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ISDMISEHC2015
19-22 JULY 2015 ■ UNIVERSITY OF SYDNEY ■ AUSTRALIA

# WANT TO SHARE-IT ?

## Testing Decision Aids Linked to Evidence Summaries and Guidelines

## for use in Clinical Consultations


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**SHARE IT lead investigators:**

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*McMaster University & MAGIC organisation*

**Anja Fog Heen, MD**

*University of Oslo & MAGIC organisation*



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# Improving patient care through guidelines, evidence summaries and decision aids that we can all trust, use and share

A non-profit authoring and publication platform helping you put best current evidence into practice

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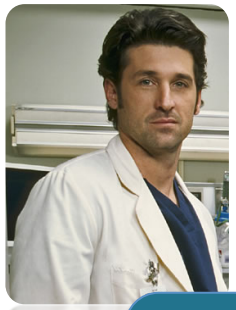
Frankie Achille

# *Meet Anne with dyspepsia and a question for you*

- 53 years old, account manager
- DM II, hyperlipidemia and HT (high CV risk)
- Aspirin, statin, ACE-inhibitor
- Stomach pain past 6 months
- Upper endoscopy: Normal
- Diagnosis: Functional dyspepsia

***Anne: ”Do I really need aspirin?”***

# *Evidence Dissemination & Shared Decision Making*



**Evidence**
**Trustworthy Guidelines**

*Finding & Accessing*

*Patient guidelines Patient DA.*

**Clinicians**

Shared Decision Making

**Patients**

*Decision aids*

*for the clinical encounter*

# *Workshop objectives*

1. Explore the potential link between guidelines and SDM

2. Learn about the framework of a generic production of DA from guidelines

3. Discover how to use DA designed for the clinical encounter

# *Small group brainstorming*

- What would be your definition of SDM?
- When should it, could it, or shouldn't it be done?
- How much SDM is needed in you view?

**Shared Decision Making** is a process by which

a **patient** and a **clinician**

work together,

have a **conversation**,

partner with each other

to identify the **best course of action**,

the best treatment or test

at this point in time.

Not just throwing numbers!

It is a about **sharing what matters**

Clinicians share information about the alternatives, benefits, harms

Patients share prior experience, goals, expectations, values.

*Victor Montori*

# *Bringing EBHC & SDM together*
# ***Parallel progress***

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## EBHC

**Trustworthy standards for :**

- Searching and monitoring for current best evidence
- Evidence summarization
- Critical appraisal
- Moving from evidence to recommendations

**GRADE results in:**

- Absolute estimates of effect
- Certainty in estimates
- Strong vs. Weak recommendations

## SDM

- Models for Collaborative Deliberation
- Training & support
- Incentives & leadership
- Validated measurement methods

**Decision aids & tools**

- Standards (IPDAS)
- >500 existing DA, 132 RCTs
- Mostly patient DA, but also a view tools for the clinical encounter

# *Bringing EBHC & SDM together*
# ***Similar limitations & challenges***

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*Both Evidence Summaries & Decision Aids are:*

- **Time-consuming to produce**
  - Inefficient authoring, huge duplication of efforts
  - Difficult to adapt (context, language, culture)
- **Not well disseminated**
  - Knowledge translation at <25% of full capacity
  - Suboptimal presentation formats and integration in workflow (e.g. EMR)
  - Mostly tailored for clinicians' educational needs, not suited for SDM
- **Onerous to update (if ever updated…)**
  - Huge volume of new evidence: 3000 articles, 75 RCT, 11 reviews…
  - No automatic monitoring
  - Often have to start from scratch…

# *Bringing EBHC & SDM together*
# ***Similar limitations & challenges***

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- **Oner**
  - Hug
  - No automatic monitoring
  - Often have to start from scratch…

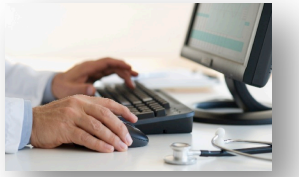
**How can we join efforts?**

**How can we make current best evidence FLOW to all patients and caregivers?**

# The Evidence Ecosystem

Evidence + Recommendation

**Trustworthy Guidelines**



Current Best Evidence

**Systematic Reviews**

Evidence + Recommendation
+ patient specific data

**Personalized Decision-Support Systems in the EMR**

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*Enhancing the Evidence Ecosystem*

Evidence

**Primary studies**

Randomized trials

Observational studies…

Evidence for Shared Decision Making
+ patient practical issues

**Decision Aids for the clinical encounter**

Basic research

E.g. pharmacogenomics drug development…

Quality Improvement, creating New Evidence

**Recording practice & population-based data**

EMR, Registries, Quality indicators, Shared decisions, Case report forms...

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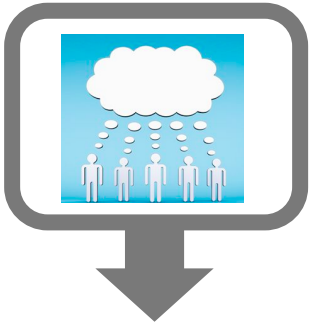


Guideline panel using MAGICapp

## Authoring and Publication platform for Evidence Summaries

PICO | Individual studies | Descriptive tables | Evidence profiles

Recommendations | Key information | Rationale

GRADE

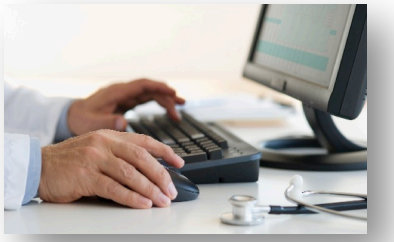
**Database**
structured and tagged content

**Dynamic updating**

**Multilayered formats for all devices**

**Adaptation**
National / local

**Integrated in the EMR**



# Publication of multilayered recommendation & Supporting evidence summaries

## 1 Primary prophylaxis of cardiovascular disease

**Use Norrisk score to estimate risk**

Weak recommendation

It is less clear whether the benefits outweigh the drawbacks/harms.

We suggest 75 mg aspirin daily to persons with high cardiovascular risk (10 year risk of cardiovascular death > 10%)

Help

Effect estimates | **Key info** | Rationale | Practical advice | Adaptation

**Benefits and harms**

In 1000 patients treated for 10 years: Aspirin will - irrespective of cardiovascular risk - prevent 6 (0-12) deaths.

Low risk: Aspirin compared to no treatment would prevent 3 myocardial infarctions, but could leed to 2 more non-fatal, major, extracranial bleeds.

Moderate to high risk: Aspirin compared to no treatment would prevent 21 myocardial infarctions, but leed to 15 non-fatal major extracranial bleeds. Long-term treatment with aspirin may give bothersome dyspepsia.

**Quality of evidence**

Our confidence in the effect estimates is moderate to high. Moderate for death due to imprecise estimates (biggest effect on cancer-related death). High confidence for myocardial infarction and bleeds.

**Preference and values**

The guideline panel considers that only high risk patient would value a reduction in the number of myocardial infarction and possible reduction in

# Authoring Evidence Summaries in MAGICapp

Evidence profile | Summary | References

| Outcomes | Confidence In Effect Estimates | Relative Effect | No Treatment | Primary Prophylaxis With ASA | Difference With Primary Prophylaxis With ASA | Participants (Studies), Follow-Up |
|---|---|---|---|---|---|---|
| 10 year total mortality (60 year old male) | Moderate<br>*Imprecise estimates* | RR 0.94<br>*(CI 0.88 - 1)* | 100<br>*per 1000* | 94<br>*per 1000* | 6 fewer<br>*per 1000*<br>*(CI 12 fewer - 0 fewer)* | 100.076 (9) 3.8-10 years |
| Cardiovascular death (10 years) | Moderate<br>*Imprecise estimates* | RR 0.97<br>*(CI 0.87 - 1.09)* | 100<br>*per 1000* | 97<br>*per 1000* | 3 fewer<br>*per 1000*<br>*(CI 13 fewer - 9 more)* | 95.000 (6) 3.8-10 years |
| Myocardial infarction (10 years) | High | RR 0.77<br>*(CI 0.69 - 0.86)* | 121<br>*per 1000* | 93<br>*per 1000* | 28 fewer<br>*per 1000*<br>*(CI 38 fewer - 17 fewer)* | 95.000 (6) 3.8-10 years |
| Stroke (10 year risk) | Moderate<br>*Imprecise estimates* | RR 0.95<br>*(CI 0.85 - 1.06)* | 111<br>*per 1000* | 105<br>*per 1000* | 6 fewer<br>*per 1000*<br>*(CI 17 fewer - 7 more)* | 95.000 (6) 3.8-10 years |
| Major extracranial bleeds (10 years) | High | RR 1.54<br>*(CI 1.3 - 1.82)* | 37<br>*per 1000* | 57<br>*per 1000* | 20 more<br>*per 1000*<br>*(CI 11 more - 30 more)* | 95.000 (6) 3.8-10 years |
| **Continuous Outcomes** | | | | | | |
| No outcomes added | | | | | | |

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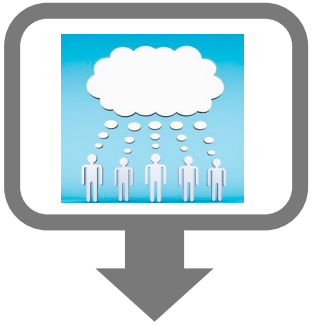

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## Authoring and Publication platform for Evidence Summaries

Dynamic updating

PICO | Individual studies | Descriptive tables | Evidence profiles | GRADE

Recommendations | Key information | Rationale

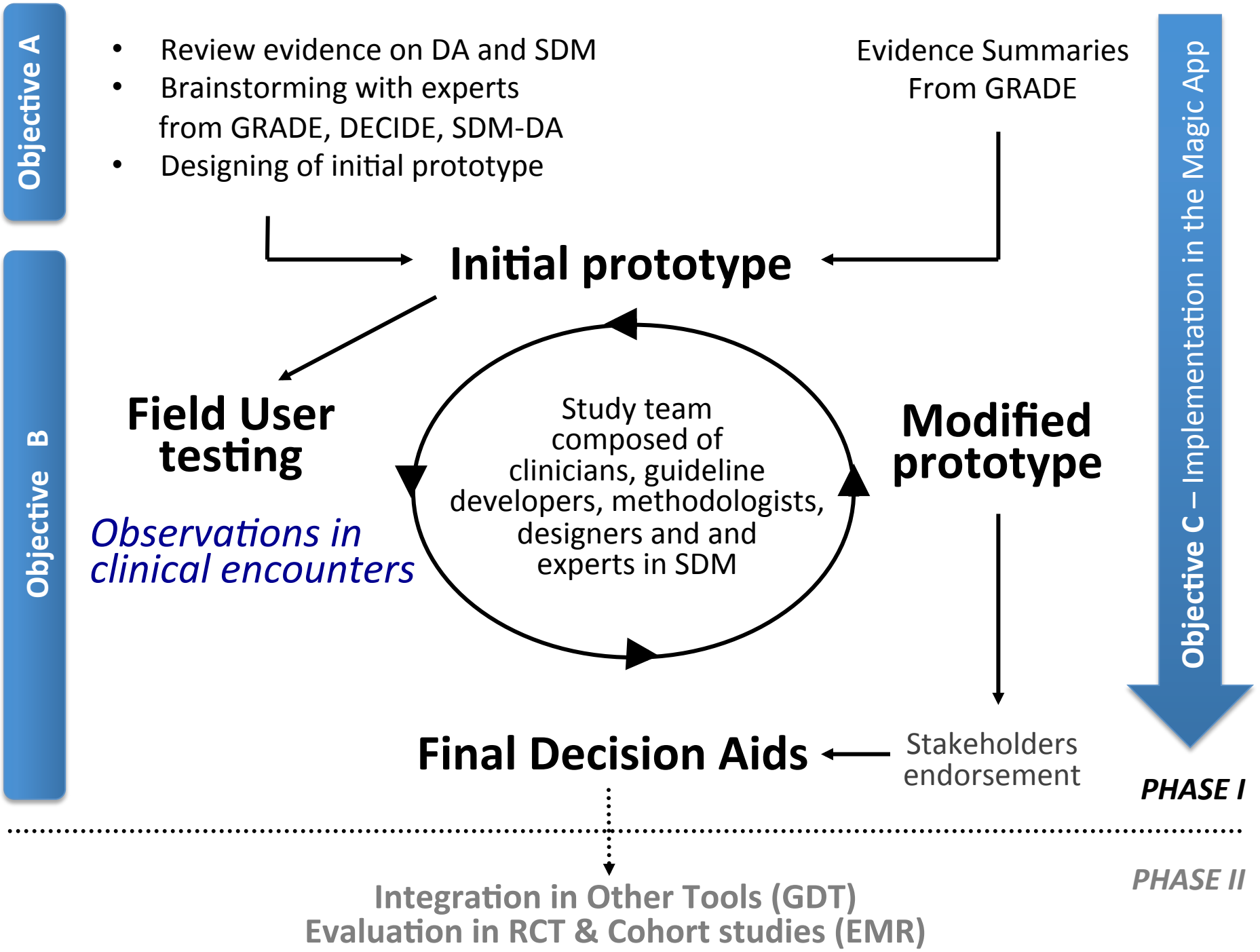
**Database**
structured and tagged content

# *SHARE-IT*

**Encounter Decision Aids**

for patients and clinicians

Reproduced from JAMA, Users' Guide to the Medical Literature, 3rd ed.


Objective A
Objective B
Objective C – Implementation in the Magic App
• Review evidence on DA and SDM
• Brainstorming with experts from GRADE, DECIDE, SDM-DA
• Designing of initial prototype
Evidence Summaries From GRADE
Initial prototype
Field User testing
Observations in clinical encounters
Study team composed of clinicians, guideline developers, methodologists, designers and and experts in SDM
Modified prototype
Final Decision Aids
Stakeholders endorsement
PHASE I
PHASE II
Integration in Other Tools (GDT)
Evaluation in RCT & Cohort studies (EMR)

thebmj

BMJ 2015;350:g7624

http://www.bmj.com/content/350/bmj.g7624.full

*BMJ* 2015;350:g7624 doi: 10.1136/bmj.g7624 (Published 10 February 2015)

ANALYSIS

SPOTLIGHT: PATIENT CENTRED CARE

# Decision aids that really promote shared decision making: the pace quickens

Decision aids can help shared decision making, but most have been hard to produce, onerous to update, and are not being used widely. **Thomas Agoritsas and colleagues** explore why and describe a new electronic model that holds promise of being more useful for clinicians and patients to use together at the point of care

Thomas Agoritsas *research fellow*[1 2], Anja Fog Heen *doctoral candidate*[3 4], Linn Brandt *doctoral candidate*[3 4], Pablo Alonso-Coello *associate researcher*[1 5], Annette Kristiansen *doctoral candidate*[3 4], Elie A Akl *associate professor*[1 6], Ignacio Neumann *assistant professor*[1 7], Kari AO Tikkinen *adjunct professor*[1 8], Trudy van der Weijden *professor*[9], Glyn Elwyn *professor*[10], Victor M Montori *professor*[11], Gordon H Guyatt *distinguished professor*[1], Per Olav Vandvik *associate professor*[3 4]

[1]Department of Clinical Epidemiology and Biostatistics, McMaster University, Faculty of Health Sciences, Hamilton, Ontario, Canada; [2]Division of

# SHARE-IT from the magic app

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Effect estimates | **Key info** | Decision Aid | Practical advice | Adaptation

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**Preference and values**

The guideline panel considers that only high risk patient would value a reduction in the number of myocardial infarction and possible reduction in mortality over the inconveniences and the increased risk of bleeding related to the use of aspirin. Patients not willing to take medication over

# SHARE-IT from the magic app

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We suggest 75 mg aspirin daily to persons with high cardiovascular risk (10 year risk of cardiovascular death > 10%)

Help

Effect estimates | Key Info | **Decision Aid** | Practical advice | Adaptation

We issue a weak recommendation for aspirin in people at high cardiovascular risk due to a small absolute reduction of myocardial infarctions and deaths, weighed against an increase in bleeds and the burden of taking aspirin for 10 years.

**Use this Decision Aid to share and discuss the evidence directly with your patients.**

This interactive tool for shared-decision making is designed to help you meet your patients' needs by:

- Exploring what outcomes they wish to discuss,
- Communicating the benefits and harms of each alternative, as well as their (un)certainty,
- Discussing practical consequences associated with each alternative.

# SHARE-IT from the magic app

## 1 Primary prophylaxis of cardiovascular disease

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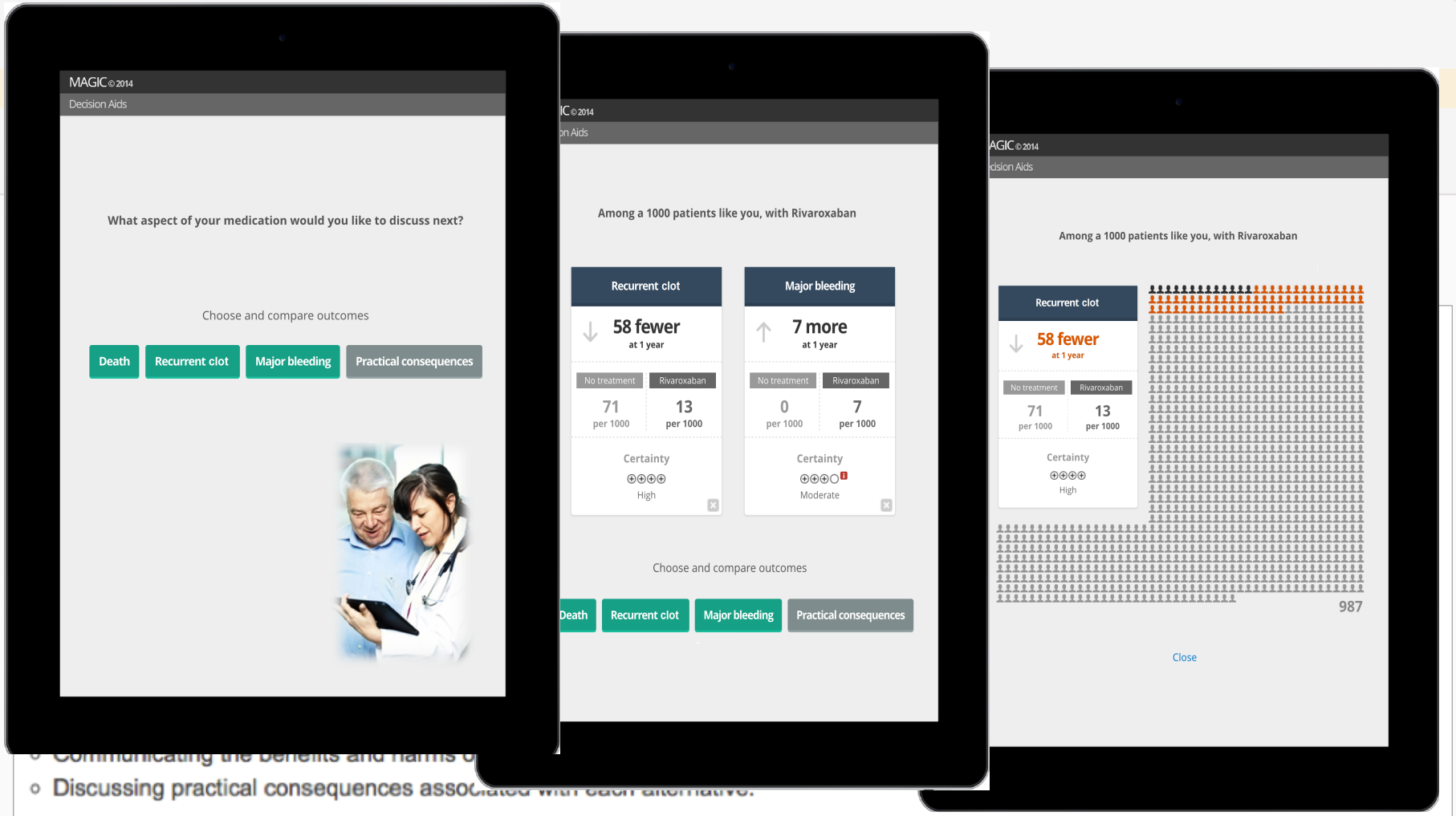



- Communicating the benefits and harms o
- Discussing practical consequences associated with each alternative.

# *Meet Anne with dyspepsia and a question for you*

- 53 years old, account manager
- DM II, hyperlipidemia and HT (high CV risk)
- Aspirin, statin, ACE-inhibitor
- Stomach pain past 6 months
- Upper endoscopy: Normal
- Diagnosis: Functional dyspepsia

***Anne: ”Do I really need aspirin?”***

Low dose aspirin vs. no treatment for primary prevention ▼

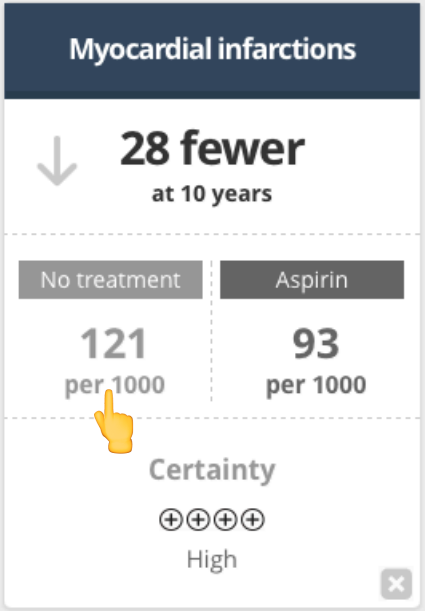
What aspect of your medication would you like to discuss next?

Choose and compare

Mortality | Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding | Practical consequences

Low dose aspirin vs. no treatment for primary prevention ▼

Among a 1000 patients like you, with aspirin




Choose and compare

Mortality | Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding | Practical consequences

Low dose aspirin vs. no treatment for primary prevention ▼

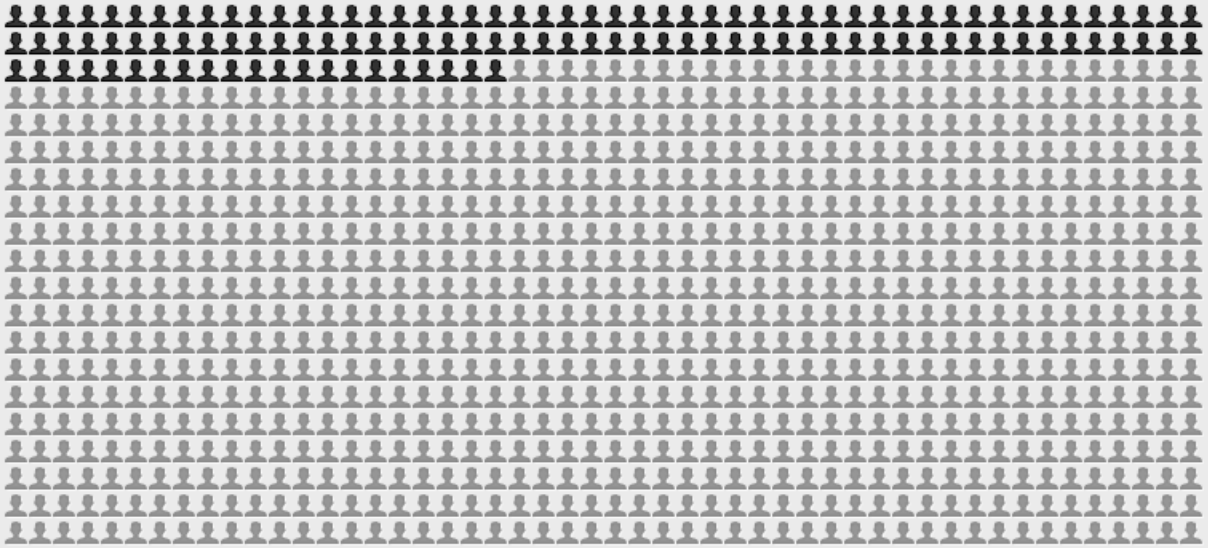
Among 1000 patients like you, without aspirin

**Myocardial infarctions**

↑ **28 more**
**at 10 years**

| No treatment | Aspirin |
|---|---|
| **121** per 1000 | **93** per 1000 |

Certainty
⊕⊕⊕⊕
High



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Close

Low dose aspirin vs. no treatment for primary prevention ▼

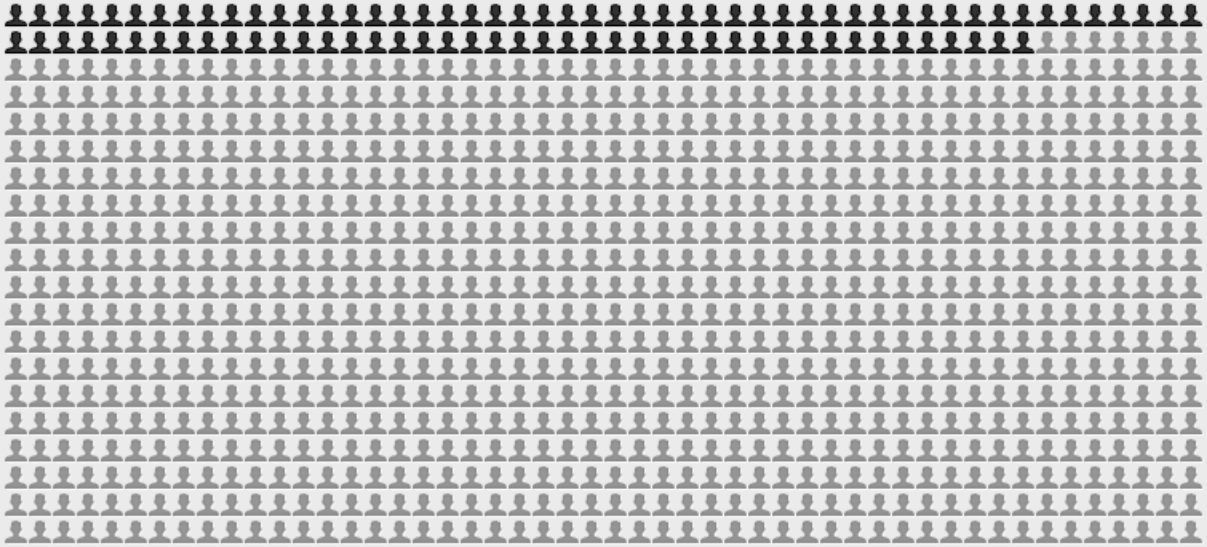
Among 1000 patients like you, with aspirin

## Myocardial infarctions

**28 fewer**
at 10 years

| No treatment | Aspirin |
|---|---|
| 121 per 1000 | **93 per 1000** |

Certainty
⊕⊕⊕⊕
High



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Close

Low dose aspirin vs. no treatment for primary prevention ▼

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**Myocardial infarctions**

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| 121 per 1000 | 93 per 1000 |

Certainty
⊕⊕⊕⊕
High

907

Close

Low dose aspirin vs. no treatment for primary prevention ▼

Among a 1000 patients like you, with aspirin

| Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding |
|---|---|---|
| ↓ 28 fewer at 10 years | ↓ 6 fewer at 10 years | ↑ 20 more at 10 years |
| No treatment: 121 per 1000 | No treatment: 111 per 1000 | No treatment: 37 per 1000 |
| Aspirin: 93 per 1000 | Aspirin: 105 per 1000 | Aspirin: 57 per 1000 |
| Certainty: ⊕⊕⊕⊕ High | Certainty: ⊕⊕⊕◯ Moderate | Certainty: ⊕⊕⊕⊕ High |

Choose and compare

Mortality | Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding | Practical consequences

Low dose aspirin vs. no treatment for primary prevention ▼

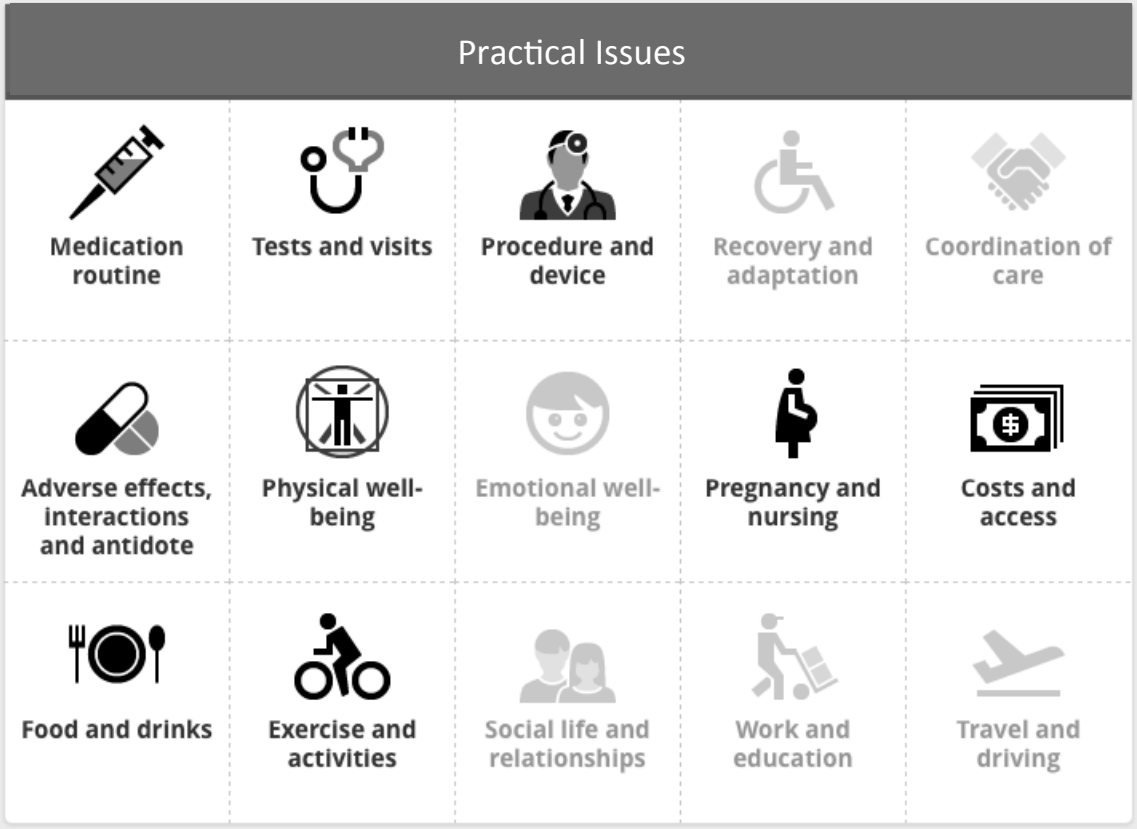
**What aspect of your medication would you like to discuss next?**

Choose and compare

Mortality | Myocardial infarctions | Non-fatal stroke | Major extracranial bleeding | Practical consequences

**Another kind of evidence = Patient experience**

Low dose aspirin vs. no treatment for primary prevention ▼




**Link with database – Eg, *Oxford Health Experiences Research Group***

Low dose aspirin vs. no treatment for primary prevention ▼

Practical Issues

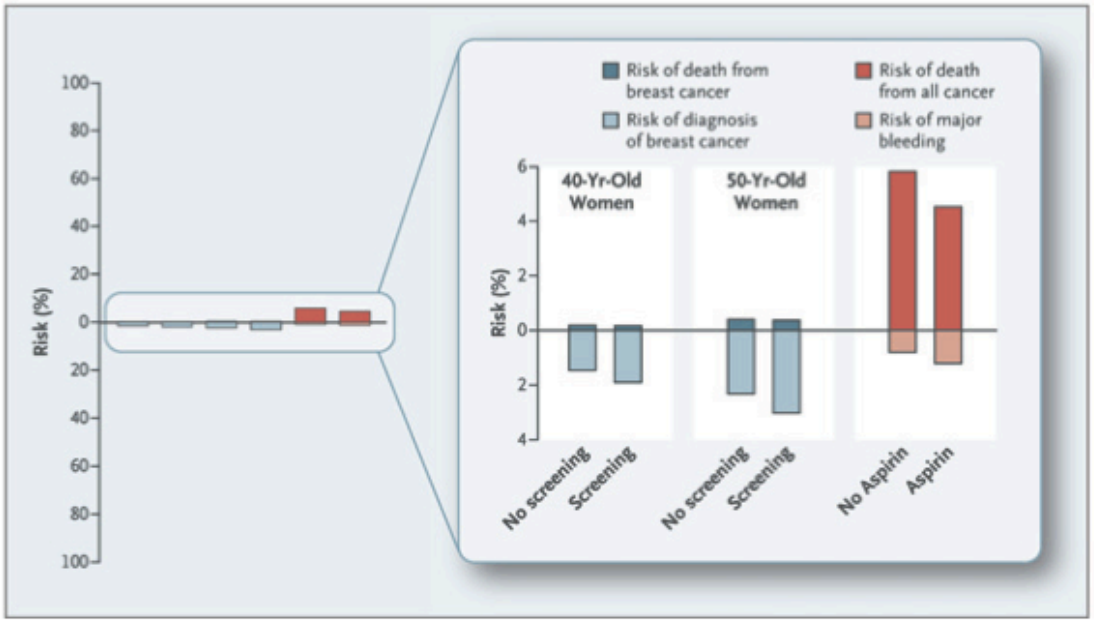
## Physical well-being

**With Aspirin**

- Slightly increase risk of bruising
- Colon cancer risk is reduced by about one fifth (this benefit requires at least 5 years of continuous use)

Close

# *More benefit than harm? Mammography-screening vs primary prevention with aspirin*



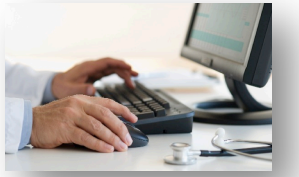

*Gevinster og uønskede effekter av mammografiscreening sammenliknet med profylaktisk inntak av aspirin. Mammografiscreening til venstre (blått): Tiårsrisikoen for død av brystkreft (oppadgående søyler) og det å få brystkreft (nedadgående søyler) for 40 og 50 år gamle kvinner med og uten mammografiscreening. Aspirinprevensjon til høyre (rødt): Tiårsrisikoen for død av kreft (oppadgående søyler) og bivirkning i form av stor blødning (nedadgående søyler) med og uten inntak av aspirin i minst fem år (2). © New England Journal of Medicine*

2. Smith RA, Kerlikowske K, Miglioretti DL et al. Clinical decisions. Mammography screening for breast cancer. N Engl J Med 2012; 367: e31.

# Patient Involvement ?

Evidence + Recommendation

**Trustworthy Guidelines**



Current Best Evidence

**Systematic Reviews**

Evidence + Recommendation
+ patient specific data

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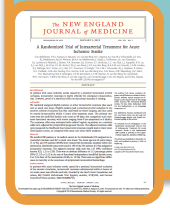
*Enhancing the Evidence Ecosystem*

Evidence

**Primary studies**



Randomized trials
Observational studies…

Evidence for Shared Decision Making
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**Decision Aids for the clinical encounter**

Basic research

E.g. pharmacogenomics drug development…

Quality Improvement, creating New Evidence

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EMR, Registries, Quality indicators, Shared decisions, Case report forms...

# *SHARE-IT Decision Aids*
# *Insights from direct observation & interviews*

- ✓ SDM was directly observed in all interactions
- ✓ Patients: high levels of satisfaction with the DA
- ✓ Clinicians find the tool useful and appealing
  - ✓ Some expressing pleased surprise in how it shifted the conversation towards SDM
- ✓ Patient and clinicians tended to move next to each other, sometimes both holding the tablet during the conversation