

OMED COLORECTAL CANCER SCREENING COMMITTEE MEETING

Saturday, May 17, DDW San Diego, 2008

Presenter: G. Young

National screening program
report - Australia

Graeme P Young,
Flinders University.


OMED DDW San Diego 2008




1

Outline

- Shortcomings in the impact of screening using guaiac-based (GFOBT).
- Screening pathway and its operation.
- Rationale for focus on improving screening outcomes.
 - Reducing mortality and incidence
 - Acceptability
 - Improving participation
 - Cost-effectiveness
 - Adding flexibility




There'd have to be a really good reason for the Australian Government to ask people to do this ... and there is.



2

Issues arising from the GFOBT RCTs

- Low-sensitivity GFOBT (35-50% once-only sensitivity for cancer) are useful as long as testing is repeated.
- People will participate using simple screening tests.
- But,
 - Modest reductions in mortality (15-35%) and incidence (20%) only.
 - Inflexibility of qualitative tests is frustrating
- Issues: How do we ...
 - Improve sensitivity for neoplasia, especially for adenomas?
 - Improve participation rate?
 - Achieve a flexible endpoint?

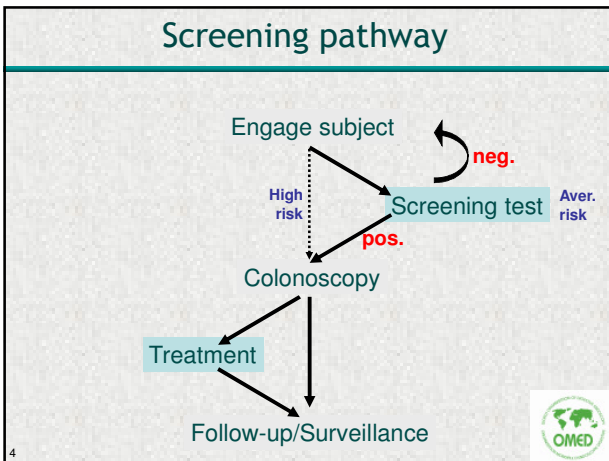


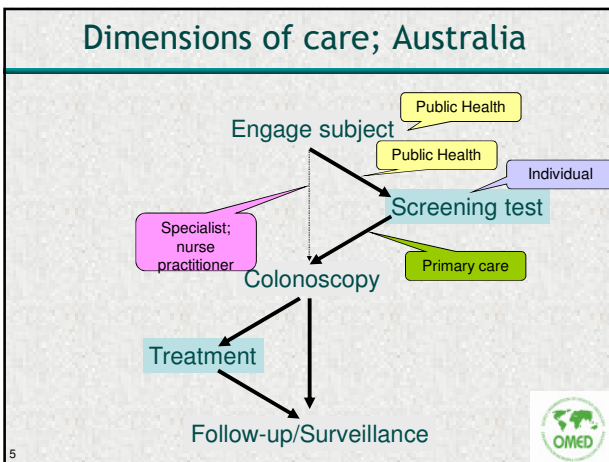
3

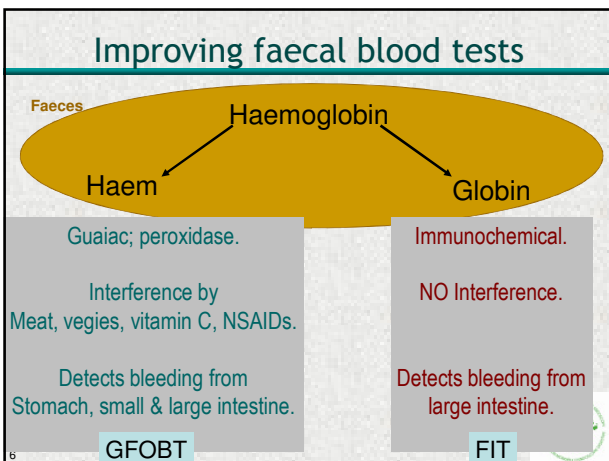
OMED COLORECTAL CANCER SCREENING COMMITTEE MEETING

Saturday, May 17, DDW San Diego, 2008

Presenter: G. Young







1. Mortality reduction

- Depends on detection of cancer in a curable stage (UICC stages 0-II; Dukes' A&B).
- Thus, improved detection of cancer means an improved impact on mortality.
- (See Allison J et al, NEJM 1996, for a large-scale comparison of screening tests.)



7

Paired comparison of GFOBT and FIT

- AIM: Ascertain relative detection rate and false-positive rates of a brush-sampling FIT (InSure) compared to a stick sampling sensitive GFOBT (Hemoccult Sensa).
- DESIGN: All subjects completed both tests (qualitative), prior to colonoscopy
- COHORTS: Diagnostic (n=400) and screening (n=3500)
- Smith et al Cancer. 2006;107:2152-2159



8

FIT Identify more Cancers

		Hemoccult SENSA (GFOBT)		
		Positive	Negative	
InSure (FIT)	Positive	13	8	21 (88%)
	Negative	0	3	3
		13 (54%)	11	n=24

Difference 33%, CI 11-55%

Smith et al Cancer. 2006;107:2152-2159



9

2. Incidence reduction

- Depends on detection of adenomas, especially those with a greater likelihood to progress.
- Thus, improved detection of adenomas means an improved impact on incidence since we know adenoma removal reduces incidence.

- E.g. Smith et al Cancer. 2006;107:2152-2159



10

InSure vs HOSensa; adenomas

Screen-detected significant adenomas

		Hemoccult SENS A		
		Positive	Negative	
InSure	Positive	9	11	20 (44%)
	Negative	2	23	25
		11 (24%)	34	N=45

Difference 20%, CI 5.4% to 34.6%
Smith et al Cancer. 2006;107:2152-2159



11

3. Acceptability; participation

- Without participation, detection is impossible
- Acceptability is reflected in participation rates

Test	Participation rate	Sensitivity	Cancer yield in population
A	50%	50%	25%
B	25%	95%	25%



12

Population Behaviour Studies, Flinders

- Factors that influence initial participation in screening
 - 1997 Impact of diet restriction*
 - 1998 Influence of General Practice endorsement.*
 - 2000 Impact of new test technologies.*
 - 2002 Community attitudes to screening and strategies for improvement.
 - 2006 One versus two faecal specimens
 - 2005 Improved communication strategies.*
- Factors that influence re-participation in screening
 - 1998 – 2005 Repeat offers of screening to all who were offered first round.



13

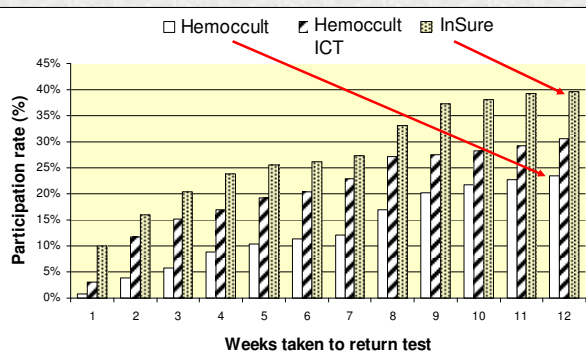
Population Participation Study

- Goal: Compare GFOBT with FIT
- General popⁿ in Adelaide, age 50-70,
- Random selection from electoral roll
- Kits mailed out from Bowel Health Service
 - sample cards:
 - Hemocult II (GFOBT),
 - FlexSure OBT (FIT with stick)
 - Insure (FIT with brush)
 - letter of invitation
 - information pamphlet
 - questionnaire and consent
- Cole et al J Med Screening, 2003; 10: 117-122



14

Comparing Participation



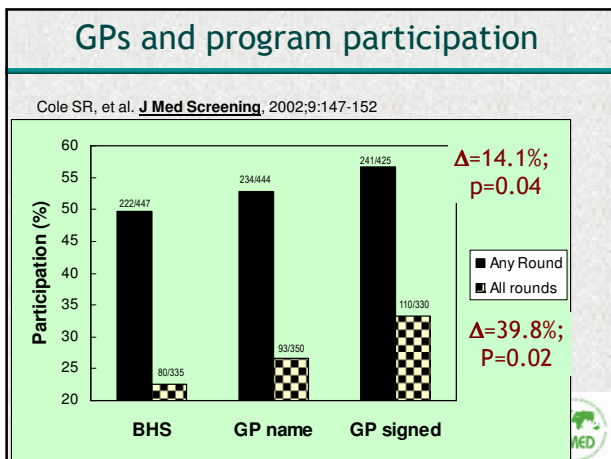
15 > Cole et al J Med Screening, 2003; 10: 117-122

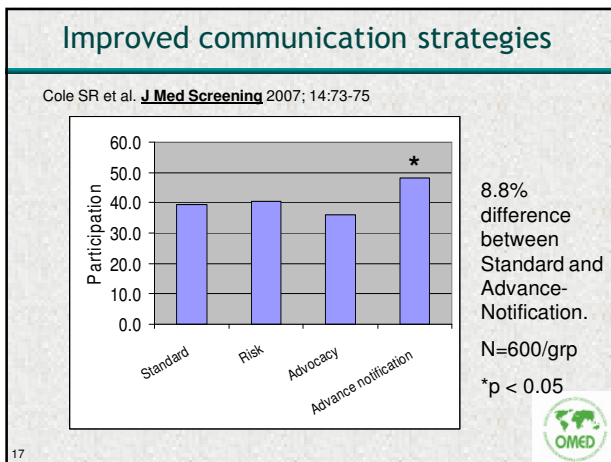


OMED COLORECTAL CANCER SCREENING COMMITTEE MEETING

Saturday, May 17, DDW San Diego, 2008

Presenter: G. Young



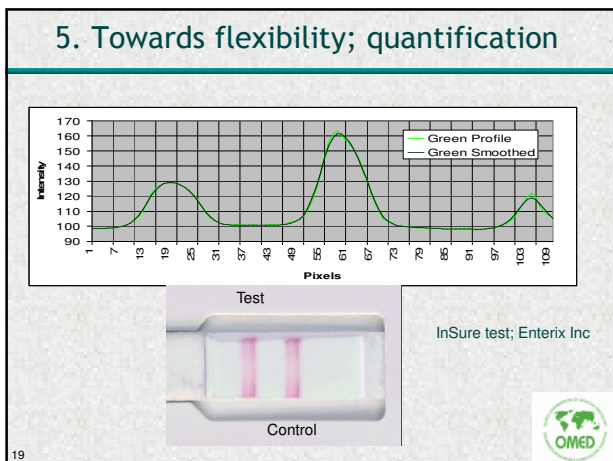


4. Pilot Cost-effectiveness - ages 55-74

- Test positivity rate of 9%
- PPV of \approx 25%
- Participation rate of 45%

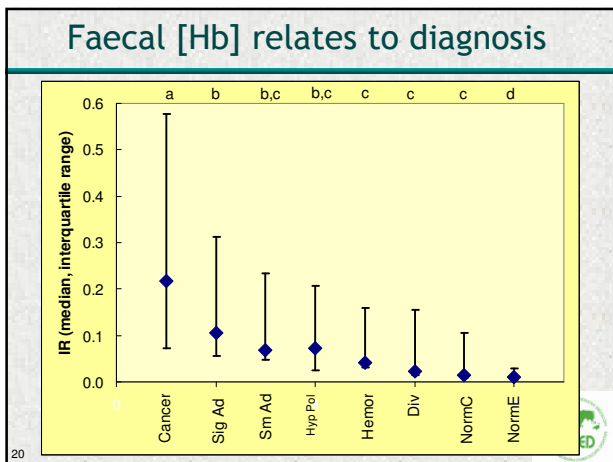
	Lifetime cost per 10,000 invited individuals (\$ million)				Life-years saved per 10,000 invited	Incremental cost per life-year saved (\$)
	Screening	Diagnosis	Treatment & surveillance	Total		
Current bowel cancer management	—	—	7.6	7.6	—	—
Screening program	2.5	2.3	7.6	12.4	200	23,937

5. Towards flexibility; quantification



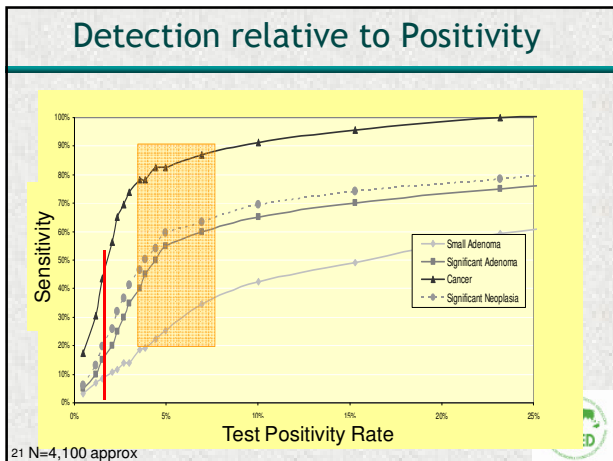
19

Faecal [Hb] relates to diagnosis



20

Detection relative to Positivity



21 N=4,100 approx

OMED COLORECTAL CANCER SCREENING COMMITTEE MEETING

Saturday, May 17, DDW San Diego, 2008

Presenter: G. Young

Tender process for FOBT

- Type; immunochemical
- Clearly demonstrated to be acceptable to screenees
- Capability to adjust endpoint according to
 - Test positivity rate (target 4-8%)
 - Test performance
- Automation
- Objective and reproducible endpoint
- Certainty of supply, quality assurance
- Clinical data to back usage



22

Summation

- Screening is viewed as a process not just a test
 - Only the "front end" is tightly managed using a public health strategy
 - Events post-offering FIT are not well understood
- Screening test is offered with advice to seek personalised care
- Faecal immunochemical tests (FIT) are used for the general population
 - Improve capacity to detect cancer and adenomas
 - Are easier and so improve participation
 - Provide flexible reliable endpoints
- Program is of acceptable cost-effectiveness



23
