



M and M Rounds for an Established EMR User

Dr. Rick Senior

Near North Medical Clinic

North Bay ON



Faculty/Presenter Disclosure

- **Faculty:** Dr. Rick Senior

- **Relationships with commercial interests:**
 - Presenter for CIS system 15 years ago
 - OntarioMD – Peer Leader 10 years ago



Disclosure of Commercial Support

- No Commercial Support





Mitigating Potential Bias

- Content of this presentation has been reviewed by a panel of physician and nurse peers to ensure that it remains unbiased and has no commercial representation



Why You Might Want to Listen to Me...



- Engineer in previous life
- Had a Mac at medical school
 - Cost over \$2500 (\$6000 in today dollars)
- Was on Canadian EHR project for a year
- Was peer leader with OntarioMD for a couple of years



Our clinic...



- Opened in 1996
- Beta test site for our EMR
- Pentium II's at start
- Dot matrix lab printer
- 12 workstations
 - Now at 31 workstations



Our first complete crash...



- Hard drive crashed
- Called up vendor
- Instructed us on how to recover
 - Phone support since in North Bay



Guess what...?



- Backup had failed..
- Why?
 - Hard disk had been partitioned
 - Back up was running on wrong side of partition
- AND
 - They blamed us!



So what happened...?



- Patient demographics were relatively intact
- Labs could be reloaded from source
- At this point, we had no true electronic chart, so no data lost there
- **BUT**
 - We lost the whole appointment calendar
 - The next 2 months were an adventure



You'd think we learned our lesson...



- About 5 years ago
- Second humongous crash
 - Again go to the back up...
 - At this point we had 2 back ups running
 - One onsite
 - One off site



Again, guess what...?



- Onsite backup wasn't running because of a USB key that was in a slot that stopped that process
- Off site backup?
 - Turns out it is backing up the onsite backup



Resolution...?



- We (miraculously) were able to get data off the hard drive platter itself through one of those data recovery places
- Our IT guy drove it across town at 20 km per hour strapped in back seat
- We could have lost at least 6 months of data, maybe more



What lessons can be learned...?



- Most obvious, is be way smarter, right?
- Remember, though when we would check logs..
 - In first case, log said everything backed perfect
 - But wrong disk partition



What lessons can be learned...?

MY COMPUTER HARD DRIVE CRASHED

**NSA WON'T SEND ME THEIR BACKUP
COPY**

- Remember, though when we would check logs..
 - In second case, log said everything backed up perfectly
 - But onsite didn't note date change
 - Off site was backing up onsite



And in case you still think we were a bunch of dummies...



- University of Calgary had to pay \$20,000 after ransomware attack
- Stratford, Wasaga Beach and Midland all attacked successfully
- In US, Allscripts and City of Atlanta successfully hit



What does a successful ransomware attack mean...?



- At some level, all these places had insufficient backup!



So what can you do?

1

Nothing can stop automation



- Usual stuff, backup at least two places in two different media
- Test the back up
 - This does NOT mean looking at file registry or backup log



So what can you do?



- You **MUST** trial restoring from the backup
- **AND**, if possible, not done by person who is responsible for setting it up in first place



A plea for data entry...

The screenshot shows a software window titled "User Predefined Value Setups". The window contains a tree view on the left and a list view on the right. The tree view is expanded to show "Death Cause" under the "Family History" category. The list view displays a long list of predefined values for "Death Cause", including "Blood clot", "Blood disorder", "Blood Disorder ?", "Bo", "Bon", "bone", "bone cancer", "Bone Cancer ?", "Bone Disease", "bonel", "Bow", "Bowe", "Bowel", "Bowel abscess", "Bowel C", "Bowel Ca", "Bowel Ca @ 72", "Bowel Canc", "Bowel Canc", "Bowel Cancd", "Bowel Cancer", "Bowel cancer", "Bowel Cancer - age", "Bowel Cancer - age 44", "Bowel Cancer - age 46", "Bowel Cancer - age 47", "Bowel Cancer - age 5", "Bowel Cancer - age 54", "Bowel Cancer - age 56/70", "Bowel Cancer - age 57", "Bowel Cancer - age 58", "Bowel Cancer - age 64", "Bowel Cancer - age 65", and "Bowel Cancer - age 7".

Predefined Value Name	Death Cause
Allergy/Drug Name	Blood clot
Reaction/Symptom	Blood disorder
Input Parameters	Blood Disorder ?
Cause	Bo
Onset	Bon
Relief	bone
Duration	bone cancer
Frequency	Bone Cancer ?
Location	Bone Disease
Severity	bonel
Radiation	Bow
Family History	Bowe
Death Cause	Bowel
Health	Bowel abscess
Illness	Bowel C
Relation	Bowel Ca
Hospitalization	Bowel Ca @ 72
Hospital	Bowel Canc
Reason	Bowel Canc
Results	Bowel Cancd
Immunizations	Bowel Cancer
Contra	Bowel cancer
Faculty	Bowel Cancer - age
Location	Bowel Cancer - age 44
Lot No	Bowel Cancer - age 46
Name	Bowel Cancer - age 47
Route	Bowel Cancer - age 5
Site	Bowel Cancer - age 54
Type	Bowel Cancer - age 56/70
University	Bowel Cancer - age 57
Volume	Bowel Cancer - age 58
SOAP/PN/CR	Bowel Cancer - age 64
	Bowel Cancer - age 65
	Bowel Cancer - age 7



But wait,
there's more

The screenshot shows a software window titled "User Predefined Value Setups". The window has a toolbar with icons for home, print, refresh, save, and help. Below the toolbar, there are two main panes. The left pane, titled "Predefined Value Name:", contains a tree view with the following categories: Allergy/Drug Name, Reaction/Symptom, Input Parameters (with sub-items: Cause, Onset, Relief, Duration, Frequency, Location, Severity, Radiation), Family History (with sub-item: Death Cause, which is highlighted in blue), Health, Illness, Relation, Hospitalization (with sub-items: Hospital, Reason, Results), Immunizations (with sub-items: Contra, Faculty, Location, Lot No, Name, Route, Site, Type, University, Volume), and SOAP/PN/CR. The right pane, titled "Death Cause", contains a list of values: Chronic Lymphocytic Leukemia, Chronic renal failure, ci, cir, cirh, cirr, Cirrhosis, Cirrhosis @ 5, Cirrhosis @ 55, Cirrhosis @ 67, Cirrhosis @ a, Cirrhosis @ age 62, Cirrhosis at 54, Cirrhosis of liver, Cirrhosis/, Cirrhosis/Hepatitis B, CO, Col, Colo, Colon, Colon cancer, Colon Cancer @ 3, Colon Cancer @ 34, Colon Cancer @ 49, Colon Cancer @ 52, Colon Cancer @ 54, Colon Cancer @ 58, Colon cancer @ 67, Colon cancer @ 69, Colon Cancer @ 70, Colon Cancer @ 75, Colon Polyps, Colono, and Colorectal Cancer. The window also has a close button (X) in the top right corner and a help button (?) in the top right corner of the content area.



Printed: 15/09/2019 at 04:44 pm

Total Records Printed: 633

Page: 11

But wait, there's more

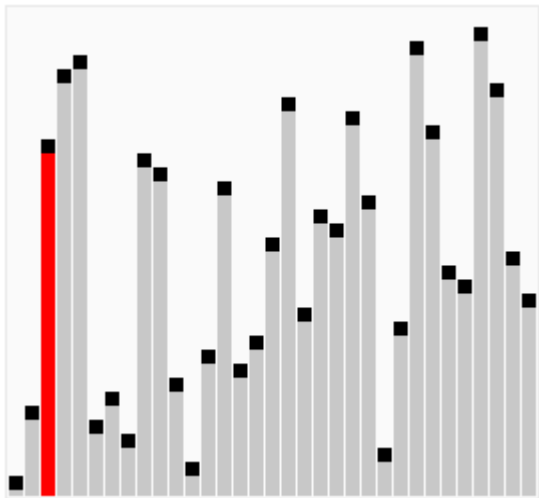
Printed: 15/09/2019 at 05:00 pm

Total Records Printed: 421

Page: 8



Lesson here...



- Set up your agreed data structures RIGHT away!
- If you are new clinic, meet and **WORK THIS OUT**
 - “What are we going to call mammograms, an Xray or a screening test?”
 - “How are we going to enter Pap smear results?”
- If established clinic, well it depends...



Summary

- Don't be like our clinic...
- Trial restoring your data from your backup
- Ensure that there is clinic or organization wide agreement on data structure entry



