Plenary 1 – Optimising audit and feedback

Heather Colquhoun PhD, OT Reg. (Ont.)

The 4th Annual International Audit and Feedback Symposium

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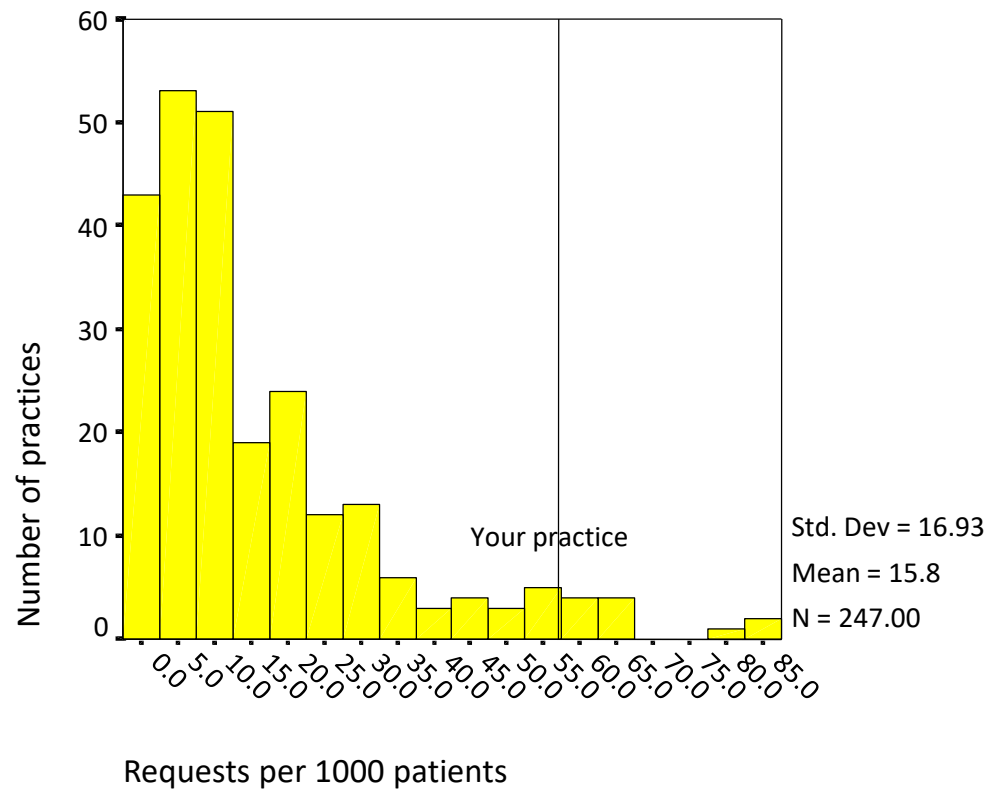
Acknowledgements

Our Study Group

- Heather Colquhoun (Co-PI) heather.colquhoun@utoronto.ca
- Jamie Brehaut (Co-PI)
- Kelly Carroll (Coordinator)
- Kevin Eva
- Jeremy Grimshaw
- Noah Ivers
- Susan Michie
- Anne Sales

CIHR IRSC
Canadian Institutes of
Health Research
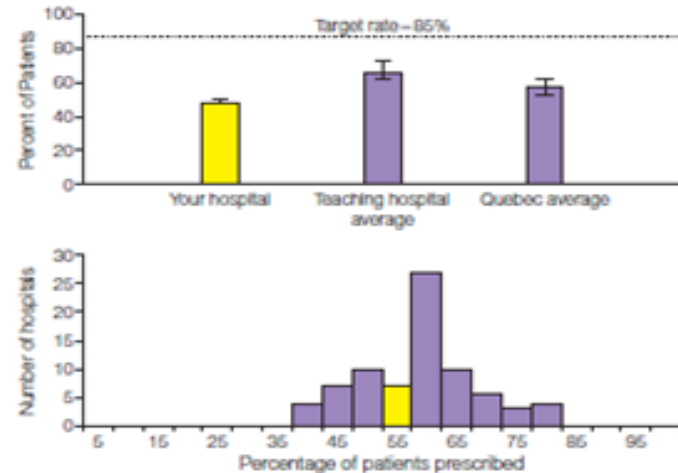Instituts de recherche
en santé du Canada

Nexus Trial

An effort to encourage physicians to reduce requests for knee X-rays. A&F was mailed every 6 months. Showed where their behaviour was in relation to the distribution of all practices.
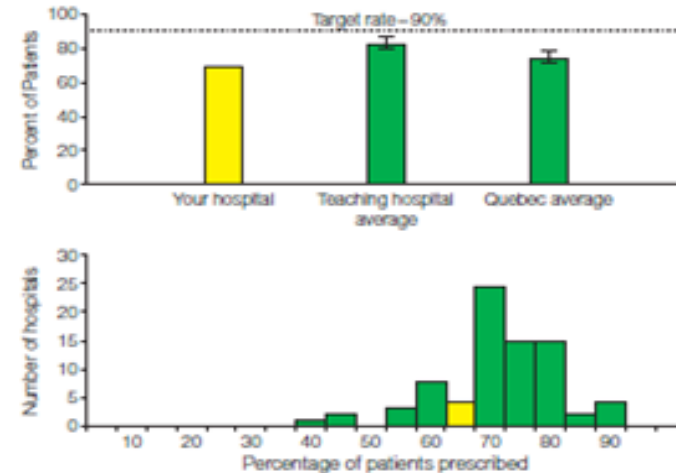
Std. Dev = 16.93

Mean = 15.8

N = 247.00

Your practice

Number of practices

Requests per 1000 patients

Eccles et al 2001. Lancet

Hospital #123: Summary of Care for Acute Myocardial Infarction (AMI) During the 1999/2000 Fiscal Year
Hospital type: teaching hospital
Number of patients of all ages admitted: 366
Number of patients ≥65 years old admitted: 150
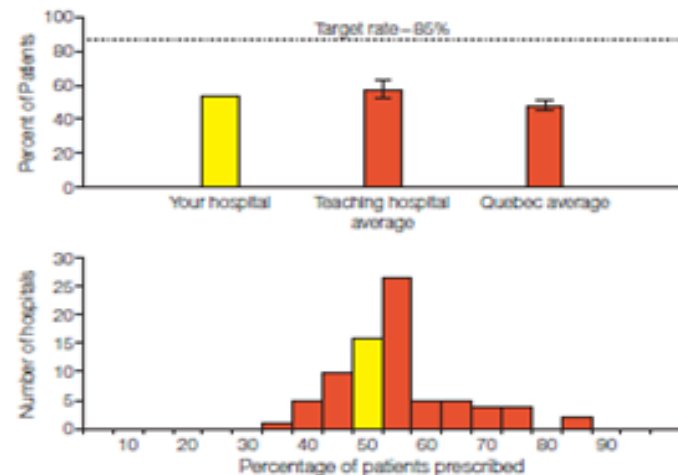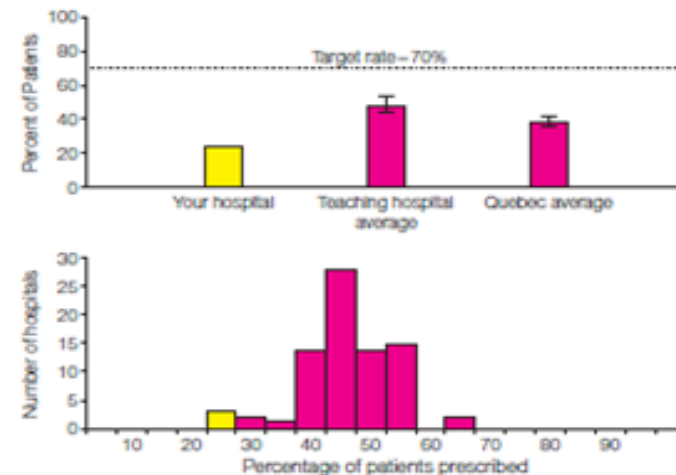
- Reported in JAMA
- Can Hospital administrative data improve quality of cardiac care?
- Hospital report cards to 77 hospitals in Quebec
- 12 outcome, 2 histograms per
- Sent to directors of services
- Feedback sent once based on data from previous year

My Dashboard

My Hospital Name: Sample Hospital

My hospital's performance in fiscal year (FY) 2014/15
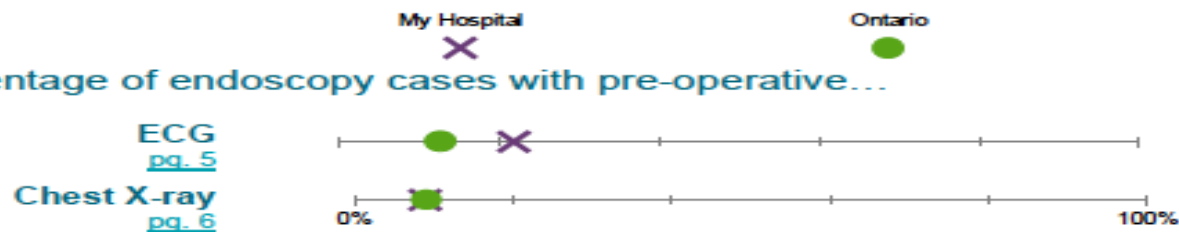
How many surgeries were done in FY2014/15 in my hospital?

Endoscopy Procedures

571

Ophthalmologic Surgeries

§

Other Low-risk Surgeries

497

† Data suppressed; numerator and/or denominator is between 1 to 5
§ No selected low-risk surgery within the reporting period

Data sources: Discharge Abstract Database (DAD), National Ambulatory Care Reporting System (NACRS), Ontario Health Insurance Plan (OHIP) Claims History Database and Registered Persons Database (RPDB), provided by the Institute for Clinical Evaluative Sciences (ICES).

Practice Feedback Interventions: 15 Suggestions for Optimizing Effectiveness

Jamie C. Brehaut, PhD; Heather L. Colquhoun, PhD; Kevin W. Eva, PhD; Kelly Carroll, MA; Anne Sales, PhD; Susan Michie, PhD; Noah Ivers, MD, PhD; and Jeremy M. Grimshaw, MD, PhD

Electronic practice data are increasingly being used to provide feedback to encourage practice improvement. However, evidence suggests that despite decades of experience, the effects of such interventions vary greatly and are not improving over time. Guidance on providing more effective feedback does exist, but it is distributed across a wide range of disciplines and theoretical perspectives.

Through expert interviews; systematic reviews; and experience with providing, evaluating, and receiving practice feedback, 15 suggestions that are believed to be associated with effective feedback interventions have been identified. These suggestions are intended to provide practical guidance to quality improvement professionals, information technology developers, educators, administrators, and practitioners who receive such interventions. Designing interventions with these suggestions in mind should improve their effect, and studying the mechanisms underlying these suggestions will advance a stagnant literature.

The genesis of the 15 suggestions

1. Data from existing reviews – including the Cochrane Review
2. The expertise and experience of the research group
3. Results of a research study we were undertaking....

Our research study – an effort to grow the science of A&F

- **Background:** There were principles of feedback design that are likely to result in more effective feedback in many/most situations but knowledge about these principles is distributed across various branches of psychology, education, economics, management, etc.

- **Methods:** <u>Interviewed feedback experts from these areas to</u> yield guiding and testable principles about designing more effective feedback – we asked them how can we do this better?

- **Results:** We conducted 28 interviews and identified 389 principles of designing better A&F!

- In the process of working through the data, some ideas seemed **uncontroversial yet we knew to be rarely applied**

- These 'Low-hanging fruit' issues could be used to improve feedback interventions NOW

15 Suggestions

Nature of the desired action

1. Recommend actions consistent with established goals and priorities
2. Recommend actions that can improve and are under control of the recipient
3. Recommend specific actions

Nature of the data available for feedback

4. Provide multiple instances of feedback
5. Present feedback as soon as possible, at a frequency informed by the number of new patient cases
6. Provide individual rather than general data
7. Choose comparators that reinforce desired behavior change

Feedback Display

8. Closely link the visual display and summary message
9. Present feedback in > 1 way
10. Minimize extraneous cognitive load

Delivering the feedback intervention

11. Address barriers to use of feedback
12. Provide short, actionable messages followed by optional detail
13. Address credibility of the information
14. Prevent defensive reactions to feedback
15. Construct feedback through social interaction

Nature of the Action Sought

Feedback interventions should…	Example suggestions
1) recommend actions consistent with established goals and priorities	Coordinating with ongoing initiatives; Collect pilot data on need, salience, justifiability of the behavior
2) recommend actions that have room to improve and under the recipients control	Target FB to under-performers, or particularly problematic areas
3) recommend specific actions	Use key messages that imply action, suggest corrective actions; Ask: Who are we hoping will look at and act on the FB? What do we hope will change after recipients look at the FB and do our indicators support these changes?

Antibiotic Prescribing Rate
Mr A. N. Other
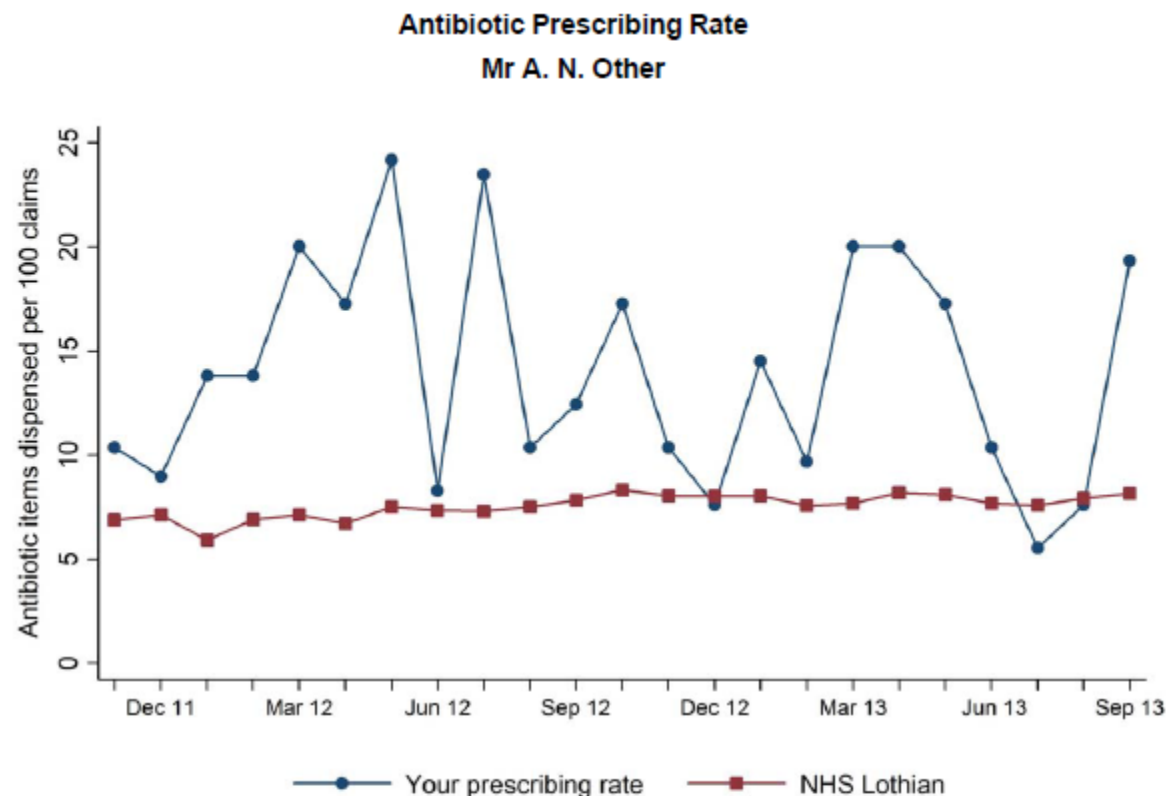
Your prescribing rate is your monthly number of antibiotic items dispensed multiplied by 100 and divided by the average monthly number of claims made on your ordinary lists at this practice between November 2011 and September 2013. The health board rate is the overall ordinary list prescribing rate for current dentists in non-salaried practices in NHS Lothian. (Source: ISD Scotland. Data as at January 2014)

Prescribing courses of antibiotic treatment can encourage the development of antimicrobial resistance and therefore must be kept to a minimum.

As a first step in the treatment of bacterial infections, use local measures. For example, drain pus if present in dental abscesses by extraction of the tooth or through root canals, and attempt to drain any soft-tissue pus by incision.

This should be the first step even if patients request antibiotics and even when time is short.

Antibiotics are appropriate for oral infections where there is evidence of spreading infection, systemic involvement or persistent swelling despite local treatment.

Use antibiotics in conjunction with, and not as an alternative to, local measures.

Elouafkaoui, Paula, et al. "An audit and feedback intervention for reducing antibiotic prescribing in general dental practice: The RAPiD cluster randomised controlled trial." *PLoS medicine* 13.8 (2016): e1002115.

Nature of the Feedback Data

Feedback interventions should...	Example suggestions
4) be provided multiple times	Replace one-off feedback for regular feedback
5) be provided as soon as possible, dependent on number of patient cases	Do not give old FB but keep in mind frequency of the behaviour
6) be as specific to the individual as possible	Provide practitioner-specific rather than hospital-specific data
7) include comparators that reinforce desired behaviour	Choose one comparator rather than several. Choose a comparator that denotes a goal. What will your recipients see as a feasible comparator? What are the obvious 'these data don't apply to me' arguments and how does your FB address them?

Reducing the prescription of long-acting benzodiazepines

Appendix 1: Sample feedback report sent to study participants in the intervention group

Percentage of long-acting benzodiazepines
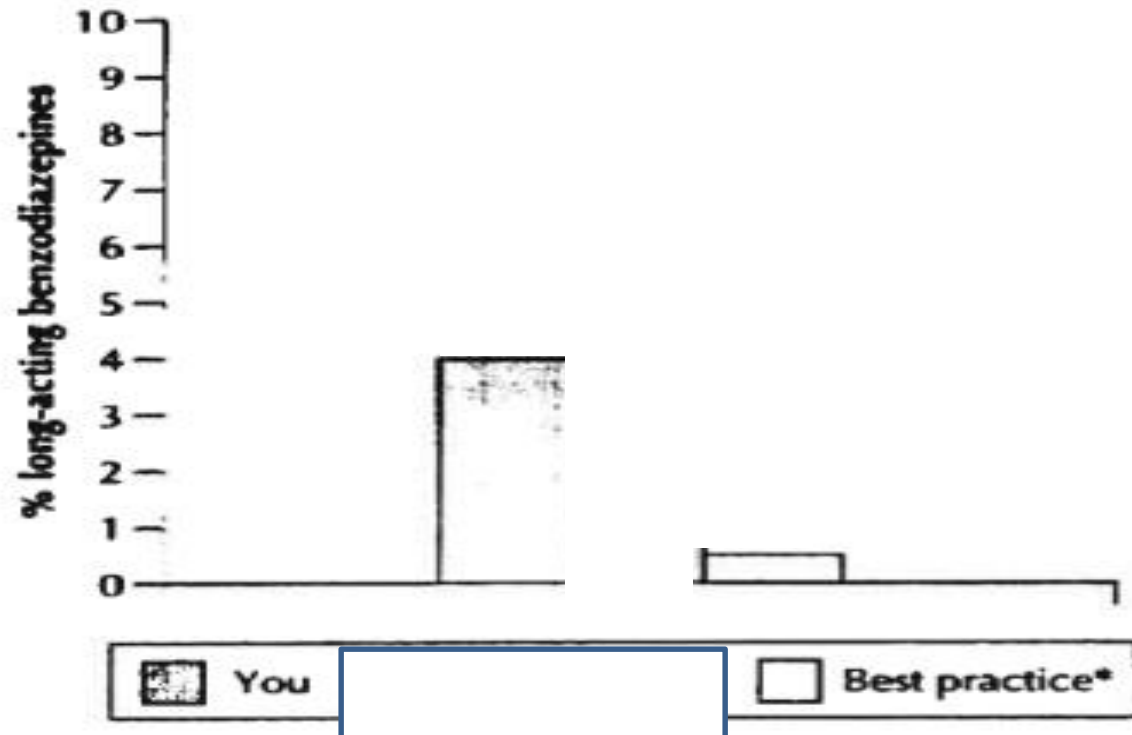
Prescribing pitfalls
Long-acting benzodiazepines (e.g., diazepam and chlordiazepoxide) have been linked to hip fractures in elderly patients. If benzodiazepines are necessary, shorter-acting agents (e.g., oxazepam or lorazepam) are safer.

*Best practice is defined as the prescribing practices of 100 of your peers who regularly prescribe benzodiazepines, but avoid the prescribing pitfalls described above.

Design of the Feedback Display

Feedback interventions should...	Example
8) closely link visual display and summary message	Put summary message in close proximity to the graphical or numerical data supporting it
9) present feedback in multiple ways	Present key messages both textually and in person
10) minimize extraneous cognitive load placed on recipients	Eliminate unnecessary 3-D graphical elements, increase white space, clarify instructions, target fewer outcomes; assume you have short attention

Oregon Q Corp Report Example

Show notes on exporting data

| Clinic Name: | Clinic #1 | ▼ |

| ◀◀ | ◀ | 1 | of 1 | ▶ | ▶▶ | | Select a format ▼ | Export | 🔄 |

Clinic Level Provider Comparisons

OREGON HEALTH CARE QUALITY CORPORATION

Your Quality Scores Compared to Clinic, Group, Oregon and Top Performers
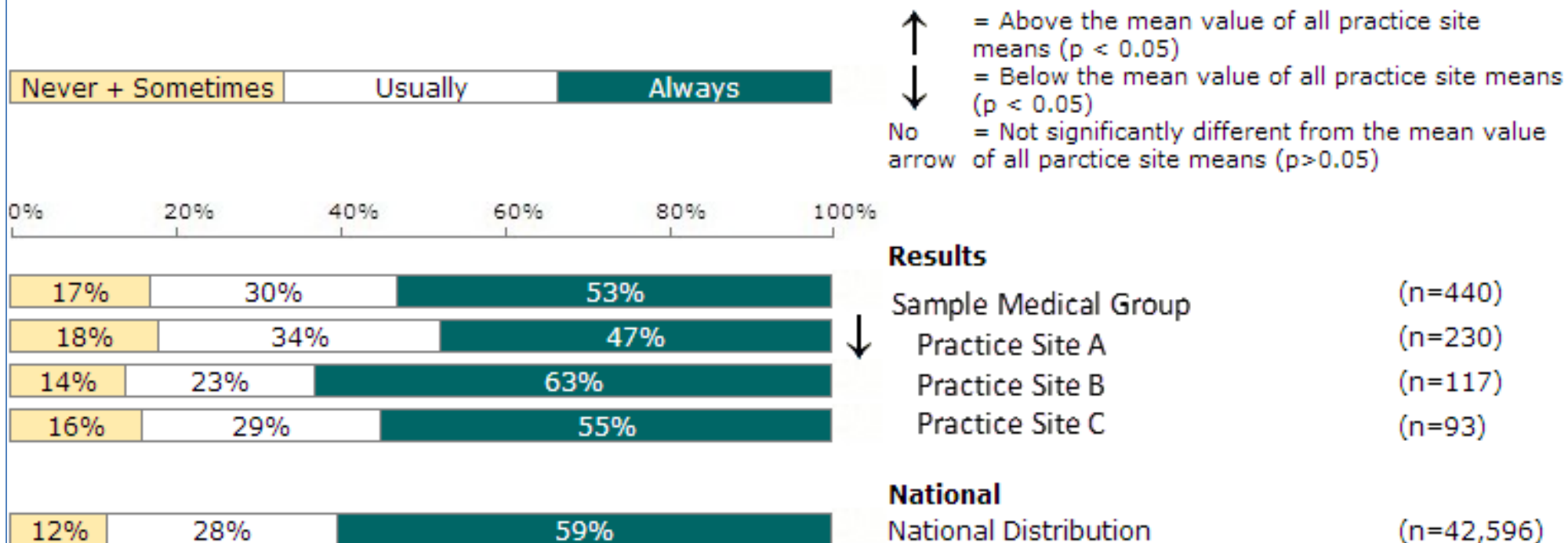
> *Easily compare scores between providers in a clinic

	Breast Cancer Screening (40-49)		Breast Cancer Screening -Total (40-69)		Breast Cancer Screening (age 50-74)		Breast Cancer Screening (age 75-84)		Breast Cancer Screening (age 85+)		Cervical Cancer Screening	
	Patients (N)	Score (%)	Patients (N)	Score (%)	Patients (N)	Score (%)	Patients (N)	Score (%)	Patients (N)	Score (%)	Patients (N)	Score (%)
Oregon Average	59,412	59.5	207,716	65.6	191,145	68.1	53,265	55.4	28,805	26.9	213,066	64.5
Medical Group Average	1,317	65.9	5,488	73.3	5,915	75.2	2,210	60.5	1,545	27.8	4,796	66.7
Clinic Average	78	74.4	425	78.1	504	78.6	225	60.9	207	26.6	306	76.8
Provider #1	47	83.0	193	76.7	184	74.5	40	65.0	28	21.4	143	79.7
Provider #2	6	50.0	65	76.9	117	82.9	104	56.7	95	28.4	38	65.8
Provider #3	25	64.0	167	80.2	203	79.8	81	64.2	84	26.2	125	76.8

15

CAHPS Database Example

Comparison of Practice Site Scores to Medical Group Scores

Q10 Got answer to phone question during regular office hours on same day

| Never + Sometimes | Usually | Always |

↑ = Above the mean value of all practice site means ($p < 0.05$)
↓ = Below the mean value of all practice site means ($p < 0.05$)
No arrow = Not significantly different from the mean value of all parctice site means ($p > 0.05$)

0%   20%   40%   60%   80%   100%

Results

	Never + Sometimes	Usually	Always		
Sample Medical Group	17%	30%	53%		(n=440)
Practice Site A	18%	34%	47%	↓	(n=230)
Practice Site B	14%	23%	63%		(n=117)
Practice Site C	16%	29%	55%		(n=93)

National

| National Distribution | 12% | 28% | 59% | | (n=42,596) |

⊞ **View additional characteristics**

Delivery of the Feedback Intervention

Feedback interventions should...	Example
11) address barriers to use of feedback	Incorporating feedback into care pathway. Determine and address barriers
12) provide short, actionable messages followed by more detail ('graded entry')	Put key messages/variables on front page; additional detail in subsequent materials
13) explicitly address credibility of the information	Feedback from trusted local champion/colleague, increase transparency of data sources; disclose conflicts of interest.
14) Prevent defensive reactions	Incentives for improved performance; positive messaging along with negative; 'feedforward' discussions
15) Encourage social construction of feedback	Engaging in self-assessment around target behaviors prior to receiving feedback; engaging in dialogue with peers as feedback is provided

Final points

1. Developing audit and feedback should be a highly deliberate and thoughtful exercise
   - What the audit and feedback looks like matters
   - 'Let's take what data we have and show it to people' is not an optimal strategy
   - Thoughtfully choose the data you want to show based on what behaviours you want to change

2. Choose from among the 15 suggestions…

- Thank you
- Questions?