Measuring Patient-Centred Care Integration of PROMs/PREMs into EHRs

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Outline

- Current EHR Landscape
- Integrating PROMs/PREMs into EHR
- Implementation Issues
- References

Current EHR Landscape - Context

- EHR definition – Repository of patient data over time
- Infoway – Summary Corporate Plan 2014-15
- Opportunities for action
  - Bring care closer to home
  - Provide easier access
  - Support new models of care
  - Improve patient safety
  - Enable a high performing health system
- Corporate objectives
  - Deploy EHR for Canadians
  - Get key information into hands of clinicians
  - Improve patient experience for Canadians

Current EHR Landscape – Evidence

- Whitepaper on coordinated EHR strategy for Canada
- Realist review to make sense of evidence
  - 38 Canadian and 35 international studies, grey literature, 9 interviews
  - eHealth value framework with investment, adoption, value and lag time
- Take home message
  - Under right conditions, eHealth adoption can be associated with clinical and health system benefits in processes, outcomes and return
  - Evidence is strong in processes, mixed in outcomes, weak on return
  - Question is: under what conditions can benefits be realized & maximized
  - 10 suggestions for a coordinated EHR strategy

Integrating PROMs/PREMs into EHR

- Integrating PROMS into EHR
  - Estabrooks 2012 - Harmonized patient-reported data elements
  - IOM 2014 - Social and behavioral domain-measures phase 2
  - Krist 2013,2014 – MOHR example in primary care

- Integrating PREMs into EHR
  - Browne 2010 – PREM as a strategy to improve primary care
  - Ralston 2010 – PREM as meaningful use criteria?

Estabrooks 2012 – Harmonized patient reported data elements

Table 4 Recommended common data elements by domain

9 domains 3 areas

Domain	Final measure	Recommended frequency	Items
Eating patterns	Modified from starting the conversation (STC)[22]	Annual	Over the past 7 days: a. How many times a week did you eat fast food or snacks or pizza? b. How many servings of fruits/vegetables did you eat each day? c. How many soda and sugar sweetened drinks (regular, not diet) did you drink each day?
Physical activity	The exercise vital sign[23]	Annual	a. How many days of moderate to strenuous exercise, like a brisk walk, did you do in the last 7 days? b. On those days that you engage in moderate to strenuous exercise, how many minutes, on average, do you exercise at this level?
Risky drinking	Alcohol use screener[24]	Annual	How many times in the past year have you had X or more drinks in a day? (where X is 5 for men and 4 for women)
Smoking/tobacco use	Tobacco use screener[25]	Annual	Have you used tobacco in the last 30 days? Smoked cigarettes: Yes/No Smokeless tobacco product: Yes/No
Substance use	Drug use screener[26]	Annual	How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?
Anxiety and depression	PHQ-4[27]	Annual	Over the past 2 weeks have you been bothered by these problems? (Leichert scale: not at all, several days, more days than not, nearly every day) a. Feeling nervous anxious, or on edge b. Not being able to stop or control worrying c. Feeling down, depressed, or hopeless d. Little interest or pleasure in doing things
Stress	Distress thermometer[28]	Annual	Please circle the number (0−10) that best describes how much distress you have been experiencing in the past week including today.
Demographics	Multiple sources[29]	Variable	9 items: Sex, date of birth, race, ethnicity, English fluency, occupation, household income, marital status, education, address, insurance status, veteran's status.
Sleep	Adapted BRFSS[25]; Neuro-QOL[30]	Annual	Do you snore or has anyone told you that you snore?In the past 7 days, I was sleepy during the daytime… never, rarely, sometimes, often, always

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IOM 2014 – Social and behavioral domains and measures

TABLE S-3 Core Domains and Measures

Domain	Measure **11 domains 12 measures**
• Race/ethnicity	• U.S. Census (2 Q)
• Education	• Educational attainment (2 Q)
• Financial resource strain	• Overall financial resource strain (1 Q)
• Stress	• Elo et al. (2003) (1 Q)
• Depression	• PHQ-2 (2 Q)
• Physical activity	• Exercise Vital Signs (2 Q)
• Tobacco use and exposure	• NHIS (2 Q)
• Alcohol use	• AUDIT-C (3 Q)
• Social connections and social isolation	• NHANES III (4 Q)
• Exposure to violence: Intimate partner violence	• HARK (4 Q)
• Neighborhood and community compositional characteristics	• Residential address
	• Census tract-median income

Estabrooks 2012
- Eating patterns
- Substance use
- Sleep

NOTE: Q = question(s).

Krist 2013 – MOHR example in primary care

MyOwnHealthReport

Patient Health Summary Report

Date of Birth: 1/1/1970

Visit Date	Height	Weight	BMI
1/30/2013	6 ft. 1 in.	210 pounds	27.7

YOUR Health Behaviors and Mental Health

	Recommended Score	Your Score	Level of Concern	Ready to Change?	Want to Discuss?
Overall Health Rating Reason: I am working too hard at my job.	Good to Excellent	Poor	A Lot	✔	✔
Body Mass Index	20-25	27.7	Some		
Health Behaviors					
Fruit/Vegetable Intake	5+/day	Less than 2/day	A Lot	✔	✔
Fast Food Intake	Less than 1 time/week	1-3 times/week	Some	✔	✔
Soda/Sugary Beverage Intake	Less than 1/day	1 to 2/day	Some		
Physical Activity Participation	150+ minutes/week	175 minutes/week	None		
Sleep	Never/rarely sleepy	Often sleepy	Some		
Alcohol Intake	Never	Never	None		
Tobacco use	No	Yes	A Lot		
Illegal Drug/Prescription Use	Never misuse	Never misused	None		
Mental Health					
Stress	Less than 5	8	A Lot	✔ ⭐	✔
Anxiety/Worry	Not at all/rarely	Not at all/rarely	None		
Depression	Not at all/rarely	Not at all/rarely	None		

⭐ = Most important to you

Keep up the GOOD Work!
- You are meeting or exceeding the physical activity recommendations for health.
- You said there are few days you feel nervous, anxious, on edge or unable to stop or control worrying.
- You said there are few days you feel down, depressed, hopeless or have little interest or pleasure.
- You never drink too much alcohol.
- You do not use illegal drugs or prescription medications for non-prescribed reasons.

Recommendations to Improve Your Health

Medium Priority
- Excess weight can lead to a number of health problems. Increase physical activity and/or limit the unhealthy food you eat to reduce your weight.
- Decrease your fast food meals or snacks to less than one per week.
- Decrease the number of soda or sugary drinks you drink to less than 1 per day.
- Try to get 7-8 hours of sleep each night.

High Priority
- Increase fruits and vegetables to 5 or more servings per day.
- You reported feeling stressed often. Discuss ways to reduce your stress.
- Discuss options for decreasing or quitting tobacco use.

Krist 2013 – MOHR example in primary care

Notes/Things to Discuss During My Appointment

Health Goals

The best goals to set are those that are **specific, measurable, achievable, realistic, and timely** and focus on the **who, what, where, when and how** you will achieve them in order to be able to measure your success. List 1-3 goals you have to try to improve your health based on your health update.

Example Goal:
What will you do?   Decrease fast food by eating out 2-3 less times per week.
How will you do it?   Pack a lunch to bring to work 2 times per week and cook dinner one more time a week.
By when?   Gradually work up to this over the next 3 weeks by decreasing fast food meals by one per week until I reach 3.

Goal #1:

What will you do?

How will you do it?

By when?

Goal #2:

What will you do?

How will you do it?

By when?

Goal #3:

What will you do?

How will you do it?

By when?

Follow-up Plan

When:

How:

- ## Definition of patient experience
    - elicited reports from patients on what they did or did not encounter in their interaction with providers and the healthcare system

- ## Recommendations and implications for EHR
    - Use standardized, validated survey instrument
    - Capture information for all types of patients
    - Provide data at the provider and practice site levels
    - Analyze data by patient demographics
    - Use data to identify system issues
    - Improve the quality of patient care
    - Establish provider payment incentives
    - Incorporate **CAHPS*** into medical practice standards
    - Continue to support regional implementation
   - Develop and test new technologies

CAHPS – Consumer Assessment of Healthcare Providers and Systems

- ## Definition of meaningful use
  - Providers qualify for incentives with measures of care and EHR use
  - Patients gain access to info, engage in care, communicate with providers

- ## Web based tools for patients at Group Health, WA
  - 1/3 outpatient visits thru secure electronic messaging with providers
  - Request medication refills and schedule office appointments
  - Access to online medical test results and after visit summaries
  - Review lists of medical conditions and immunizations

- ## Measuring patient experiences
  - Evaluate care experience that includes direct engagement with EHR
  - Evaluate care that includes engagement with online services linked to EHR
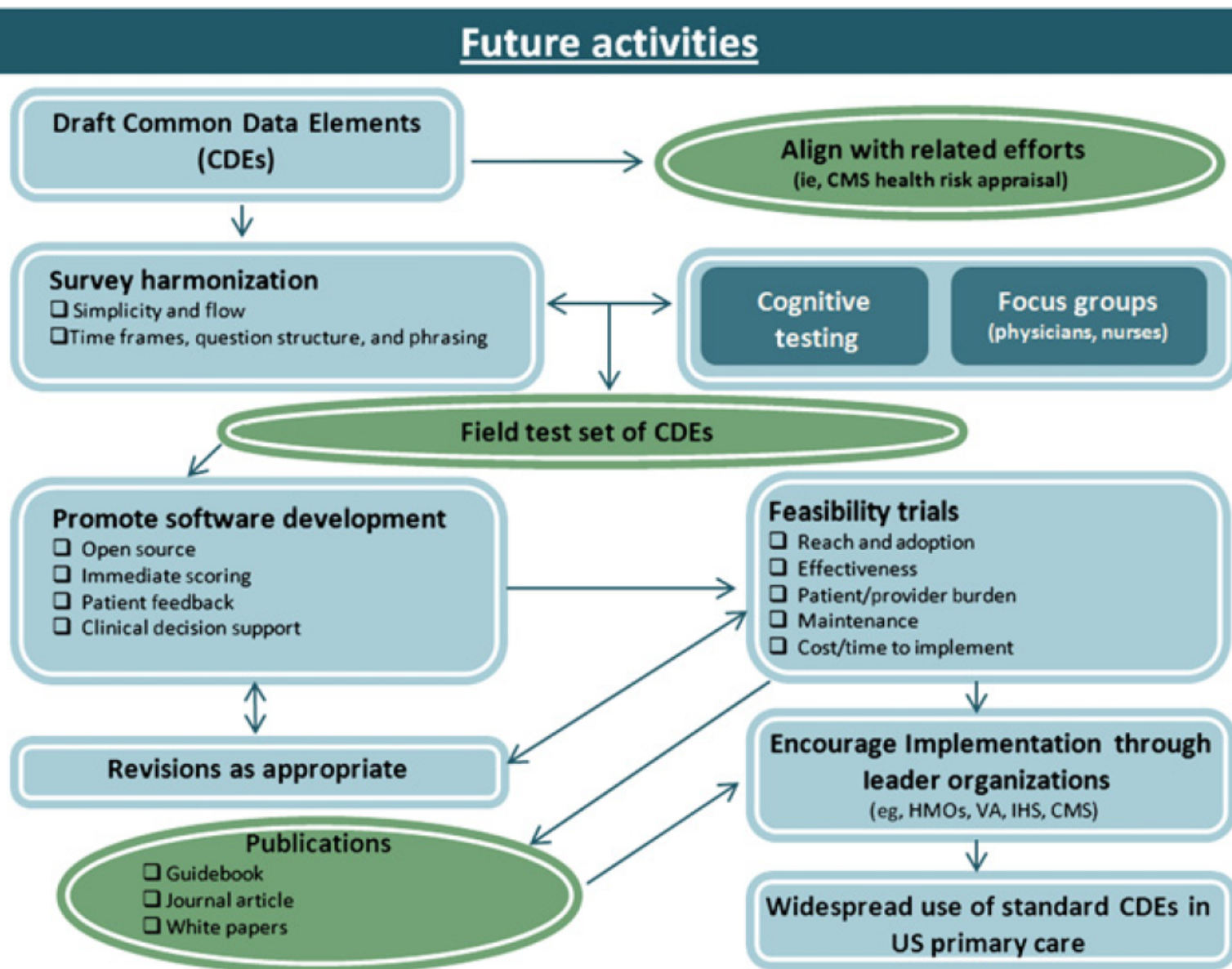 - Reimbursement to include electronic communication and EHR use

Implementation Issues

- Aligning with overall EHR strategy
- Harmonization and RE-AIM in primary care
- IOM Report identified challenges
- Implementation issues for Canada?

Implementation Issues – EHR Strategy
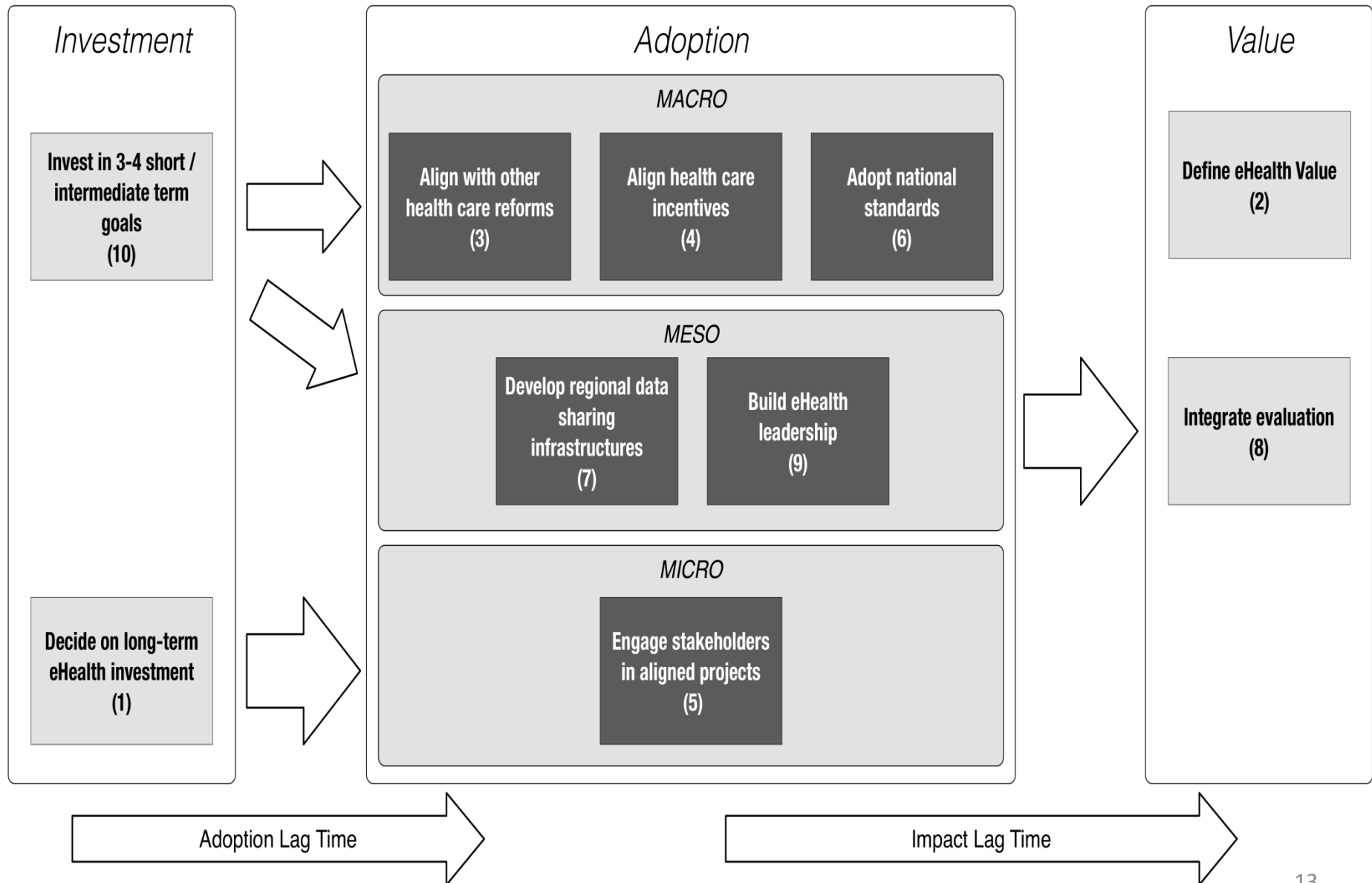
Implementation Issues – Harmonization

Estabrooks 2012 Figure 1, p580

Implementation Issues – RE-AIM

- Purpose
  - Implement *MyOwnHealthReport* (MOHR) in primary care

- Methods
  - Cluster-randomized pragmatic trial of paired-practices – early/~~delayed~~
  - Electronic/paper MOHR paired with counseling and goal setting
  - RE-AIM: reach, effectiveness, adoption, implementation, maintenance

- Results
  - *Reach*: 591/1782 pts (50%), higher when done by staff (71% vs 30%)
  - *Adoption*: 18/30 practices or 60%
  - *Implementation*: by mail done on web x3, by phone x1, on paper in office x1, staff helped patients on web in office x4; added 28 minutes/visit
  - *Maintenance*: None continued after study, 6 adapted into PHR or pre-visit

- Conclusion
  - MOHR feasible, counseling pts requires effort, practices need support

Implementation Issues – IOM Report

- Adding any data to EHR is challenging
- Collecting/storing social-behavioral data in EHR
- Collecting/using self-reported data
- Privacy protection
- Resource considerations
- Linking to public health and community agencies
- Anticipating/preventing unintended consequences

Implementation Issues for Canada?
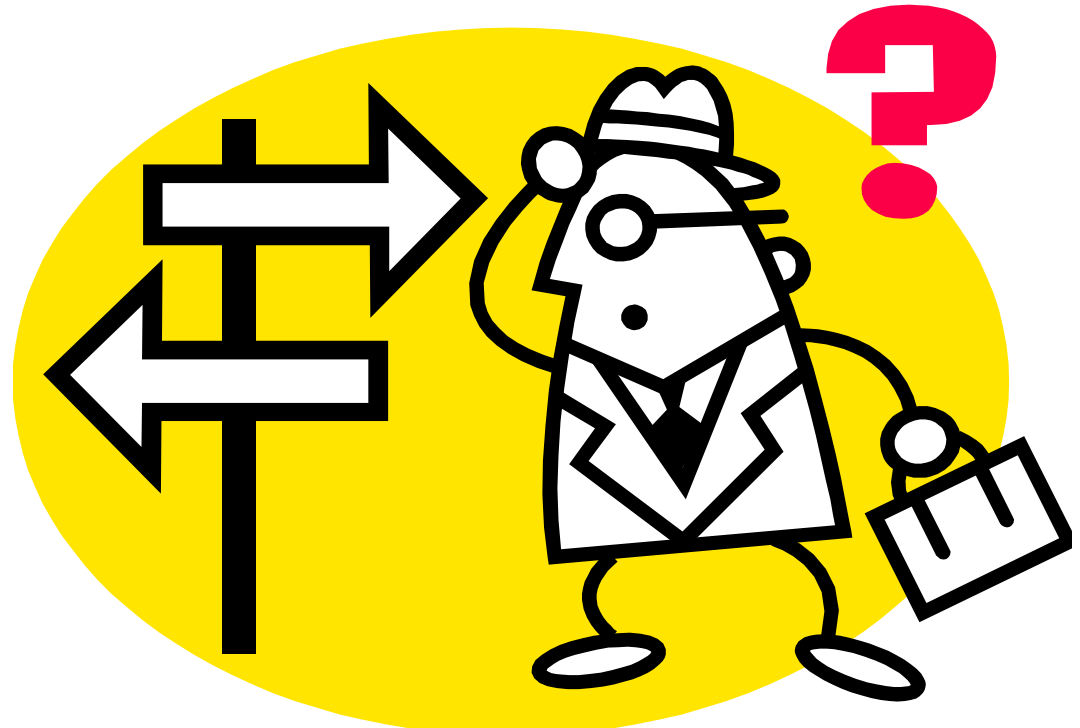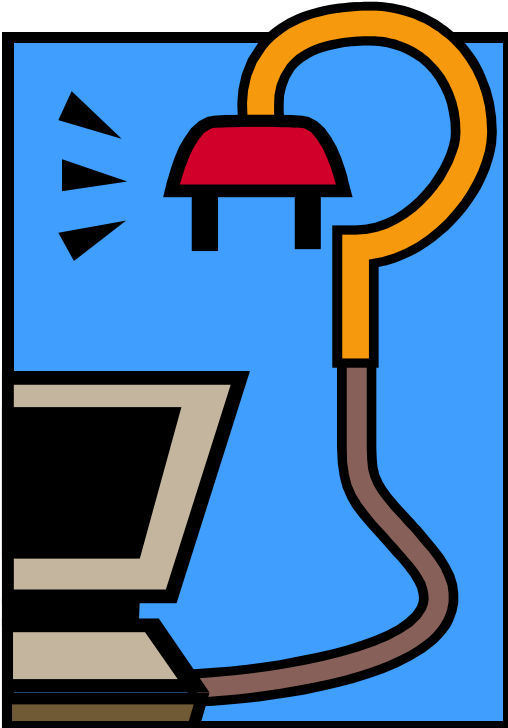
References

1. Canada Health Infoway. *Summary Corporate Plan* 2014-2015.

2. Lau F, Price M, Bassi J. Toward a Coordinated EHR Strategy for Canada, draft white paper, version 3.1. *Queen's Health Strategy Conference Series – Toward a Canadian Healthcare Strategy*, *Conference 2*. Toronto, July 2014.

3. Estabrooks PA, Boyle M, Emmons KM, et al. Harmonized patient-reported data elements in the EHR: supporting meaningful use by primary care action on health behaviors and key psychosocial factors. *JAMIA* 2012;19:575-82.

4. Institute of Medicine. *Capturing Social and Behavioral Domains and Measures in EHRs: Phase 2*. The National Academy Press, Nov 2014.

5. Krist AH, Glenn BA, Glasgow RE, et al. Designing a valid randomized pragmatic primary care implementation trial: the my own health report (MOHR) project. *Implementation Science* 2014; 8(73):1-13.

6. Krist AH, Phillips SM, Sabo RT, et al. Adoption reach implementation and maintenance of a behavioral and mental health assessment in primary care. *Annals Fam Med* 2014;12(6):525-33.

7. Browne K, Roseman D, Shaller D, Edgman-Levitan S. Measuring patient experience as a strategy for improving primary care. *Health Affairs* 2010; 29(5):921-4.

8. Ralston JD, Coleman K, Reid RJ, et al. Patient experience should be part of meaningful use criteria. *Health Affairs* 2010; 29(4): 607-13.