The invisible cities of EBM

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Disclosure

Our research group and I do not receive funding from for-profit entities.
In my travels, with fellow travelers

“At times all I need is a brief glimpse, an opening in the midst of an incongruous landscape, a glint of lights in the fog...and I think that, setting out from here, I will put together, piece by piece, the perfect city.”

Italo Calvino

*The Invisible Cities*
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Diabetes
Hypertension
High cholesterol
Depression
Bad back
Can't sleep
Obese
A1c 8.2%
LDL high
HCTZ
Beta-blocker
Metformin
Glipizide
Neuropathy
108 kg

Endocrinologist
Podiatrist
Dietitian

Dizzy
Take off work
Get a ride
Take pills
Check sugars
Avoid salt, fats, carbs
Exercise
Check his feet
Pain

High cholesterol
LDL high
Diabetes
Metformin
Glipizide
A1c 8.2%

Get a ride
Take off work
Endocrinologist
How might we best take care of this patient?
The City of Dilemmas

How did you prioritize?

Which interventions?

Which outcomes?
Outcomes that matter to patients

Outcomes
Vital status, symptom burden, role function

Experience of care
Access, continuity, seamless transitions

Content of care
Avoid ineffective and unwanted care
please touch the single

personal relationships
- Family
- Friends

monitoring health
- Testing blood sugars
- Checking feet

medicine
- Taking medication
- Managing side effects

healthcare
- Health insurance
- Urgent care

* = ALERT: Clinically meaningful decline or clinically deficient score

Biggest Concern Domain

Overall Quality of Life

Overall Physical Well-being

Overall Emotional Well-being

Your social interaction with other people

Severity of pain on average

Level of fatigue on average

Hard to do all the things for my diabetes

Felt overwhelmed by demands of diabetes

Quality of life affected by the time required to control diabetes

as good as it can be

as good as it can be

as good as it can be
The City of Endless Bookshelves

What is the ideal study to answer your management question?
How do we know what we know

Why do we learn about a study?
First one ever
Had to be stopped early
Big effect (on surrogate, on composite)
Part of regulatory or marketing strategy
Really impressive
How might we overcome the corruption of information, in which it is not the best that comes to our attention?
City of Holograms

Place a higher value on:
Multiple independent looks
Understand variation, uncertainty, chance
What is missing

Place a lower value on:
Few events + 0.000000 p values
Spectacular chance-driven swings
Answer

Available evidence does not include any information about the effect of A, B, or C on key favorable outcomes of importance to patients.

Evidence warranting high confidence indicates that important differences exist between these agents on important adverse effects.
City of Translators

Quality improvement: reliability
Patient-centeredness: fit
Glasziou and Haynes ACP JC 2005
Clinician and patient discuss the “What You Should Know” card.

Clinician asks, “What issues concerning a medication to treat depression symptoms would you like to discuss first? Patient selects first card.

Patient and clinician review this card.

Patient selects a second card and compares the two.

Medication options are discussed.

Medication choice is made—brochure given to patient to take home.
Depression Medication Choice

Weight Change | Stopping Approach | Cost | Sexual Issues

Some people may experience weight change. It is most likely to occur over six to twelve months and depends on your actual weight. The chart below is based on a 150 lb person.

Sleep

Some people may experience sleepiness or insomnia because of their antidepressant.

Keep in Mind

Depression medicines may cause some:
- constipation, diarrhea, and nausea
- increased risk of suicidal thoughts and behaviors (16- to 24-year-olds)
- harm to an unborn child
- risk of developing serotonin syndrome, a potentially life-threatening condition
- possible drug-drug interactions

What You Should Know

Will this medicine work for me?
- The antidepressants presented in this decision aid all work the same for treating depression.
- Most people with depression can find one that can make them feel better.
- 6 out of 10 people will feel better with the first antidepressant they try and the rest will have to try other antidepressants before they find the one that is right for them.

How long before I feel better?
- Most people need to take an antidepressant regularly for at least 6 weeks to begin to get the full effect.

Understanding side effects
- Most people taking antidepressants have at least one side effect.
- Many side effects go away after a few weeks, but some only go away after you stop the medicine.
1 What goes into figuring out my risk of having a heart attack in the next 10 years?

- Age
- Sex
- Years of diabetes
- Smoking
- Hemoglobin A1C
- Blood pressure
- Cholesterol
- Protein in your urine

2 What is my risk of having a heart attack in the next 10 years?

**NO STATIN**
- 80 people DO NOT have a heart attack (green)
- 20 people DO have a heart attack (red)

**YES STATIN**
- 80 people still DO NOT have a heart attack (green)
- 5 people AVOIDED a heart attack (yellow)
- 15 people still DO have a heart attack (red)
- 85 people experienced NO BENEFIT from taking statins

3 What are the downsides of taking statins (cholesterol pill)?

- Statins need to be taken every day for a long time (maybe forever).
- Statins cost money (to you or your drug plan)
- **Common side effects**: nausea, diarrhea, constipation (most patients can tolerate)
- **Muscle aching/stiffness**: 5 in 100 patients (some need to stop statins because of this)
- **Liver blood test goes up**: (no pain, no permanent liver damage): 2 in 100 patients (some need to stop statins because of this)
- **Muscle and kidney damage**: 1 in 20,000 patients (requires patients to stop statins)

4 What do you want to do now?

- [ ] Take (or continue to take) statins
- [ ] Not take (or stop taking) statins
- [ ] Prefer to decide at some other time
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Hypertension
High cholesterol
Depression
Bad back
Can’t sleep
Obese
A1c 8.2%
LDL high
HCTZ
Beta-blocker
Metformin
Glipizide
Neuropathy

108 kg
Pain

Endocrinologist
Podiatrist
Dietitian

Dizzy
Take off work
Get a ride
Take pills
Check sugars
Avoid salt, fats, carbs
Exercise
Check his feet

3 2 1
Numbers don’t add up
Deadline is now

Daughter back at home
Exercise
Mortgage
Debt
2 beautiful girls

Drunk!

Performance numbers don’t add up
Deadline is now
Take work home

Numbers don’t add up
Debt
Mortgage
2 beautiful girls

Drunk!

Performance numbers don’t add up
Deadline is now
Take work home

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What to do now?
City of Travelers

Roles to play
Places to go
Not all to the same place
Not all in the same way
Disease-specific guidelines and quality targets
Multiple treatments | Monitoring tests
Limited care prioritization
Poor care coordination

Life

Workload

Capacity

Scarcity

Burden of treatment

access
use
self-care

Outcomes

Burden of illness

Shippee N et al JCE 2012
Capacity

- Resilience
- Literacy
- Physical health
- Mental health
- Financial health
- Social capital
- Environment

Playing my role

Work of being a patient
A map for the road: EBM
http://www.gradeworkinggroup.org

Patient centered translation: SDM
http://shareddecisions.mayoclinic.org

Contextualizing care: MDM
http://minimallydisruptivemedicine.org

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