No matter how long the winter, spring is sure to follow.
- English Proverb

Happy Groundhog Day!
Finding current best evidence for clinical decisions and having best evidence find you and your patients

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Conflict Disclosures

My research team, the Health Information Research Unit at McMaster University, created McMaster PLUS-Helsebiblioteket (MPH), ACCESSSSS, and the Optimal Aging Portal (OAP). The intellectual property belongs to McMaster University. MPH is currently freely available on the internet to all people living in Norway; OAP is freely available everywhere.

R Brian Haynes. Finding current best evidence to support clinical decisions  3/2/2015
Ms Jones, 76 years old, complains of palpitations.


She adds the reviews and lay summaries, to Ms Jones’ electronic medical record (EMR), and, using a SAME PAGE app in the EMR, signs up the EMR for periodic updates, copied automatically to Ms Jones’ e-mail address.
Ms Jones and Dr Smith review the evidence.

Ms Jones chooses to start apixiban because it has similar benefits as the other treatments but somewhat lower risk of bleeding.
Clinicians usually have more than 5 questions a day that can be answered by current best evidence …and seldom find the answer for any of them.
What are the most important health care skills?

PULL...being able to find, quickly and reliably, the current best answers about managing a health care problem

PUSH...having current best evidence find you (and your patients)
Do you make regular use of…?

Federated EBM “pull” Resources?
eg McMasterPLUS-Helsebiblioteket, ACCESSSSS, Health Systems Evidence, Health Evidence, TRIP

Personalized EBM “push” Alerts?
egc McMasterPLUS-Helsebiblioteket, EvidenceUpdates, ACPJournalWise, ACCESSSSS
94% of 62 studies found decreasing competence for at least some tasks, with increasing physician age.

For atrial fibrillation:

- Efficacy of oral anticoagulants for preventing stroke = 62%
- Physician adherence = 50%
- Patient adherence = 41%
- Net effectiveness = 12%
The evolution of pre-appraised evidence
For clinical decisions

New School
All of these resources require that clinicians link the evidence with individual patient problems...

Systems are needed to link directly from patient problems to evidence

Olde School
EBHC

Examples
- Computerized decision support
- Evidence-based textbooks
- Evidence-based journal abstracts
- Systematic reviews
- Original journal articles

I just know...
Phone message to my office:

Patient: A 66 year old white male with type 2 diabetes on metformin and sitagliptin with good glycemic control (A1c 6.7%) asks...

…the government has reduced my glucose test strip allowance to 200 per year. Please call my pharmacist and authorize an increase.
What is the best current evidence?

Did I miss any important evidence with my search?

Is there any way I could have retrieved less “junk”? 
Diabetes and self-monitoring

Results for “Summaries”

- UpToDate (More Results...)
  Blood glucose self-monitoring in management of diabetes mellitus
  Patient information: Self-blood glucose monitoring in diabetes mellitus (Beyond the Basics)

- DynaMed (More Results...)
  Diabetes mellitus type 2 self-management
  Glucose monitoring

- Best Practice (More Results...)
  Type 2 diabetes in children
  Type 1 diabetes

- StatRef PIER (More Results...)
  Diabetes Mellitus, Type 2
  (Diseases Alphabetically » "D" Diseases)
  Diabetes Mellitus, Type 1
  (Diseases Alphabetically » "D" Diseases)

Results for “Synopses of Syntheses”

- DARE (More Results...)
  Glycaemic control in type 1 diabetes during real time continuous glucose monitoring compared with self monitoring of blood glucose: meta-analysis of randomised controlled trials using individual patient data
  Real-time continuous glucose monitoring system for treatment of diabetes: a systematic review
<table>
<thead>
<tr>
<th>Text</th>
<th>Topics up to date</th>
</tr>
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<tbody>
<tr>
<td>Best Practice</td>
<td>40%</td>
</tr>
<tr>
<td>DynaMed</td>
<td><strong>77%</strong></td>
</tr>
<tr>
<td>PIER/Smart Medicine</td>
<td>45%</td>
</tr>
<tr>
<td>UpToDate</td>
<td>48%</td>
</tr>
</tbody>
</table>

Cumulative probability of citing systematic reviews following their publication*

* Banzi et al, BMJ 2011; log rank $\chi^2=404, P<0.001$
self-monitoring of glucose may not be necessary at all, or only in unusual circumstances, for patients with type 2 diabetes who are treated who are diet-treated or treated with oral agents not associated with hypoglycemia.

SMBG may be useful for some type 2 diabetic patients who would take action to modify eating patterns or exercise, as well as be willing to intensify pharmacotherapy, based on SMBG results.
Overview:

- self-monitoring of blood glucose may have little effect on glycemic control in most patients with type 2 diabetes
Meta-analysis: Self-monitoring in non–insulin-treated type 2 diabetes improved HbA1c by 0.25%


Self-monitoring of blood glucose was not cost-effective in non–insulin-treated type 2 diabetes


Conclusion: Self-monitoring of blood glucose was associated with slightly lower A1c, higher cost and lower quality of life than usual care in non–insulin-treated type 2 diabetes.
For type 2 DM on metformin, is glucose self-monitoring “worth it”?

- **Systems**: not yet (so far as I know)
- **Summaries**: in UTD, DynaMed
- **Synopses**: ACPJC
- **Syntheses**: MacPLUS
- **Studies**: in UTD, DynaMed, ACPJC, MacPLUS
What will you tell the patient?
What did I do?

I called the patient and:

• reassured him that his diabetes was well controlled on medications that were unlikely to cause his sugars to go too low
• we reviewed the evidence about monitoring
• we agreed that he could monitor his sugars 2 or 3 times a week, and more often if he felt unwell
• if he felt the need to monitor more often than 200 times a year, he had the option of paying for additional test strips
PULL: Resources for finding best current evidence when you need it
PUSH: Resources for having newly published, high quality evidence find you and your patients
To register for MPFS

Norwegian Helsebiblioteket:

http://plus.mcmaster.ca/helsebiblioteket

Elsewhere:

http://plus.mcmaster.ca/ACCESSSSS

For practitioners, policy-makers, managers, public health workers interested in Seniors/adults:

http://www.mcmasteroptimalaging.org
Specialized interests? Just Gogole:

Under development:
Mental Health
Pharmacist

REHAB+ PREMIUM LITERATURE SERVICES
School of Rehabilitation Science
McMaster PLUS

nursing+
Best Evidence for Nursing Care

PAIN+ PREMIUM LITERATURE SERVICES
Michael G. DeGroote INSTITUTE FOR PAIN RESEARCH AND CARE
McMaster PLUS
"I just know"

Figure 1. Levels of evidence

http://thespudd.com/i-just-know-replaces-systematic-reviews-at-top-of-evidence-pyramid/