

Effective Use of an EMR

(especially when that EMR is Netmedical)

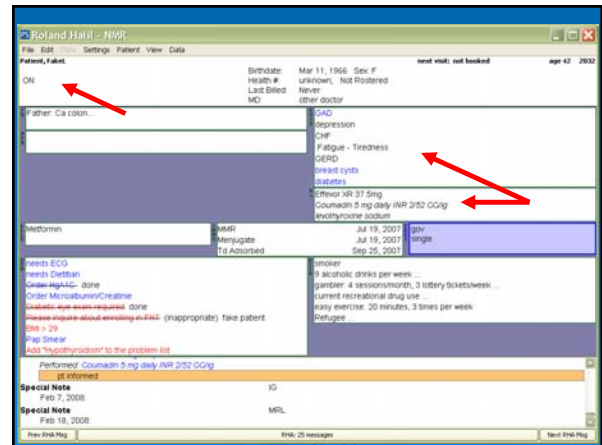
Roland Halil, BSc(Hon), BScPharm, ACPR, PharmD
June 23, 2008

What is an EMR?

- Database software
 - Updateable
 - In person or remotely (via the web)
 - Legible!
 - Reducing errors of communication
 - Searchable
 - Filter large amounts of data fast
 - Review interventions in large populations fast
 - Accessible by everyone
 - More problem solvers, means more solutions
 - VPN
 - Built in communication tools
 - Critical to transforming multiple providers of care into team-mates.
- Therein lies the power.*

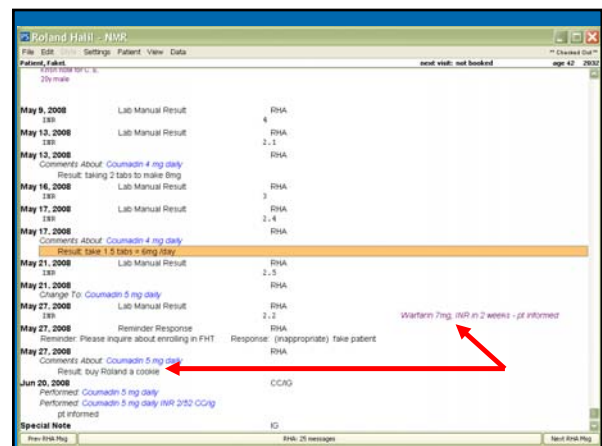
Most Effective – When?

- Kept up to date!
 - Need to stress importance to all users in FHT
 - "Data integrity"



Most Effective – When?

- Used consistently
 - Need to train staff on "right" way to do things
 - Assuming that way is *simple*
 - Need "policing" committee
 - To ensure training is done, data integrity, and to disseminate new developments and tips for use.



Flowsheet for FakeL Patient

	INR	metformin
Latest Value	2.2	5 mg daly INR 2/52 CC/kg
Last Done	May 27	Jun 20
Sep 27, 2007		4 mg daly, 5 mg daly
Nov 5, 2007		4 mg daly
May 9, 2008	4	
May 13, 2008	2.1	4 mg daly; taking 2 tabs to make 6mg
May 16, 2008	3	
May 17, 2008	2.4	4 mg daly; take 1.5 tabs = 6mg /day
May 24, 2008	2.6	4 mg daly
May 27, 2008	2.2	4 mg daly; buy Roland a cookie
Jun 2, 2008		4 mg daly; 5 tabs to make 6mg

- ## Most Effective – When?
- Technical functions are exploited
 - Need continuous education for non-technical staff.
 - Need power-users who can train other users in turn.

Jun 20, 2008 RHA

Chronic Disease Management - Hypertension Stamp:

«Please TAB through items! (Tabbing moves from colon to colon)
 (Please either ACCEPT or DELETE items in «brackets») (Tabbing highlights items in brackets; tabbing again automatically accepts)»

Ideally Reviewed Every 3 - 6 Months

Blood Pressure (mmHg) BP:

Meds Reviewed: «Yes»«No»

Smoking Cessation: «Not» discussed

Activity Level: «Not» discussed

Salt Intake: «Not» discussed

Alcohol Consumption: «Not» discussed

Weight (kg) - Wt: «BMI»

Waist Circumference (cm) - WC:

«CVDRisk»

«CrCL»

(Press "F1" to review flowsheet for Hypertension-CDM)
 Roland Hall

Roland Hall - NMR

File Edit Style Settings Patient View Data

Patient, FakeG

Performed diclofenac potassium 50

Apr 28, 2008 Diabetes Flowsheet MOHLTC Apr08 RHA/ADM

Apr 28, 2008 Start ASA 81mg RHA

Apr 29, 2008 RHA

Chronic Disease Management - Hypertension Stamp:

Ideally Reviewed Every 3 - 6 Months

Blood Pressure (mmHg) BP:

Meds Reviewed: Yes

Smoking Cessation: discussed - quit - 9 months ago - no relapse to date

Activity Level: discussed - exercises twice a week - walking, biking

Salt Intake: discussed []

Alcohol Consumption: Not discussed

Weight (kg) - Wt: 90 BMI: 28

Waist Circumference (cm) - WC:

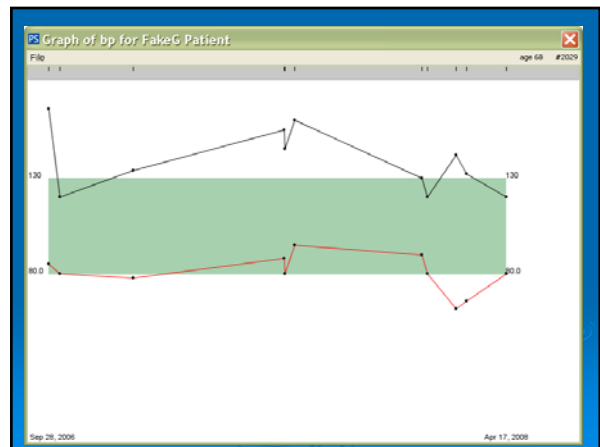
10 Year CVD Risk: 16% (Assumes no existing CVD; optimal for age is 8%, CVD Risk Ratio: 16.0%)

CrCl: 1.56 ml/sec, or 93.3 ml/min (based on creatinine 05.0 and weight 90.0 kg)

(Press "F1" to review flowsheet for CDM-HTN)
 Roland Hall

Flowsheet for FakeG Patient

	Latest Value	Last Done	Feb 14 2008	Feb 25 2008	Feb 27 2008	Feb 28 2008	Mar 12 2008	Apr 17 2008	Apr 28 2008	Apr 29 2008	Jun 5 2008
Systolic/Diastolic BP [BP]	120/80	Apr 17	42/62		132/66			120/80			
Pulse [HR]	66	Apr 28						66			
Na	145	Mar 12					145				
K	4	Dec 28									
eGFR											
Cr	85	Feb 8									
Urea											
MisAlbumin/Creatinine Ratio											
Meds Reviewed: Yes	X	Apr 25						X		X	
Smoking Cessation: discussed	X	Apr 29								X	
Activity Level: discussed	X	Apr 29								X	
Salt Intake: discussed	X	Apr 29						X		X	
Alcohol Consumption: discussed											X
WC:	100	Jan 3									
Weight [Wt]:	90	Apr 29			100			90	66	90	
BMT [alt from Hb & Hct]	28.7	Apr 29			31.9			28.7	21.1	28.7	
FBS	5.1	Dec 28									
LDL	2.5	Dec 28									
CHOL/HDL											
CVD Risk:	very	Jun 5			very				16%	very	

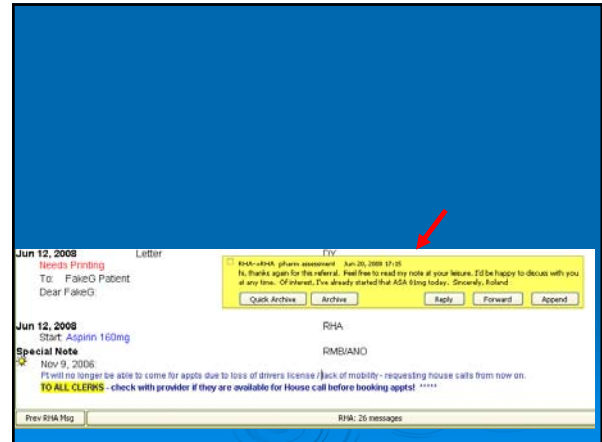


Communication

Amongst health care providers

What to communicate?

- Acute developments
- Changes to care plan / Rx's / new ADRs
 - In large teams, verbal communication breaks down - all communication should be logged
- Notification of follow-up, new assessments



Communication

Amongst health care providers

What to communicate?

- Acute developments
- Changes to care plan / Rx's / new ADRs
 - In large teams, verbal communication breaks down - all communication should be logged
- Notification of follow-up, new assessments
- Recent scientific developments

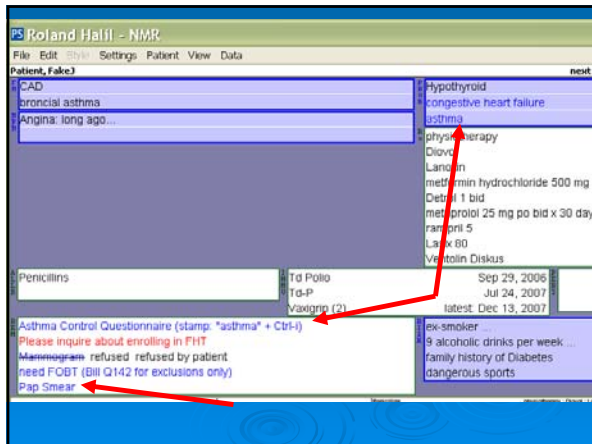
Improving Drug Prescribing & Use

- EMR opens opportunities for:
 - Chronic disease management
 - Eg. Attainment of Ministry goals & financial incentives
 - Use of flowsheets
 - Extra incentives for diabetic patients:
 - \$60/yr + \$37/quarter if Ministry approved items are complete
 - 10,000 patients
 - 775 diabetics x \$208 = \$161,200!!

Hypertension - CDM		Feb 14 2008	Feb 26 2008	Feb 27 2008	Feb 28 2008	Mar 12 2008	Apr 17 2008	Apr 28 2008	Apr 29 2008	Jul 5 2008
Systolic/Diastolic BP [BP]	120/80	Apr 17	42/6.2	132/66			120/80			
Pulse [HR]	66	Apr 28						66		
Na	145	Mar 12				145				
K	4	Dec 28								
eGFR										
Cr	85	Feb 8								
UFreq										
MuscleMass/Creatinine Ratio										
Neck Circumf: Yes	X	Apr 29					X			X
Smoking Cessation: Discussed	X	Apr 29								X
Activity Level: Discussed	X	Apr 29								X
Salt Intake: Discussed	X	Apr 29					X			X
Alcohol Consumption: Discussed										
WC:	100	Jan 3								
Weight [WT]:	90	Apr 29			100		90	66	90	
BMI [calc from WT & Ht]	28.7	Apr 29			31.9		28.7	21.1	28.7	
FBS	5.1	Dec 28								
LDL	2.5	Dec 28								
CHOL/HDL										
CVDRisk:	very	Jun 5		very					16%	very

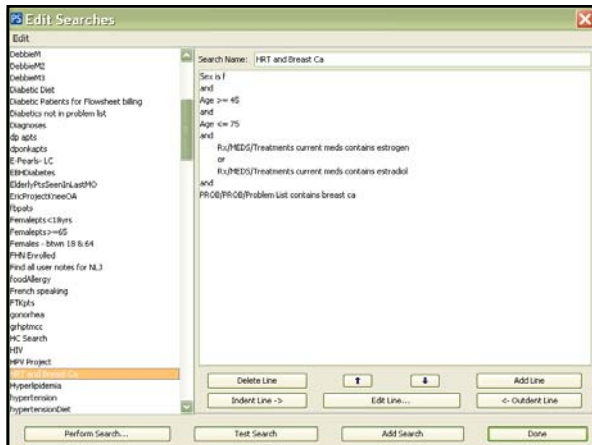
Improving Drug Prescribing & Use

- EMR opens opportunities for:
 - Disease specific public health initiatives
 - Eg. Ensuring women have had their Pap booked
 - Eg. Ensuring use of valid questionnaires are used in assessments
 - Use of reminders



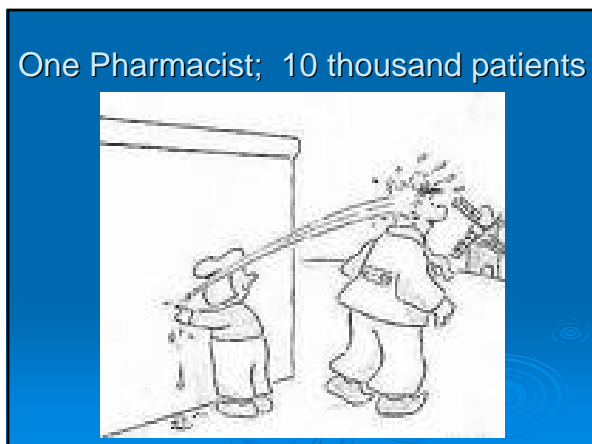
Improving Drug Prescribing & Use

- EMR opens opportunities for:
 - Epidemiological study / chart audit
 - Eg. How many diabetics are not on ASA?
 - Identification of at risk patients
 - Eg. Which patients are currently taking Vioxx?
 - Eg. Which patients risk ARF from use of ACEinh + NSAIDs + diuretics?
- Use of database searches



Patient #	S.	Age	Home	Business	Mobile
2125	E. St...	68	613-599-8...		613-862-8...
2177	R. Ar...	77	613-235-2...		
2552	S. Ca...	61	613-321-0...		
3410	J. Ha...	79	613-737-7...		
3426	S. Ha...	61	613-241-2...		
4066	E. M...	79	613-271-6...		
4450	G. Tr...	74	613-749-4...		
4633	F. M...	77	613-562-1...		
5119	R. G...	65	613-725-2...		
5312	H. Co...	84	613-241-2...	613-741-5...	
5404	J. Eg...	80	613-830-4...		
5440	K. Ke...	68	613-692-6...		
5682	D. Ke...	61	613-824-6...	613-841-4...	
5999	... Tr...	67	613-749-5...	613-526-6...	
6098	R. G...	68	613-728-1...		
6605	... Ch...	83	613-731-6...		
7293	F. Ha...	60	613-744-5...	613-698-9...	
7418	A. Ca...	63	613-731-4...		
7590	L. M...	72	111-521-1...		
8329	D. Bu...	77	613-241-1...		
8666	... Ge...	76	613-241-5...	613-738-5...	
10479	A. Ko...	64	613-729-4...		

Number found: 39



Summary - EMR

- Very powerful tool
 - Advantages in patient care impossible to match w/ paper charts
 - Improve outcomes for patient
 - Enhance communication, especially in larger teams
- Requires continuous training, oversight and re-evaluation of its use
- Consistency of input and data integrity are paramount to realize true power of system