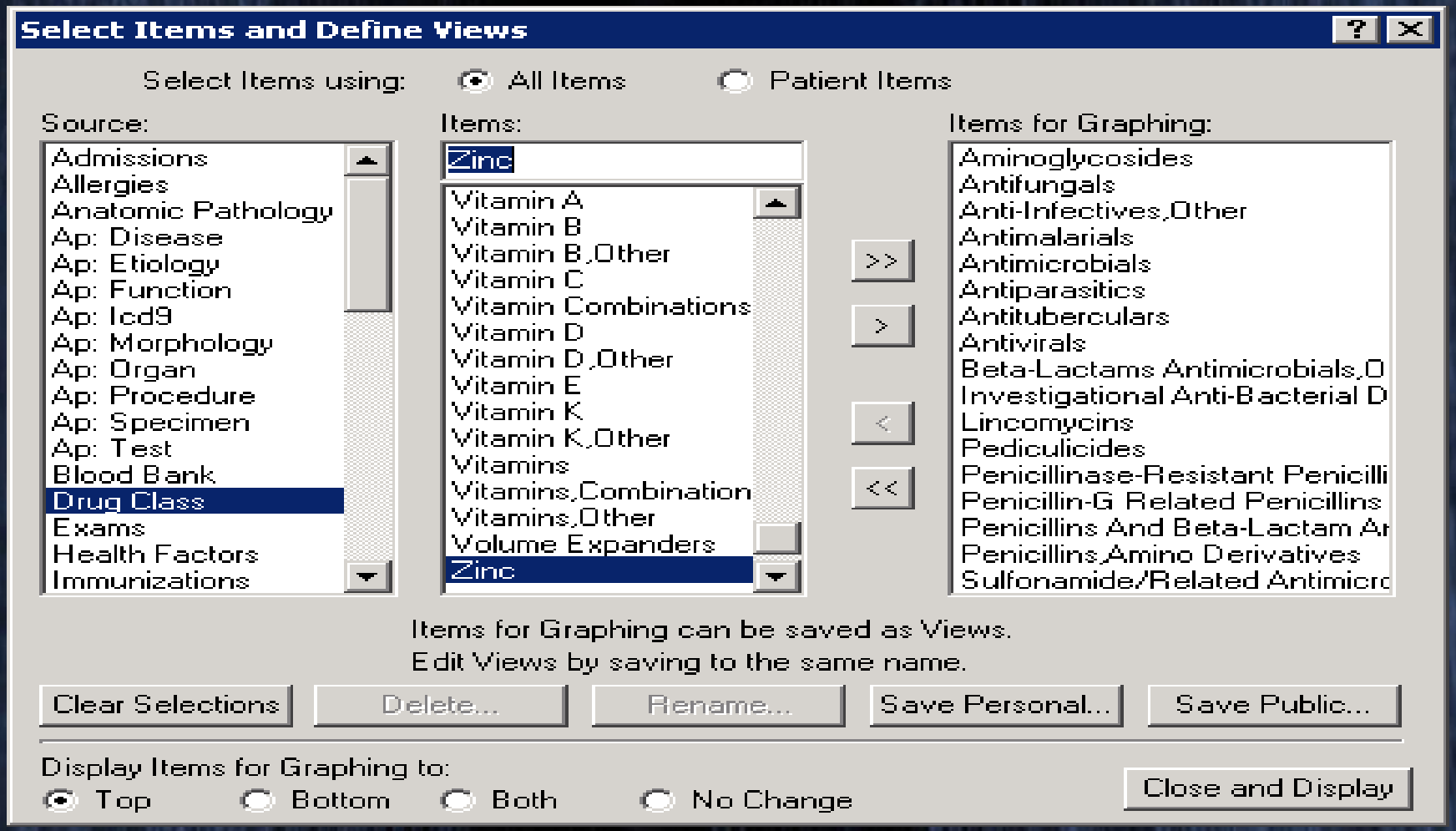
Drug: Hyperlipidemia

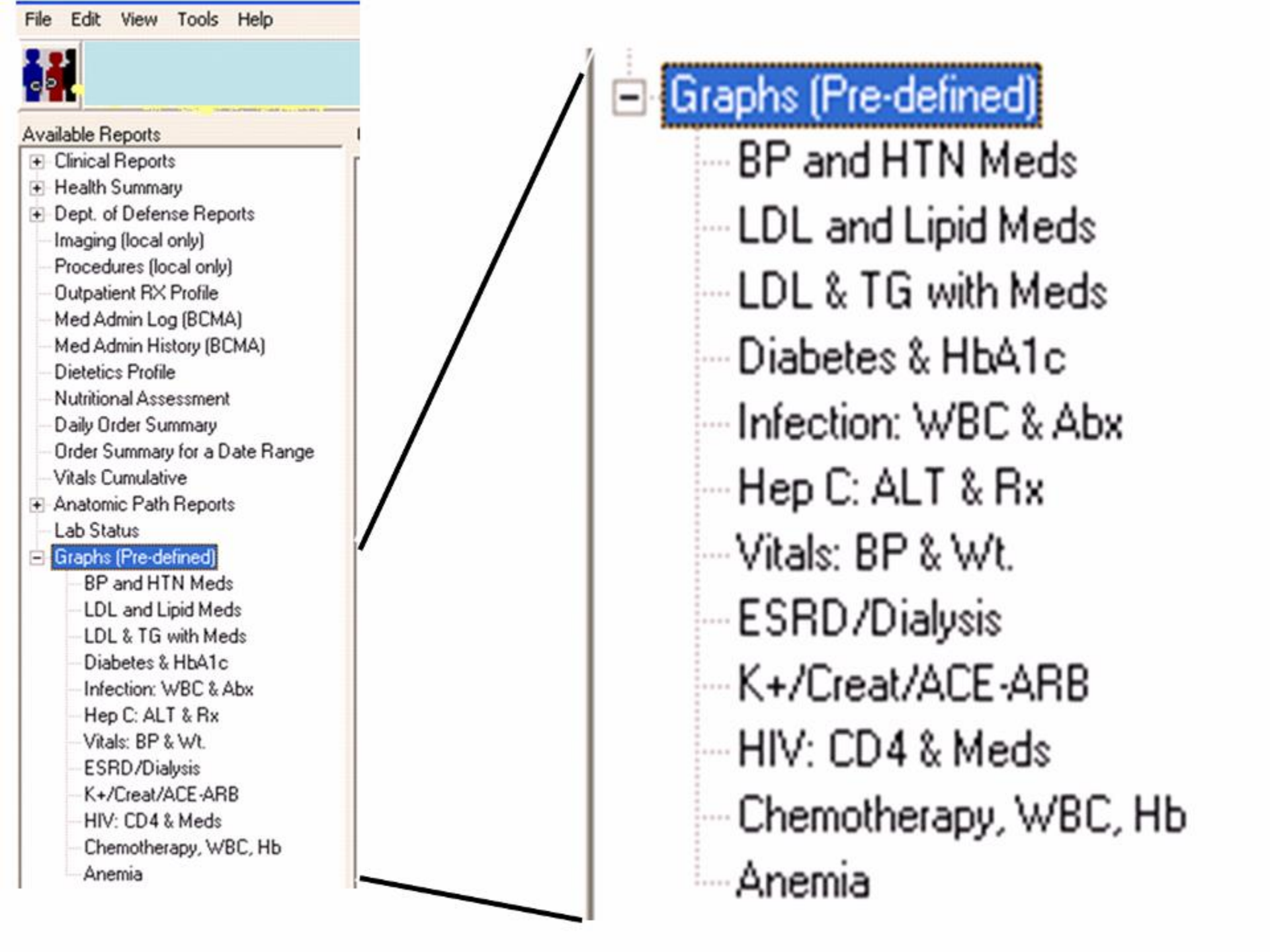
Item	Type	Vi...	C
Gemfibrozil 60...	Medication,Outpatient	Dr...	D
Simvastatin 8...	Medication,Outpatient	Dr...	D
Alb/Creat Ratio	Lab Tests		L
Albumin	Lab Tests		L
Alkaline Phos...	Lab Tests		L
Alt	Lab Tests		L
Anion Gap	Lab Tests		L
Antinuclear An...	Lab Tests		L
Appearance	Lab Tests		L
Ast	Lab Tests		L
B 12	Lab Tests		L
Baso %	Lab Tests		L
Calcium	Lab Tests		L
Chloride	Lab Tests		L
Cholesterol	Lab Tests		L
Co2	Lab Tests		L
Creatinine	Lab Tests		L
Dir. Bilirubin	Lab Tests		L
Egfr Calculated	Lab Tests		L
Eosin %	Lab Tests		L

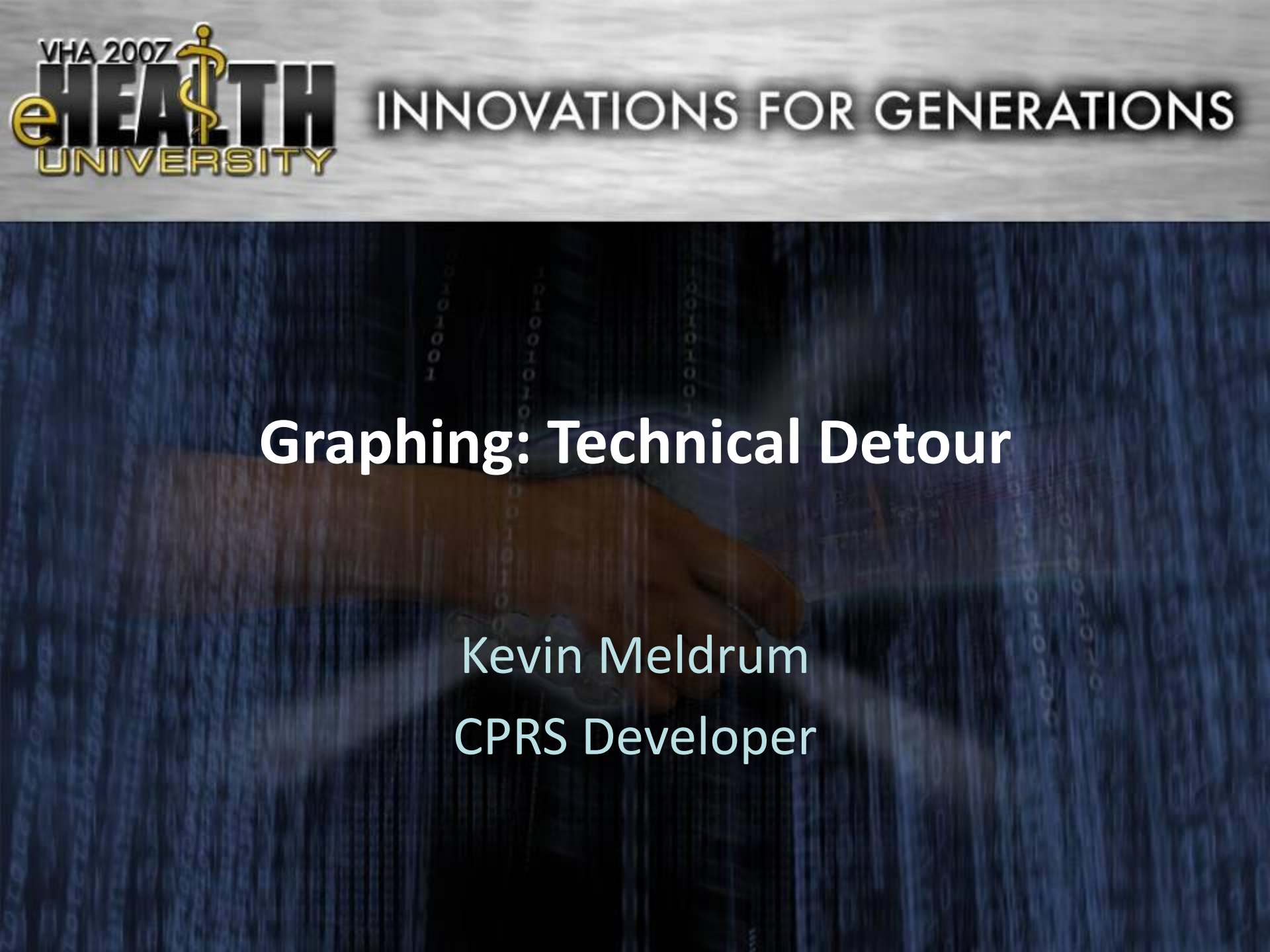


Date Range: All Results | Split Views | Select/Define... | Settings... | Close

Making a list of Antimicrobials




File Edit View Tools Help
Available Reports
Clinical Reports
Health Summary
Dept. of Defense Reports
Imaging (local only)
Procedures (local only)
Outpatient RX Profile
Med Admin Log (BCMA)
Med Admin History (BCMA)
Dietetics Profile
Nutritional Assessment
Daily Order Summary
Order Summary for a Date Range
Vitals Cumulative
Anatomic Path Reports
Lab Status
Graphs (Pre-defined)
BP and HTN Meds
LDL and Lipid Meds
LDL & TG with Meds
Diabetes & HbA1c
Infection: WBC & Abx
Hep C: ALT & Rx
Vitals: BP & Wt.
ESRD/Dialysis
K+/Creat/ACE-ARB
HIV: CD4 & Meds
Chemotherapy, WBC, Hb
Anemia
Graphs (Pre-defined)
BP and HTN Meds
LDL and Lipid Meds
LDL & TG with Meds
Diabetes & HbA1c
Infection: WBC & Abx
Hep C: ALT & Rx
Vitals: BP & Wt.
ESRD/Dialysis
K+/Creat/ACE-ARB
HIV: CD4 & Meds
Chemotherapy, WBC, Hb
Anemia


VHA 2007
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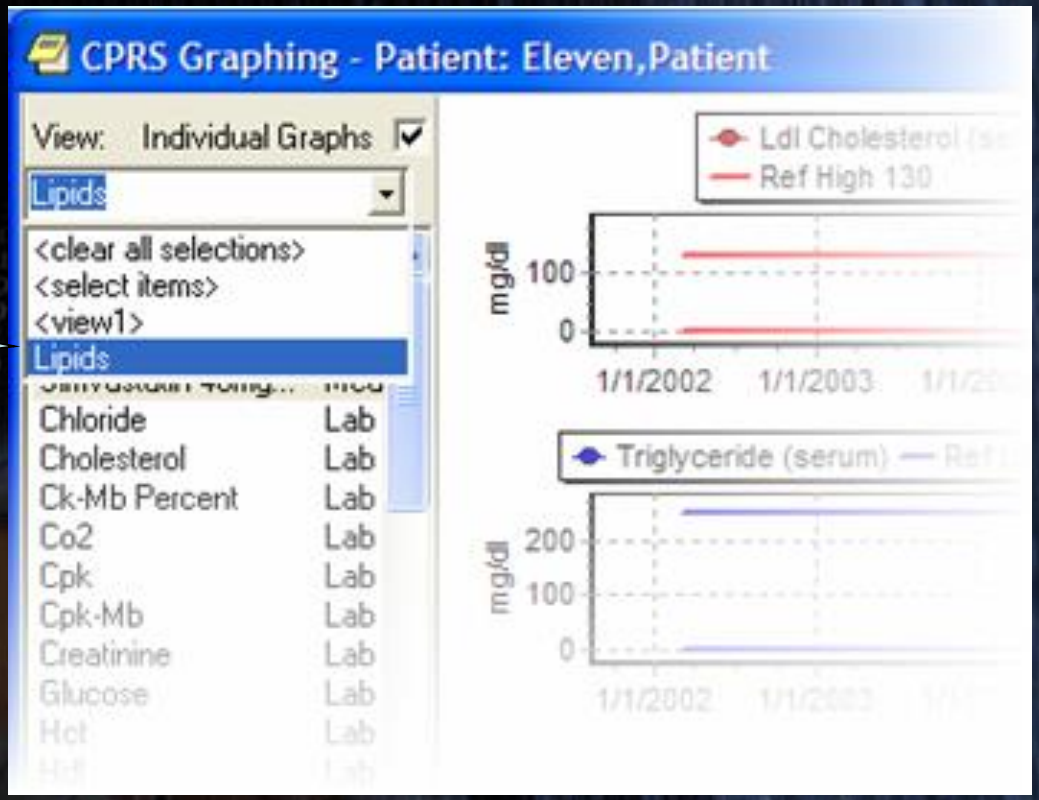
INNOVATIONS FOR GENERATIONS
Graphing: Technical Detour
Kevin Meldrum
CPRS Developer

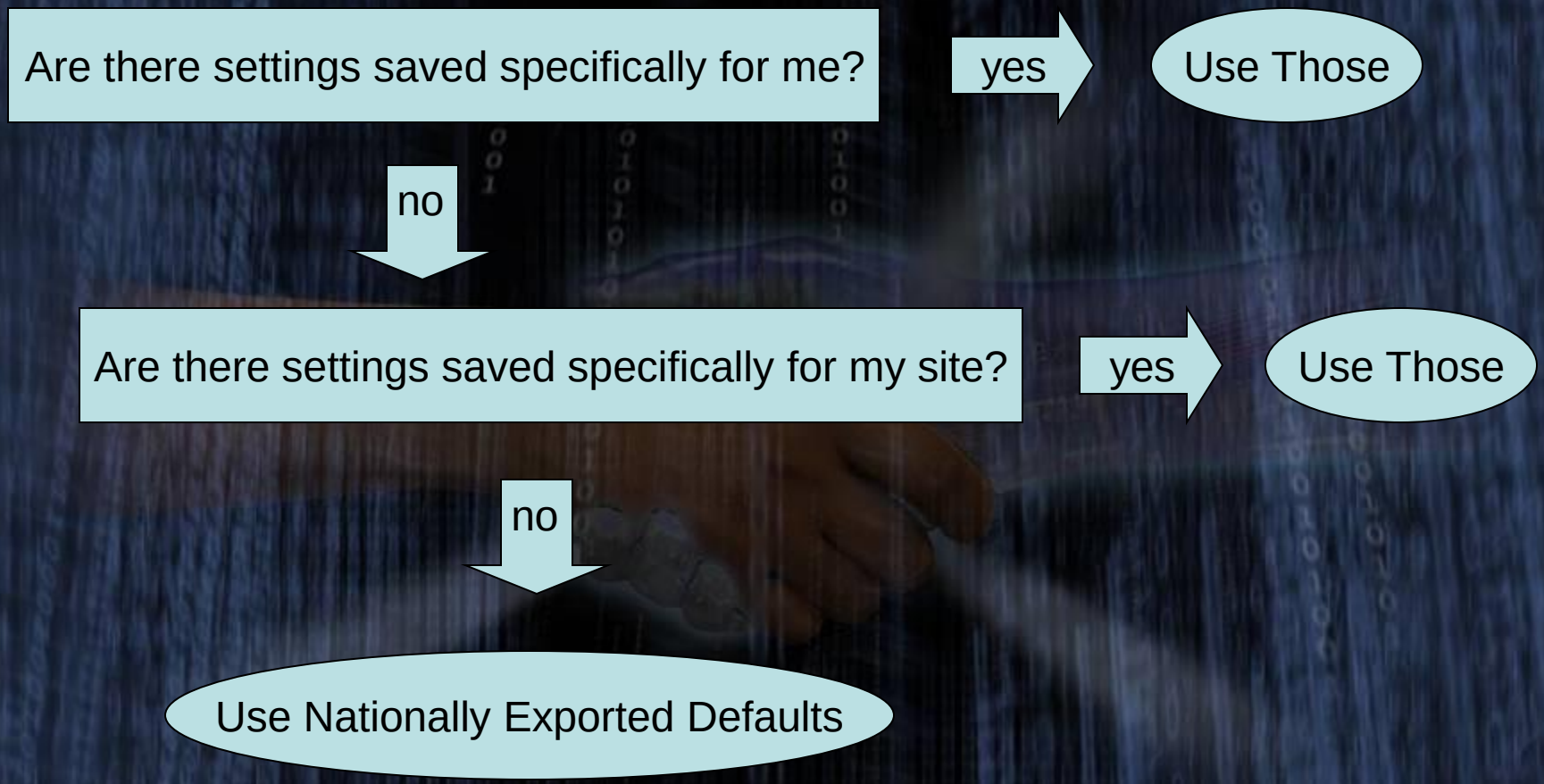
Personal & Public Views

Views that have been saved show in this drop-down list.



- A View has items (tests, drug classes, etc.).
- A Saved View has a Name.

Technical Detour: Which Settings?



Technical Detour: Namespace

Namespaces organize the system.

Cprspatient, One

Family Name Given Name

ORWG GRAPH PUBLIC EDITOR CLASS

Family Name Given Name

Graphs on the Reports Tab

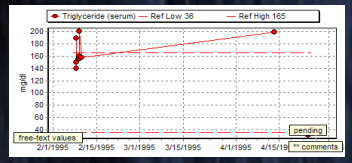
OE/RR REPORT file

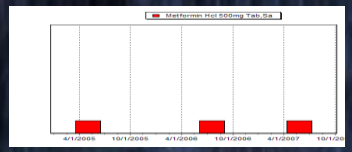
Available Reports: ORWRP REPORT LIST

Graph Report Menu: ORZ GRAPHS

Graph Report: ORZ LIPIDS

Public Views





- Graph Report turns a view into a report.
  - 1 or two view may be in a single report.
- Graph Report Menu allows multiple graph reports.
- Available Reports contains the full list of reports shown on the reports tab.

Going Public

- Choose an appropriate User Class
  - Clinical Coordinators, for example
- Use the Parameter Editor to assign the User Class to the parameter:
  - ORWG GRAPH PUBLIC EDITOR CLASS
- This set of users will now have the “Save Public” button

Graphing "Cheat": Personal to Public

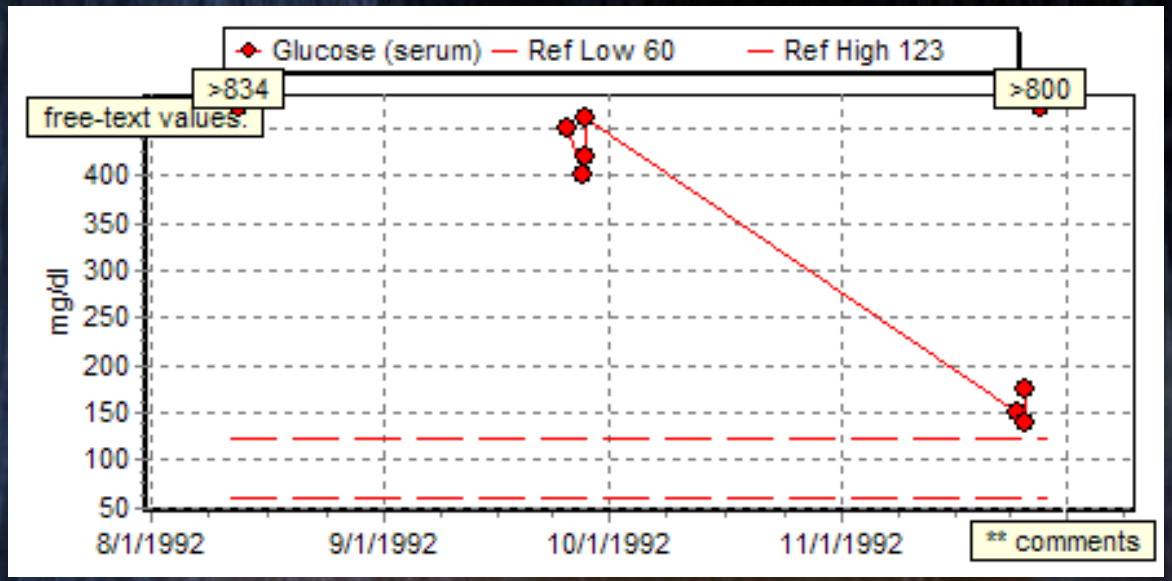
- Edit the Parameter file (8989.5)
- Select the user of the personal graph
  - Select Parameters Entity: USR.PROVIDER,ABC
- Find the ORWG GRAPH VIEW parameter with the correct name and choose it
  - (You may have a lot of scrolling)
- Change the entity of that entry to your domain name
  - ENTITY: PROVIDER,ABC// SYS.LOCALDOMAIN.MED.VA.GOV

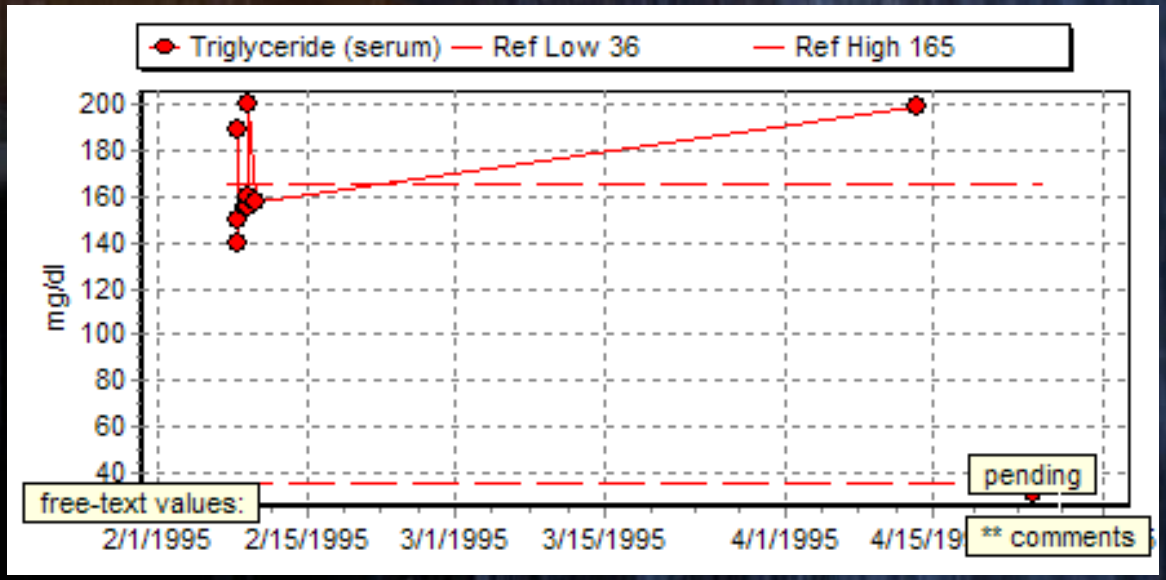
(…or wait for version 27 – much easier…)

Future Enhancements

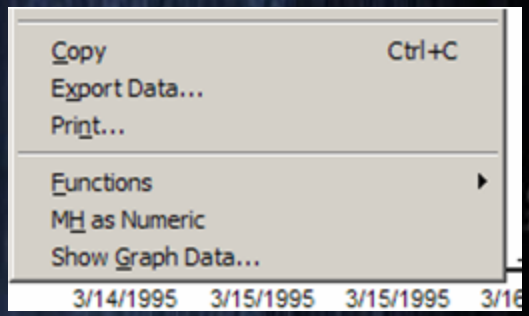
- Performance Improvements (v27)
- Usability Improvements (v27)
- Merge – Treat Multiple Items as One
- Remote Data

Display of Free Text Comments





Export to a Spreadsheet



Microsoft Excel - Book1

File Edit View Insert Format Tools Data Window Help

Arial 10 B I U

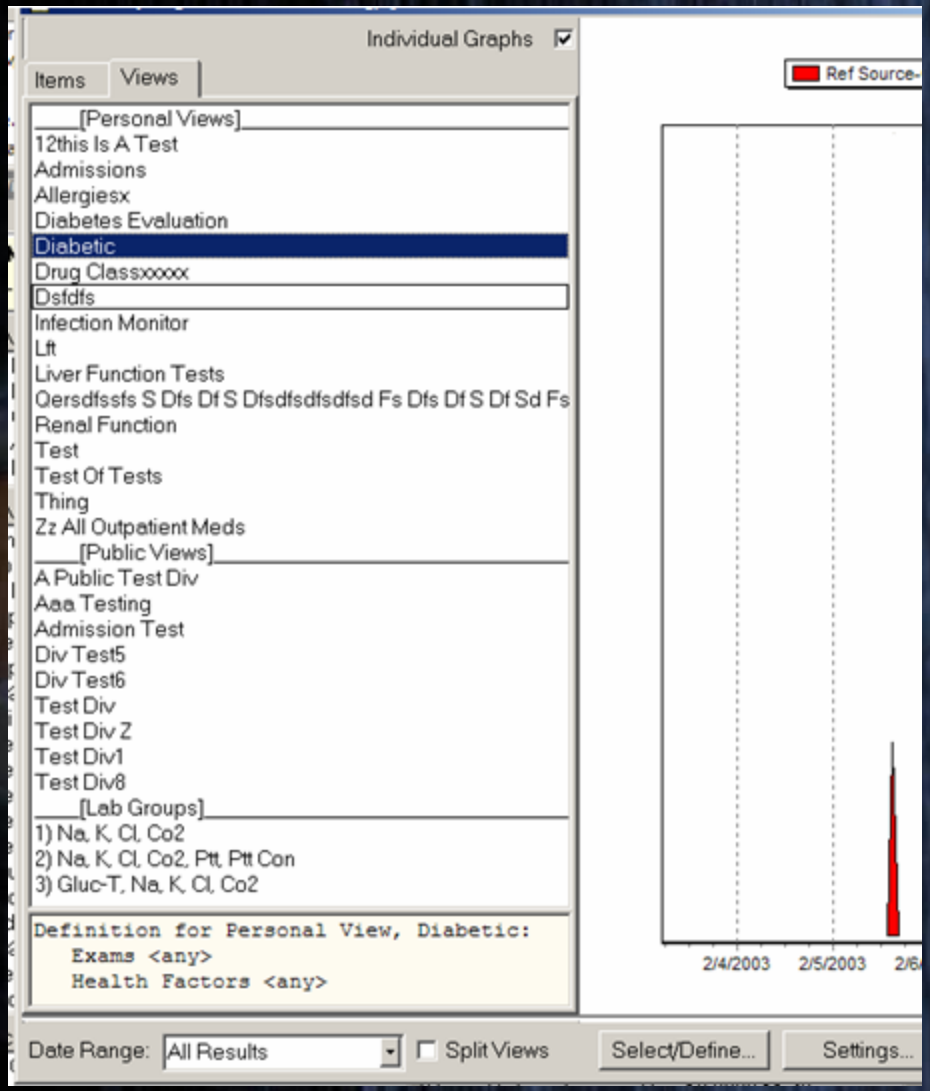
A1 Type

	A	B	C	D	E	F	G
1	Type	Item	Date1	Date2	Value	Qualifier	
2	Vitals	Blood Pressure	3/4/2003 10:25		130/90		
3	Vitals	Blood Pressure	4/4/2003 15:45		150/100		
4	Vitals	Blood Pressure	5/12/2003 11:00		138/100		
5	Vitals	Blood Pressure	5/26/2003 13:30		130/10		
6	Vitals	Blood Pressure	9/27/2005 12:54		Pass		
7	Vitals	Body Mass Index	3/4/2003 10:25		33.98		
8	Vitals	Body Mass Index	4/4/2003 15:45		36.67		
9	Vitals	Body Mass Index	5/12/2003 11:00		35.95		
10	Vitals	Body Mass Index	5/26/2003 13:30		36.03		
11	Vitals	Pain	10/22/2002 14:07		5		
12	Vitals	Pain	3/4/2003 10:25		0		
13	Vitals	Pain	4/4/2003 15:45		3		
14	Vitals	Pain	5/12/2003 11:00		0		
15	Vitals	Temperature	3/4/2003 10:25		98.3		
16	Vitals	Temperature	4/4/2003 15:45		103		
17	Vitals	Temperature	5/12/2003 11:00		98.5		
18	Vitals	Temperature	5/26/2003 13:30		98.6		
19	Vitals	Temperature	9/27/2005 12:54		Pass		
20	Vitals	Temperature	9/27/2005 12:54		45		
21							
22							
23							

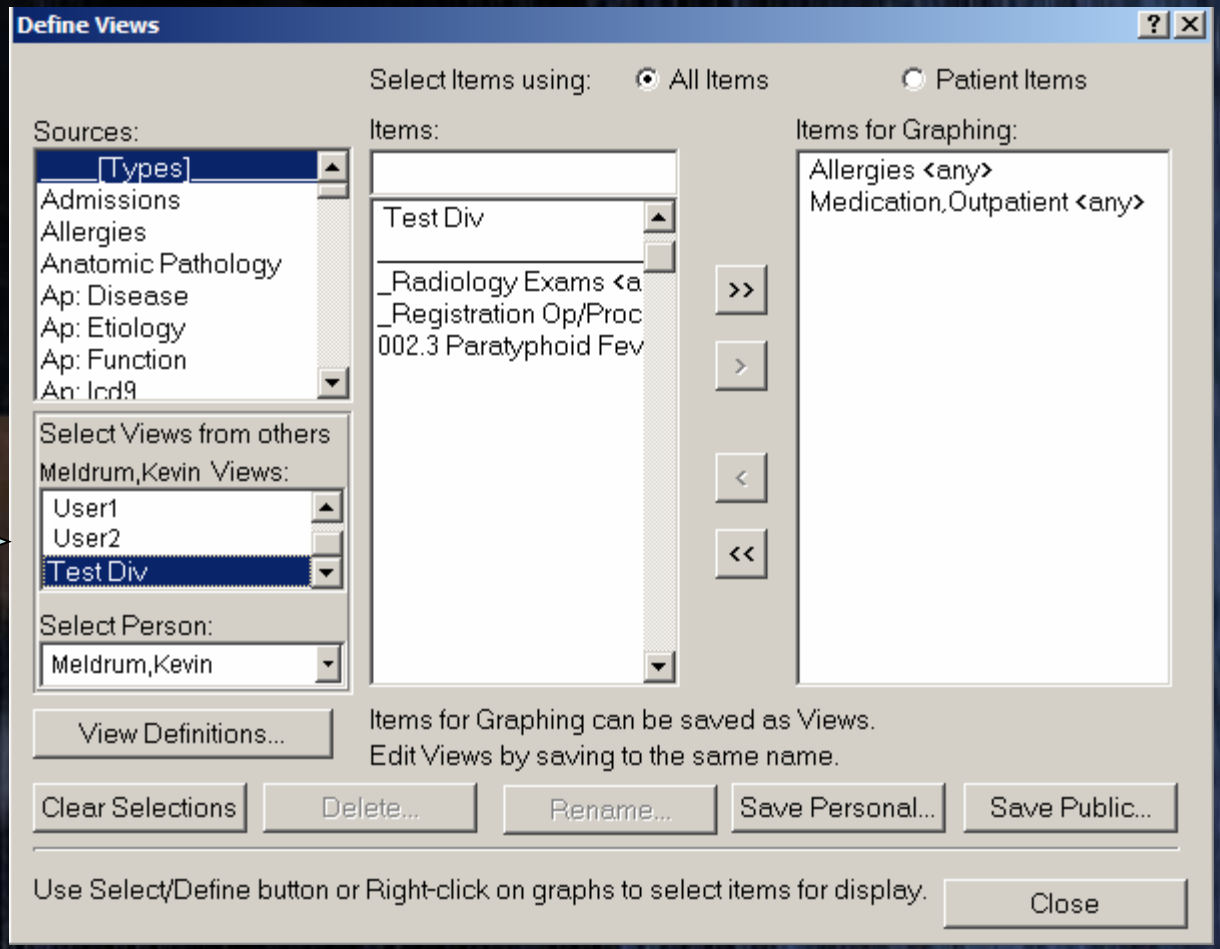
Items, Views & Lab Groups

Items, Views on Separate Tabs

Lab Groups are Available

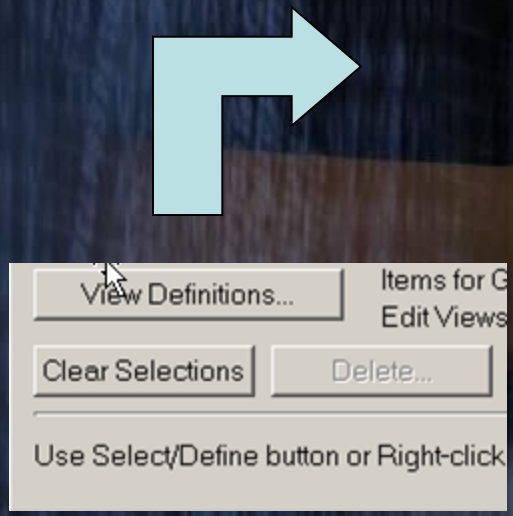


Exchange Personal Views



Personal Views & Lab Groups Available to Others

Display Definition of a View

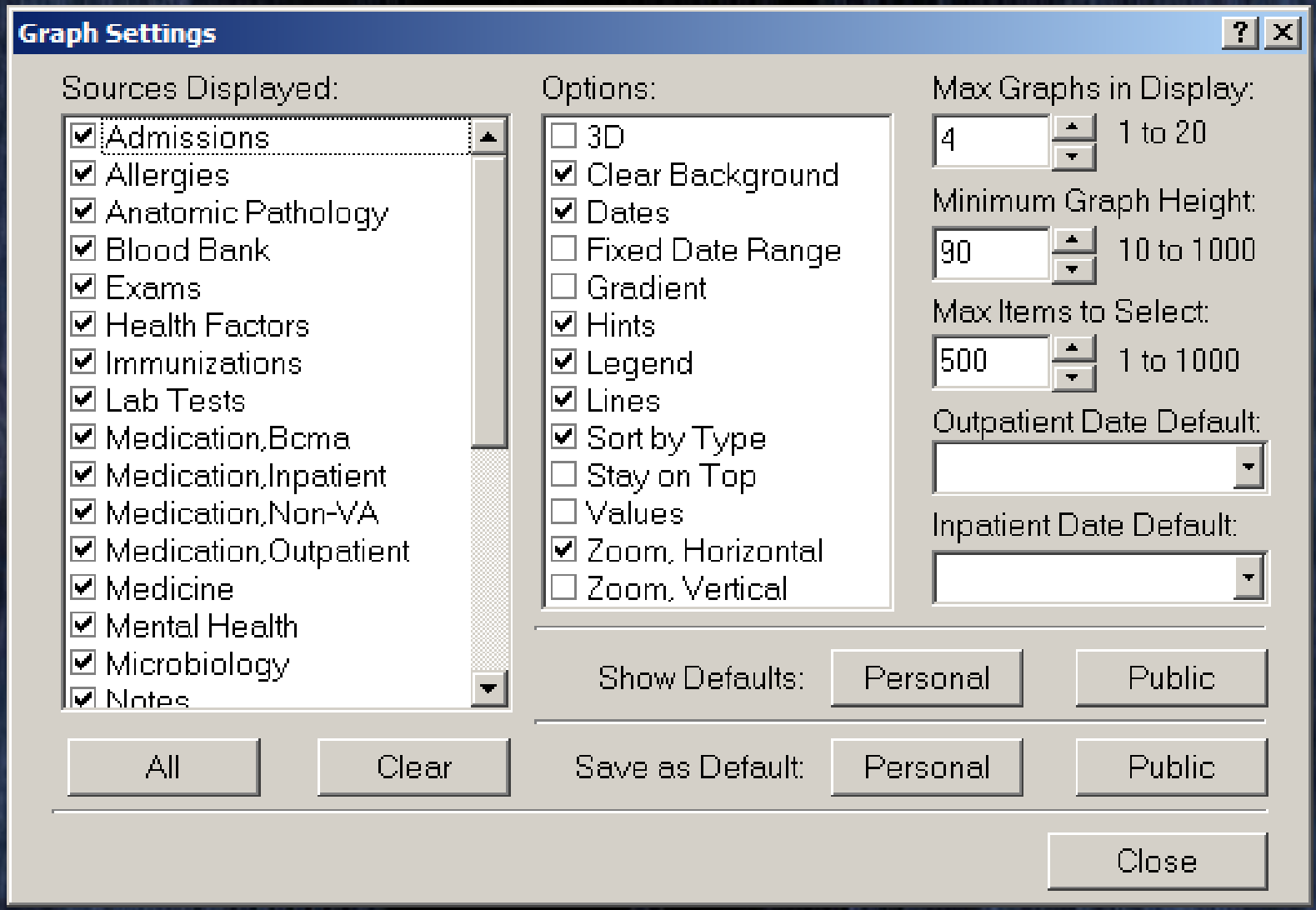


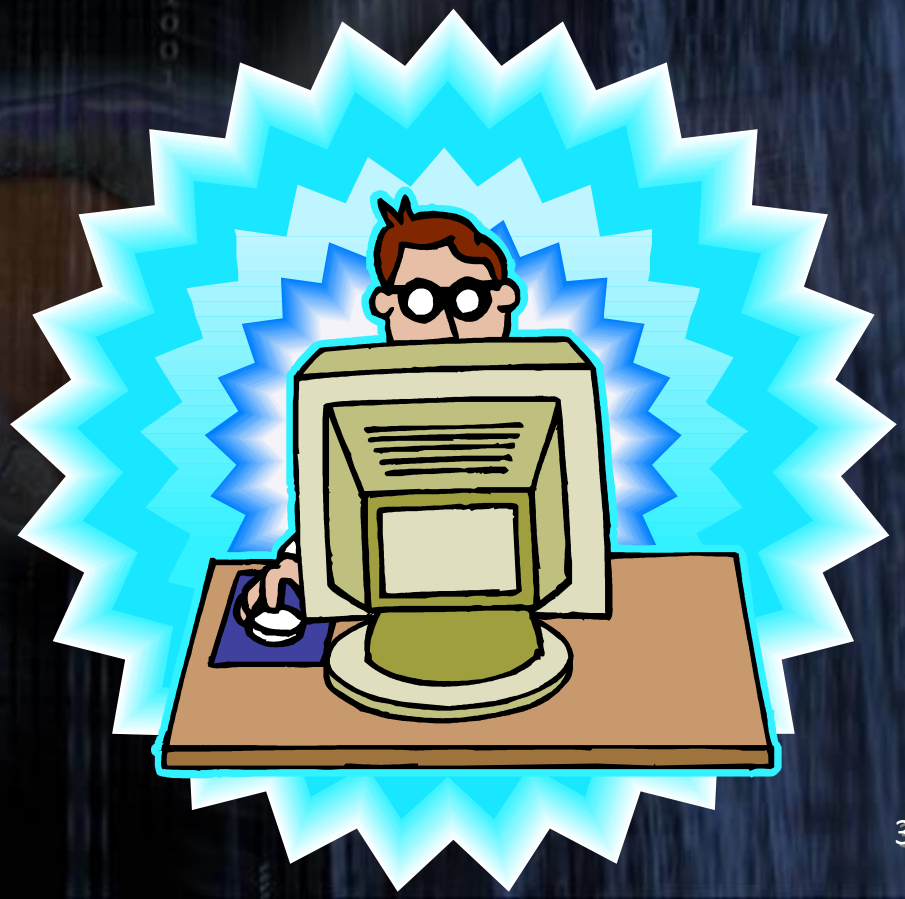
Views and Lab Groups

```
Definitions of Views and Lab Groups

Your Personal Views, Public Views, and Lab Groups

____[Personal Views]_____________________________________________
12this Is A Test
   Medication,Non-VA <any>
   Vitals <any>
Admissions
   Admissions <any>
Allergiesx
   Visits <any>
Diabetes Evaluation
   Health Factors <any>
Diabetic
   Exams <any>
   Health Factors <any>
Drug Classxxxxx
   Exams <any>
   Health Factors <any>
   Medication,Inpatient <any>
   Medication,Non-VA <any>
   Medication,Outpatient <any>
   Alcohol Deterrents
   Alpha Blockers/Related
   Aluminum Containing Antacids
   Aluminum/Magnesium Containing Antacids
Dsfdfs
   Audiometric Threshold
Infection Monitor
   Exams <any>
   Medication,Inpatient <any>
Lft
   Albumin
```

Print Close

Default Date Ranges



Dr. Schrader's family

QUESTIONS?