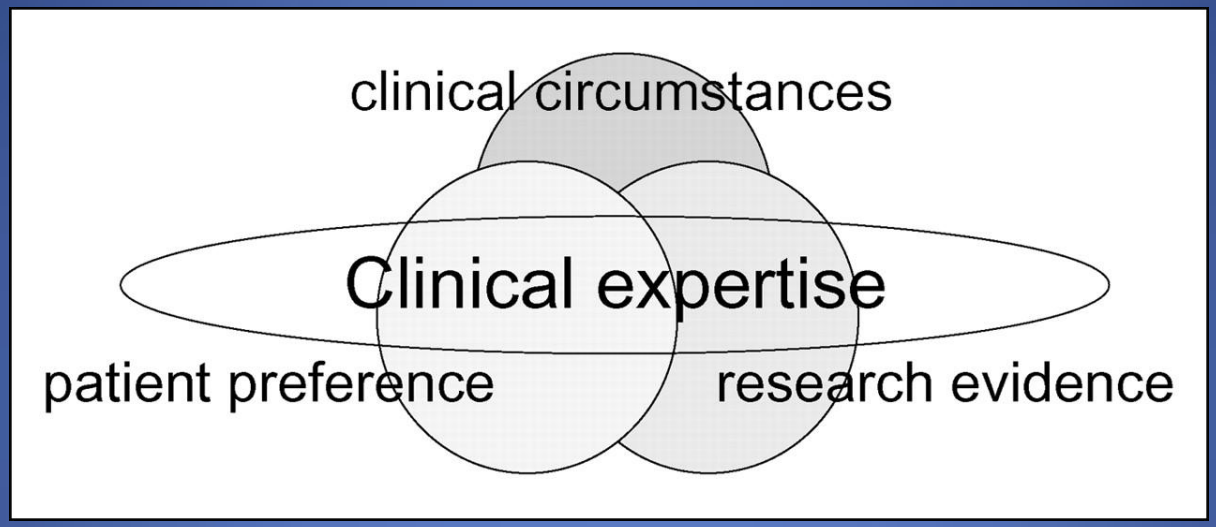
Targeting the Individual



Terry Shaneyfelt, MD, MPH

Division of General Internal Medicine

Today's speaker has no conflict of interest to disclose.

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- Recent reviewer for UpToDate and received free UpToDate subscription for my services

bj ect i ves

- Utilize 2 point of care tools in patient care
- Determine patient specific estimates of benefit and harm
- Apply population based evidence to individual patients

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- Demonstrate how to access and use 2 point of care tools
  - Essential Evidence Plus
  - Dynamed
- “Arc of Applicability”
- Helping patients make decisions
  - Developing patient specific risk estimates
  - Decision aids

r ocess

ASK
Converting a clinical problem into an answerable question.

↓

SEARCH
Tracking down the best evidence to answer that question.

↓

APPRAISE
Explicitly appraise the evidence for validity, impact and applicability.

↓

APPLY
Integrate the evidence with clinical expertise and patient circumstances.

↓

EVALUATE
Evaluate our efficiency in executing the previous steps. Audit success in basing practice on the evidence. Identify areas for future research.

Where do you get information to answer clinical questions?

hoosi ng \esour ces

	Background ?	Foreground ?
Rare	Textbooks	Unfiltered Database (e.g. MEDLINE)
Common		Filtered/ Pre-appraised Evidence

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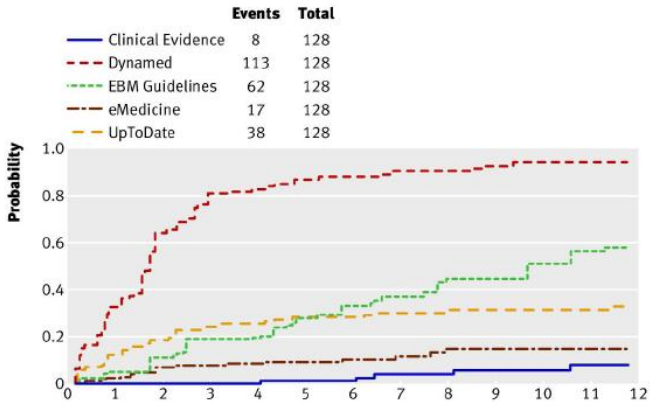
Table 2| **Proportions of citations of 128 systematic reviews by point of care summaries over time (ordered by ranking at nine months) and hazard ratios between top performer (Dynamed) and other summaries**

Summary	At 3 months (%)	At 6 months (%)	At 9 months (%)	HR (95% CI)
Dynamed	77	84	87	Reference
EBM Guidelines	18	31	41	0.22 (0.17 to 0.29)
UpToDate	23	27	29	0.14 (0.09 to 0.21)
eMedicine	7	9	12	0.05 (0.03 to 0.09)
Clinical Evidence	0	1	4	0.03 (0.01 to 0.05)



No of systematic reviews at risk of being cited

Clinical Evidence	128	118	106	103	102	101	98	92	61	53	45	31	25
Dynamed	128	83	41	22	20	15	14	10	8	6	3	2	1
EBM Guidelines	128	118	107	98	97	87	79	71	51	46	33	21	17
eMedicine	128	117	108	107	106	105	103	98	68	62	53	38	32
UpToDate	128	108	96	89	89	84	83	79	51	49	43	30	27

Fig 1 Updating curves for relevant evidence (128 systematic reviews) by point of care information summaries (log rank χ^2=404, P<0.001)

r ocess

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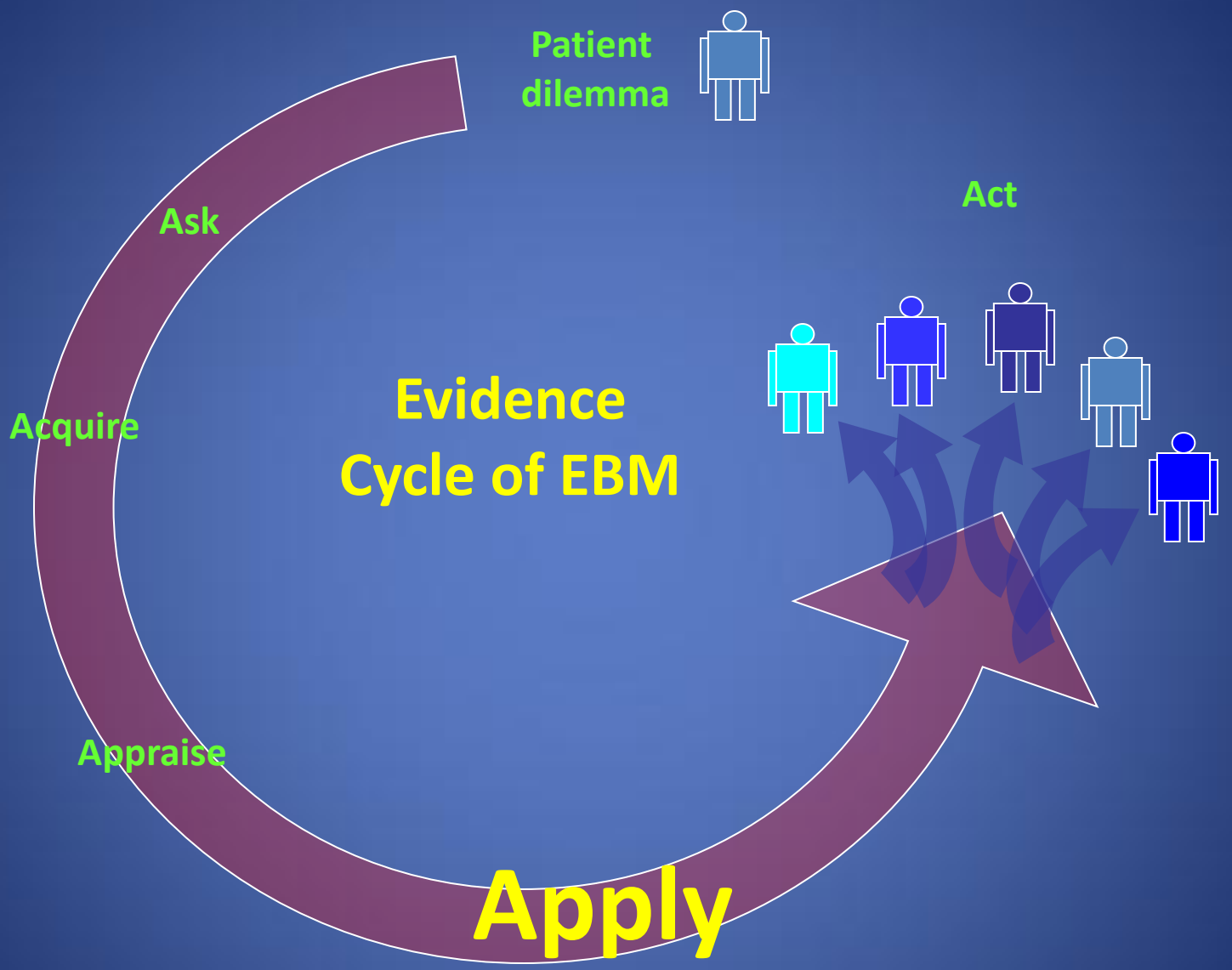
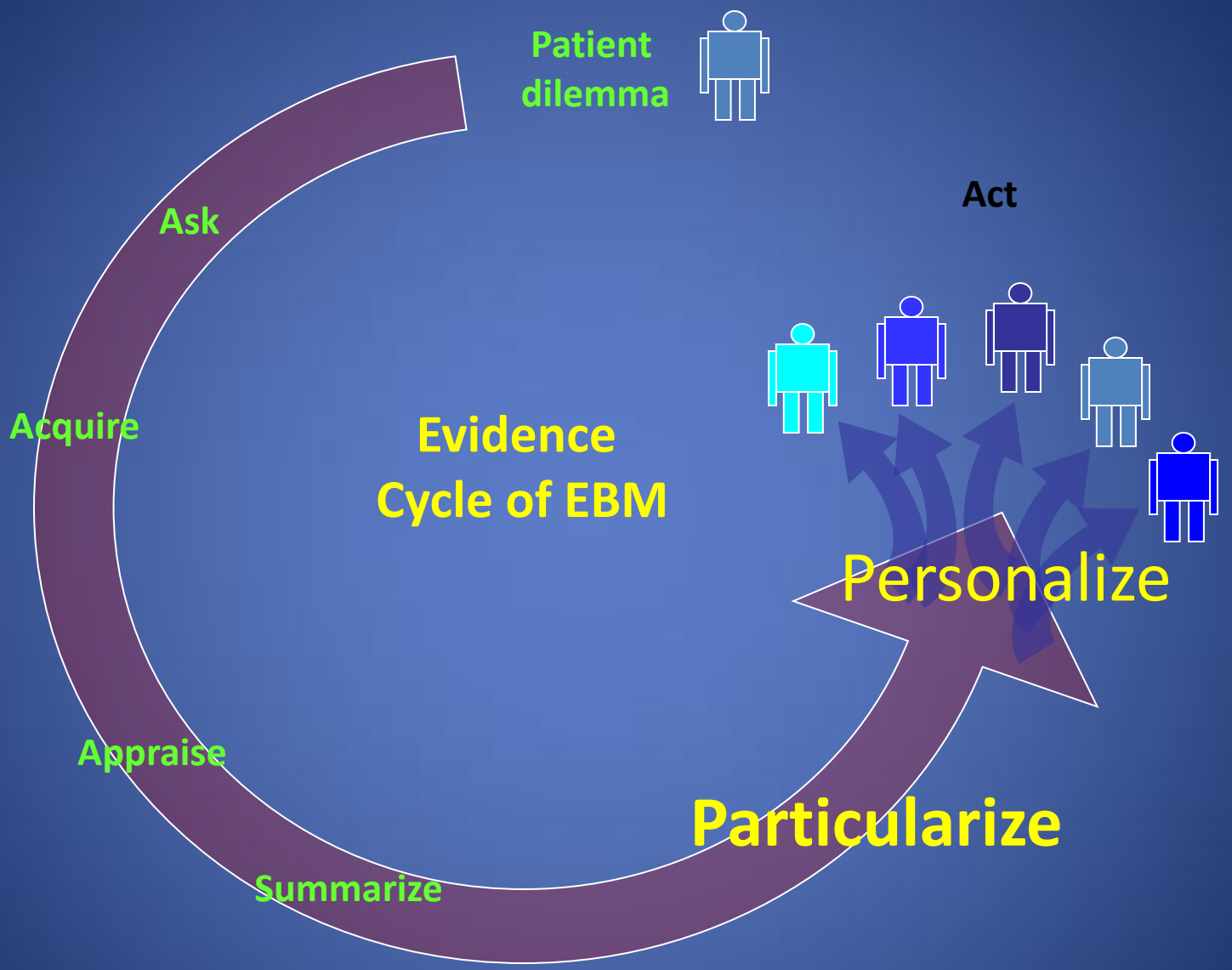
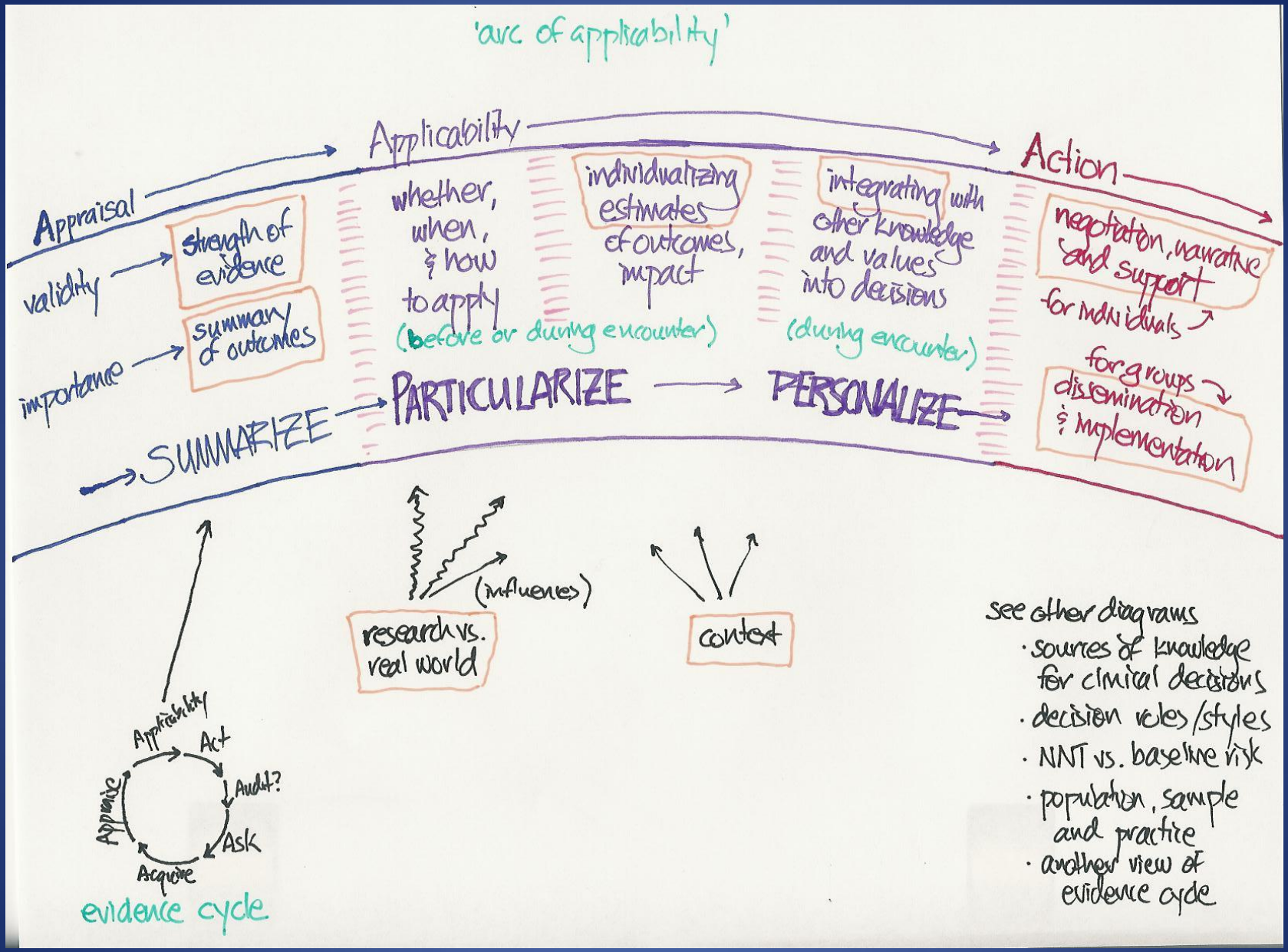

Patient dilemma
Act
Ask
Acquire
Evidence
Cycle of EBM
Appraise
Apply


Patient dilemma
Act
Ask
Acquire
Evidence
Cycle of EBM
Personalize
Appraise
Particularize
Summarize



Personal communication from W. Scott Richardson (EBM geek extraordinaire)

ar t i cul ar i zi ng at a: evel opi ng ndi vi dual i zed est i mat es of benef i t s/ r i sks

- Effects seen in a trial are <u>average effects</u> of all participants in a trial
  - Some subgroups gain more benefit and others less benefit
- Relative measures of effectiveness (RRR) of in intervention are similar across patients groups
- Absolute benefit varies by baseline risk

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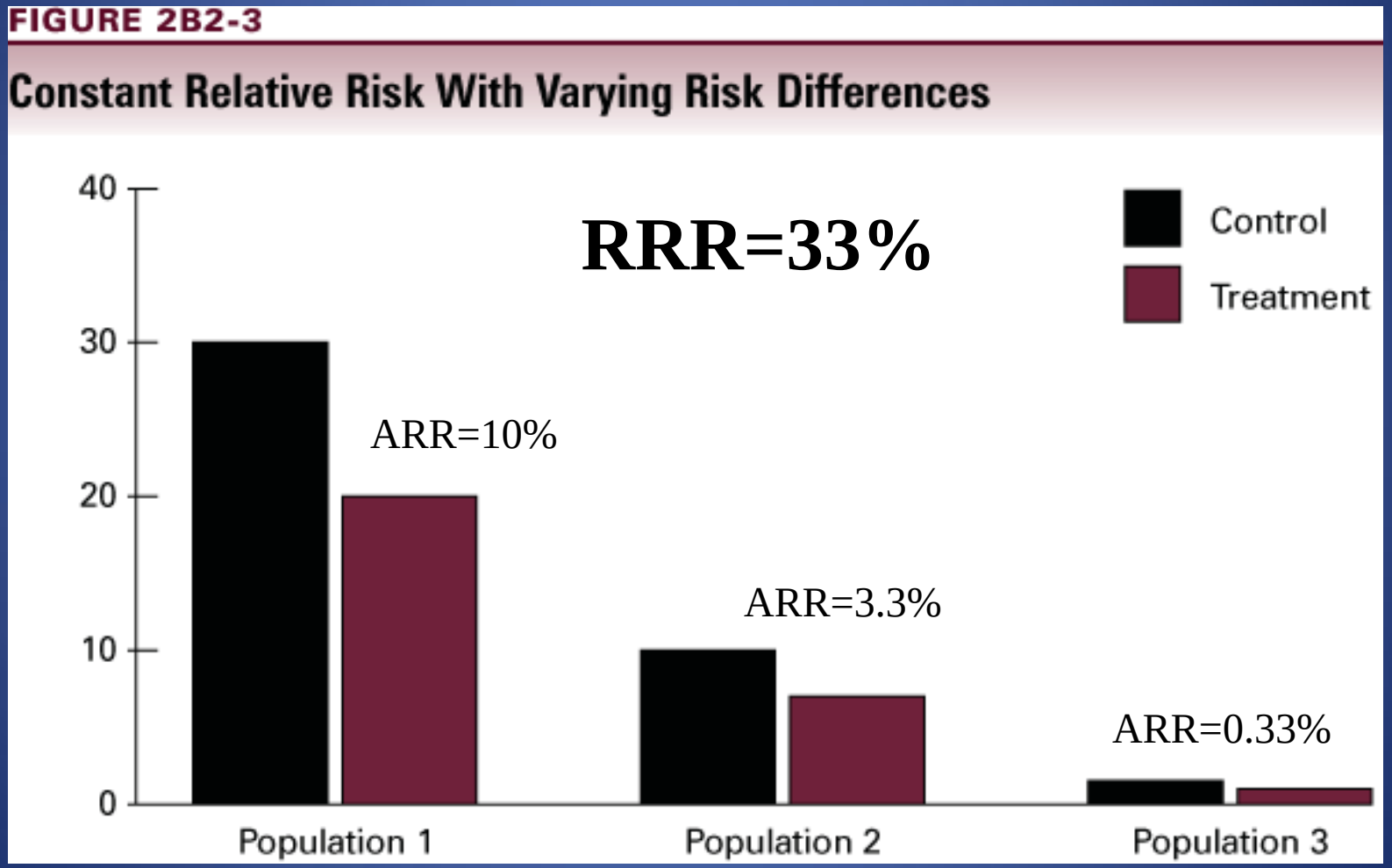

NNT	10	30	303

here can we get individualized estimates of a patient's baseline risk?

- Clinical prediction rules
- Prognostic studies
- Subgroups from RCTs
- Guess

al cul at i ng a pat i ent speci f i c

$$NNT_{ps} = 1 / (PEER \times RRR)$$

- PEER (patient expected event rate = baseline risk)
- RRR (from the study)

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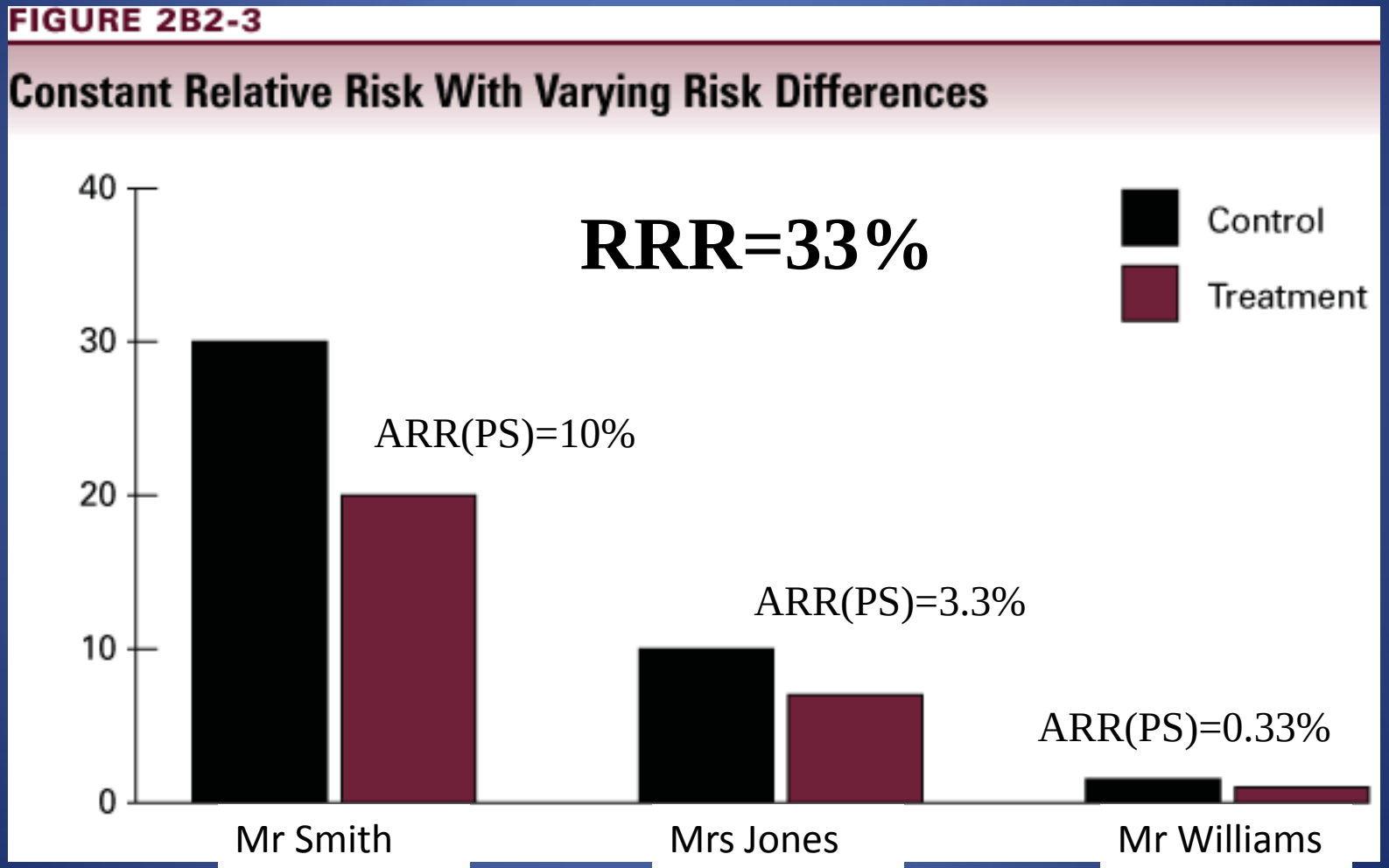
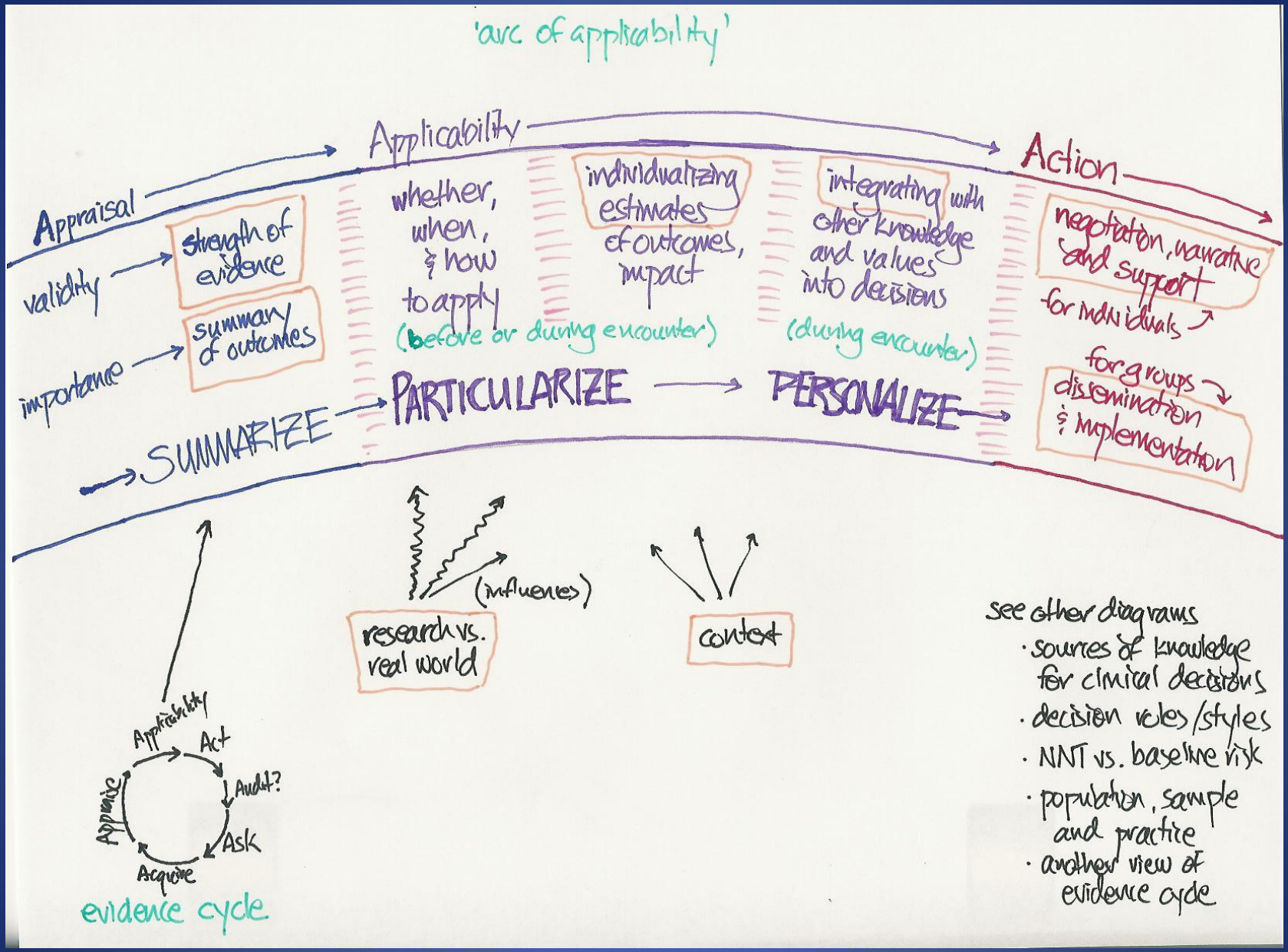
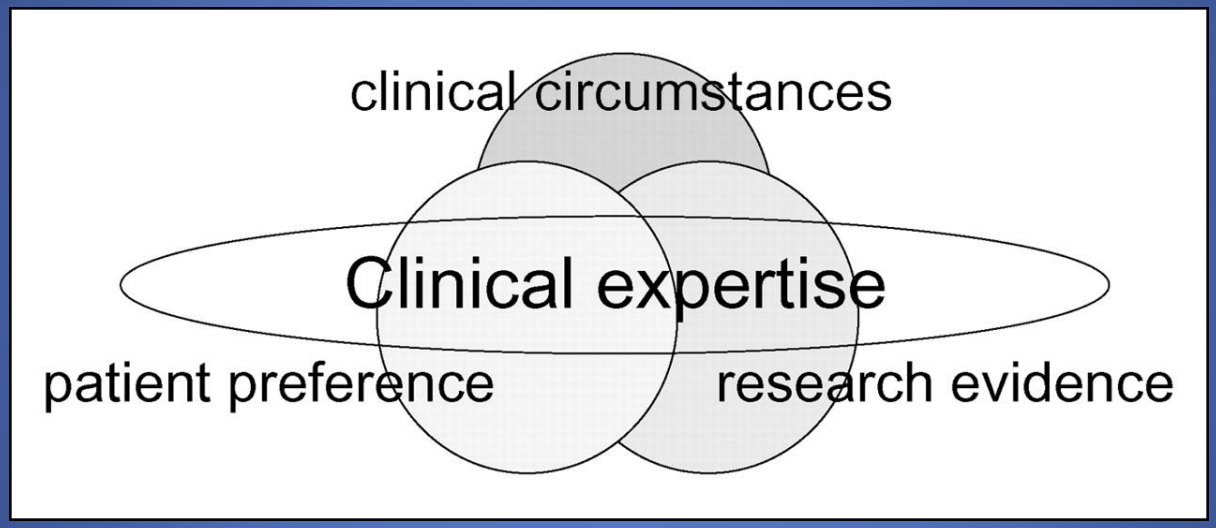


NNT(PS)	10	30	303

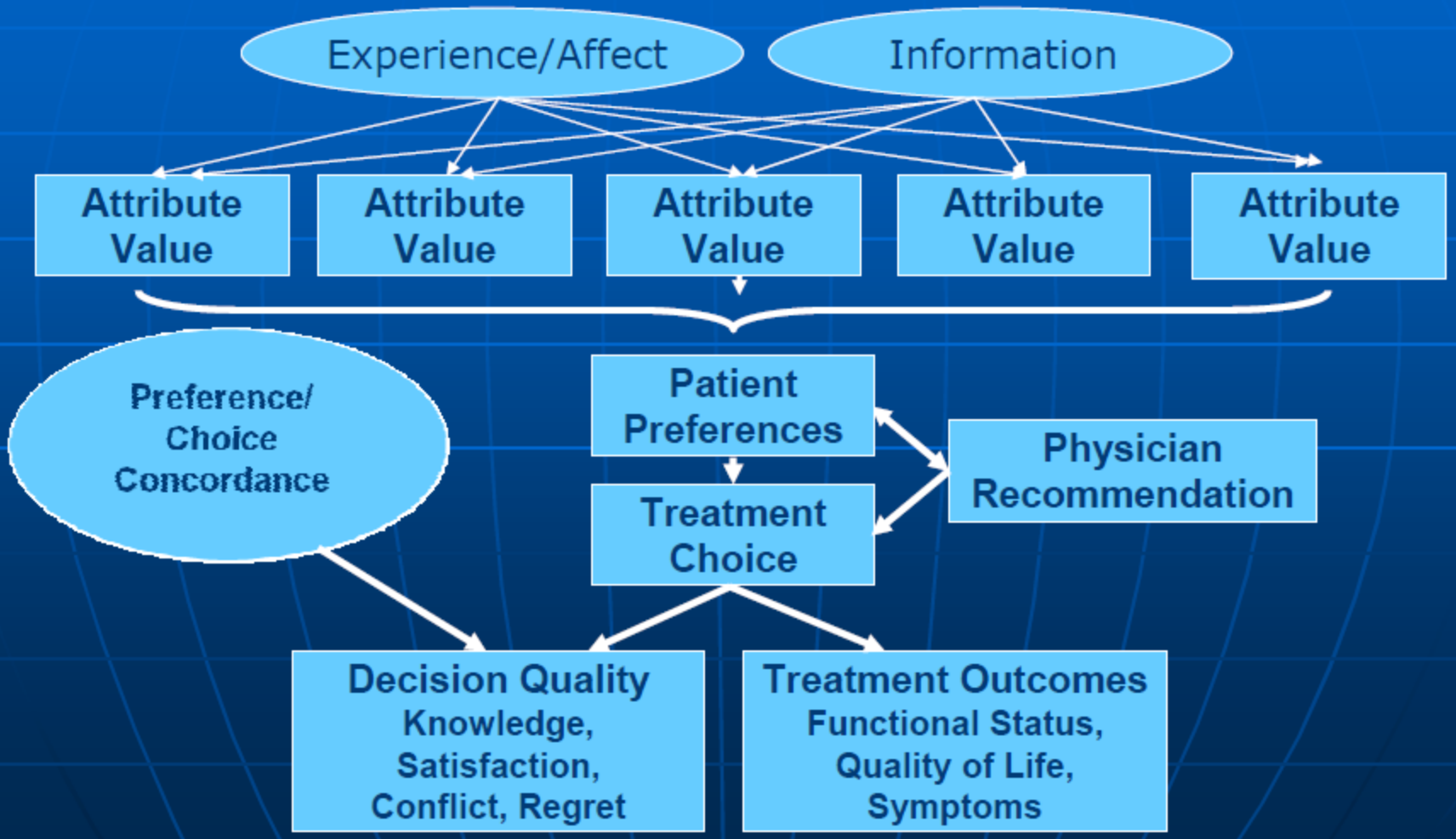


Personal communication from W. Scott Richardson

hat i s ?


clinical circumstances
Clinical expertise
patient preference
research evidence

Individual Decision Making Model



Incorporating patient values and preferences

1. Does the patient want to be involved in the decision making process?
    - Physician information provider only
    - Physician provides information and makes decision
    - Patient/physician collaborate (decision facilitator)
2. Elicit values
    - Different methods from formal (standard gamble, time trade off, etc) to informal (rate potential outcomes on likert scale, decision aids, etc)
    - *What is most important to you in your life?*

eci si on i ds

- Tools that help people become involved in decision making by providing information about the options and outcomes and by clarifying personal values. They are designed to complement, rather than replace, counseling from a health practitioner.

- http://decisionaid.ohri.ca/index.html

Prepared exclusively for _____

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

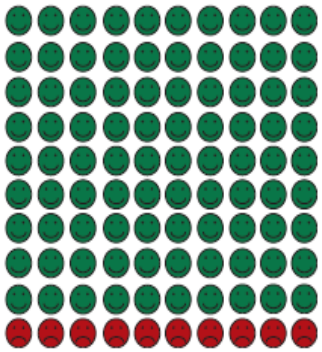
2 What is my risk of having a heart attack in the next 10 years?

NO STATIN

90 people **DO NOT** have a heart attack (green)

10 people **DO** have a heart attack (red)

The risk for 100 people like you who **DO NOT** take statins.



YES STATIN

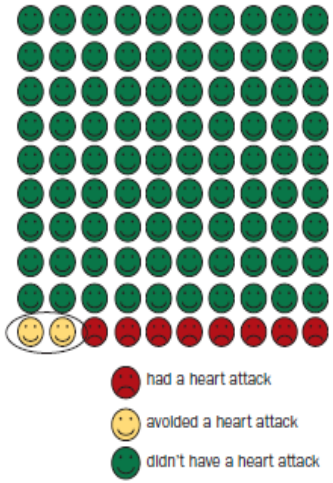
90 people still **DO NOT** have a heart attack (green)

2 people **AVOIDED** a heart attack (yellow)

8 people still **DO** have a heart attack (red)

98 people experienced **NO BENEFIT** from taking statins

The risk for 100 people like you who **DO** take 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

eci si on i d i n ct i on

- http://www.youtube.com/watch?v=SYTPqceFgSw

The journey is complete

- ✓ Demonstrate how to access and use 2 point of care tools
  - Essential Evidence Plus
  - Dynamed
- ✓ "Arc of Applicability"
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