“My question is: Are we making an impact?”
The Community Guide is:

- **Systematic reviews** of the available evidence
- Formulated by a team of renowned researchers, public health practitioners, representatives of health organizations
- Concise, carefully-considered recommendations for policy and practice
- Identification of research gaps
The Clinical Guide and Community Guide Are Complementary
The Clinical and Community Guides Are Complementary

**Individual level**
Clinical settings
Delivered by healthcare providers
Screening, Counseling, etc.

**Clinical Guide**
(USPSTF Recommendations)

**Group level**
Health system changes
Insurance/benefits coverage
Access to/provision of services
Community, population-based
Informational
(Group Education, Media)
Behavioral, Social
Environmental & Policy Change

**Community Guide**
(TFCPS Recommendations)
<table>
<thead>
<tr>
<th>Community Guide (CG) Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Environment</strong></td>
</tr>
<tr>
<td>Social Environment</td>
</tr>
<tr>
<td><strong>Settings</strong></td>
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<td>Worksites</td>
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<td>Schools</td>
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<td><strong>Risk Behaviors</strong></td>
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<tr>
<td>Tobacco Use</td>
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<tr>
<td>Alcohol Abuse/Misuse</td>
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<tr>
<td>Other Substance Abuse</td>
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<tr>
<td>Poor Nutrition</td>
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<tr>
<td>Inadequate Physical Activity</td>
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<tr>
<td>Unhealthy Sexual Behaviors</td>
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<tr>
<td><strong>Specific Conditions</strong></td>
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<tr>
<td>Vaccine-Preventable Disease</td>
</tr>
<tr>
<td>Pregnancy Outcomes</td>
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<tr>
<td>Violence</td>
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<tr>
<td>Motor Vehicle Injuries</td>
</tr>
<tr>
<td>Depression</td>
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<tr>
<td>Cancer</td>
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<tr>
<td>Diabetes</td>
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<tr>
<td>Oral Health</td>
</tr>
<tr>
<td>Obesity</td>
</tr>
</tbody>
</table>
Task Force on Community Preventive Services

Current Members

Jonathan C. Fielding, MD, MPH, MBA, Chair
Bruce Nedrow Calonge, MD, MPH
John M. Clymer
Kay Dickersin, PhD
Karen Glanz, PhD, MPH
Ron Goetzel, PhD
Robert L. Johnson, MD

Barbara K. Rimer, DrPH, Vice-Chair
Ana Abraido-Lanza, PhD
Nico P. Pronk, PhD
Gilbert Ramirez, DrPH
C. Tracy Orleans, PhD
Lawrence W. Green, DrPH

Current Consultants

Robert S. Lawrence, MD
J. Michael McGinnis, MD
Alonzo L. Plough, PhD, MPH
Steven M. Teutsch, MD, MPH
Transparency (A Minor Detail!)

I think you should be more explicit here in step two."
Guide Reviews are a Team Effort

- Community Guide Staff
- Coordination Team
  - CG Staff (lead scientist, abstractors)
  - Subject matter experts
  - Task Force member(s)
- Consultation Team
  - Subject matter experts
- Task Force on Community Preventive Services
- Liaisons
  - 25 federal agency and organizational
Community Guide Review Process

- Convene review teams
  - Coordination team
  - Consultation team

- Develop a conceptual framework

- Develop prioritized list of interventions

- Develop, refine clear research questions

- Search for evidence
Community Guide Review Process

- Abstract and critically evaluate the available studies
- Summarize the evidence
  - Calculate effect sizes
  - Summarize effect sizes
    - Median or mean
    - Homogeneity tests
    - Meta-analysis
    - Meta-regression
- Task Force discussion and recommendations
- Disseminate the results
- Support translation into action
Issues Considered in Guide Reviews

Intervention

Intended Outcomes

Additional Outcomes

Benefits

Harms

Morbidity and/or Mortality

Barriers

Economic Information

Applicability of the evidence
In General, a Conclusion About Effectiveness Requires....

A Body of Evidence

- Number of studies
- Quality of studies
- Suitability of study design

A Demonstration of Effectiveness

Consistency of Effect

“Most” studies demonstrated an effect in the direction of the intervention

Sufficient Magnitude of Effect

The effect demonstrated across the body of evidence is “meaningful”
## Converting Evidence to Recommendation: Translation Table

<table>
<thead>
<tr>
<th>Strength of Evidence of Effectiveness</th>
<th>Quality of Execution</th>
<th>Suitability of Study Design</th>
<th>Number of Studies</th>
<th>Consistent</th>
<th>Effect size</th>
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</thead>
<tbody>
<tr>
<td>Strong</td>
<td>Good</td>
<td>Greatest</td>
<td>$\geq 2$</td>
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<td>“Makes a difference”</td>
</tr>
<tr>
<td>Good</td>
<td>Greatest or Moderate</td>
<td>$\geq 5$</td>
<td>Yes</td>
<td>“Makes a difference”</td>
<td></td>
</tr>
<tr>
<td>Good or Fair</td>
<td>Greatest</td>
<td>$\geq 5$</td>
<td>Yes</td>
<td>“Makes a difference”</td>
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<tr>
<td>Sufficient</td>
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<td>Greatest</td>
<td>1</td>
<td>Yes (multiple study arms)</td>
<td>“Makes a difference”</td>
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<tr>
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<td>Greatest or Moderate</td>
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<td>Yes</td>
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</tr>
<tr>
<td>Good or Fair</td>
<td>Greatest, Moderate, or Least</td>
<td>$\geq 5$</td>
<td>Yes</td>
<td>“Makes a difference”</td>
<td></td>
</tr>
<tr>
<td>Insufficient</td>
<td>Insufficient designs or execution</td>
<td>Too few</td>
<td>No</td>
<td>Small</td>
<td></td>
</tr>
</tbody>
</table>
Task Force Recommendation Options

- **Recommend**
  - Strong Evidence of effectiveness
  - Sufficient Evidence

- **Recommend against**
  - Strong Evidence that it is ineffective
  - Sufficient Evidence

- **Insufficient evidence**
  - To determine it is effective or ineffective
What Population-Based and Health System Interventions are Effective in Increasing Breast, Cervical, and Colorectal Cancer Screening?
Initial Steps

1. Looked for evidence of effectiveness of breast, cervical, colorectal cancer screening
   Guide to Clinical Preventive Services

2. Grouped interventions into strategies:
   a) Client-directed
      1) Increase community demand
         • Knowledge/awareness, perception/fear/attitude, motivation, forgetfulness
      2) Increase community access
         • Time, location, transportation, scheduling
         • Out-of-pocket cost
   b) Increase service delivery by health providers
      • Provider-client interaction
Initial Steps (cont’d)

3. Team prioritized interventions
   • Using a standardized (ranking process)

4. Team decision: by cancer site or across sites?
   a) Client-directed interventions: by cancer site
      • Differences in target populations by site
   b) Provide-directed interventions: collectively
      • Less dependent on client barriers and screening test
Increasing Community Demand:

- Client reminder
- Client incentive
- Mass media
- Small media
- Group education
- One-on-one education
Increasing Community Access:

- Reduce structural barriers
- Reduce out-of-pocket cost to client
Increasing Provider Delivery:

- Provider reminder
- Provider assessment and feedback
- Provider incentive
Increasing Community Demand: Conceptual Approach

- **Increase demand** e.g., reminder, small media, group education
- **Change Knowledge**
- **Attitudes Intentions**
- **Increase completed screening** (Early detection)
- **Follow-up Diagnosis Treatment**
- **Decrease Morbidity Mortality**

Other benefits or harms?

Efficacy Established
Increasing Community Access: Conceptual Approach

- Other benefits or harms?
- Increase access e.g., mobile mammography, insurance benefit
- Change client Attitudes Intentions

Efficacy Established

- Increase completed screening (Early detection)
- Follow-up Diagnosis Treatment
- Decrease Morbidity Mortality

Other benefits or harms?
Increasing Provider Delivery: Conceptual Approach

Provider role e.g., reminder, assessment & feedback

- Other benefits or harms?
- Change provider knowledge, attitudes, intentions
- Increase discussion of test with clients
- Increase test offering/ordering
- Change client knowledge, attitudes, intentions
- Increase completed screening (Early detection)

Efficacy Established

Follow-up diagnosis/treatment

Decrease morbidity, mortality

Other benefits or harms?
Step 1. Search databases using key terms
> 9000 citations found

Step 2. Screen titles and abstracts
~ 580 articles/studies pass screen

Step 3. Screen article text*
244 studies pass screen ("Candidate studies")

Step 4. Sort by intervention:
- Client reminders
- Small media
- Client incentives
- Group education
- Mass media
- One-on-one education
- Reducing out-of-pocket cost
- Reducing structural barriers
- Provider reminders
- Provider incentives
- Provider assessment & feedback
- Multi-component interventions

*Inclusion criteria: published in English; primary study; one or more selected interventions; one or more selected outcomes; suitable comparison
Increasing Community Demand: Client Reminder

- Printed (letter or postcard) or telephone messages advising people they are:
  - Due (reminder) for screening
  - Late (recall) for screening

- May be enhanced by:
  - A follow up printed or telephone reminder
  - Additional text or discussion about
    - Indications for screening
    - Benefits of screening
    - Overcoming barriers to screening
  - Assistance scheduling appointments
  - Tailoring
## Body Of Evidence: Client Reminders for Colorectal Cancer Screening

<table>
<thead>
<tr>
<th>Quality of Execution</th>
<th>Greatest</th>
<th>Moderate</th>
<th>Least</th>
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</thead>
<tbody>
<tr>
<td><strong>Good</strong> (0 – 1 Limitations)</td>
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<tr>
<td><strong>Limited</strong> (5+ Limitations)</td>
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<td>0</td>
<td>0</td>
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</tbody>
</table>

1 study excluded because comparison group also received reminder
Effectiveness of Client Reminders for Increasing FOBT

Median: 11.5 pct pt (IQI: 8.9–20.3)

- Vinker ‘02b
- Vinker ‘02a
- Hogg ‘98
- Myers ‘91b
- Myers ‘91a
- Thompson ‘86c
- Thompson ‘86b
- Thompson ‘86a

Percentage point change in FOBT completion
Client Reminders: Applicability

- **Studies:** HMOs in US, clinics in Canada & Israel

- **Limited/no description of:**
  - SES, racial-ethnic, screening backgrounds of study participants
  - Geographic settings of studies

- **Studies of client reminders for breast, cervical screening suggest broad applicability**
Client Reminders: Conclusions

- **FOBT:**
  - Recommended
  - Sufficient evidence

- **Flexible sigmoidoscopy, colonoscopy, barium enema:**
  - Insufficient evidence
  - No qualifying studies
Increasing Community Demand: Small Media

- Videos or Printed materials
  - Letters, brochures, pamphlets, flyers, newsletters

- Distributed from healthcare or community settings

- Educational or motivational information
  - Based on behavior change theories

- May be tailored or untailored
### Body Of Evidence: Small Media for Colorectal Cancer Screening

<table>
<thead>
<tr>
<th>Quality of Execution</th>
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<tbody>
<tr>
<td><strong>Good</strong> (0 – 1 Limitations)</td>
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<tr>
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<td><strong>Limited</strong> (5+ Limitations)</td>
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<td>0</td>
</tr>
</tbody>
</table>

Candidate Studies for Small Media  
(*n* = 9 FOBT)  
(*n* = 0 flex sigmoidoscopy, colonoscopy, barium enema)  
Qualifying Studies (*n* = 7)
Effectiveness of Small Media in Increasing FOBT

Kramish-Campbell ‘04
Powe ‘02b
Powe ‘02a
Hart ‘97
Dickey ‘92
Lee ‘91
Pye ‘88b
Pye ‘88a

-10  -5   0    5    10   15   20   25   30   35   40   45   50   55   60

Percentage point change in FOBT completion

Median: 12.7 pct pt
(IQI: 0–26.4)

p<0.05
△ NS

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CDC

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-10  -5   0    5    10   15   20   25   30   35   40   45   50   55   60

Percentage point change in FOBT completion

Median: 12.7 pct pt
(IQI: 0–26.4)

p<0.05
△ NS

CDC
Small Media: Applicability

- Studies in UK and US

- Study participants
  - White, African-American
  - Some low SES
  - Urban and rural
  - Clinical and community settings

- Suggest broad applicability

- Only one tailored intervention
Small Media: Conclusions

- **FOBT:**
  - Recommended
  - Strong evidence

- **Flexible sigmoidoscopy, colonoscopy, barium enema:**
  - Insufficient evidence
  - No qualifying studies
Increasing Community Access: Reduce Structural Barriers

- Reduce time or distance to delivery setting
- Modify hours of service to meet client needs
- Offer services in alternative, nonclinical setting
  - E.g., mobile vans
- Eliminate/simplify administrative procedures
  - E.g., scheduling help, transportation, translation

- Sometimes secondary supporting measures
  - Information or education
  - Measures to reduce out-of-pocket costs
Body Of Evidence: Reducing Structural Barriers, Colorectal Cancer Screening

<table>
<thead>
<tr>
<th>Quality of Execution</th>
<th>Greatest</th>
<th>Moderate</th>
<th>Least</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Good</strong> (0 – 1 Limitations)</td>
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<td><strong>Limited</strong> (5+ Limitations)</td>
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</tbody>
</table>

Candidate Studies for Reducing Structural Barriers (n = 7 FOBT)  
(n = 0 flex sigmoidoscopy, colonoscopy, barium enema)  
Qualifying Studies (n = 7)

Suitability of Study Design

- **Greatest**
- **Moderate**
- **Least**
Effectiveness of Reducing Structural Barriers in Increasing FOBT Completion

- Church '04 I₁
- Church '04 I₂
- Plaskon '95
- Freedman '94 I₁
- Freedman '94 I₂
- Miller '93
- King '92 I₁
- King '92 I₂
- King '92 I₃
- Mant '92 I₁
- Mant '92 I₂
- Ore '91

Percentage point change in FOBT completion

Median: 16.1 pct pt (IQR: 12.1-22.9 pct pt)

p<0.05

NS
Reducing Structural Barriers

Within study comparisons:
- More effective if include:
  - Invitation to attend a clinic
  - Pre-paid postage on return mailer
  - Follow-up telephone reminder

Applicability:
- Studies in US, UK, Australia, Israel
- Clinical settings
- Urban and rural
- White and African-American
- Suggest broad applicability
Reducing Structural Barriers: Conclusions

- FOBT:
  - Recommended
  - Strong evidence

- Flexible sigmoidoscopy, colonoscopy, barium enema:
  - Insufficient evidence
  - No qualifying studies
Inform, cue, or remind providers or other health care professionals that individual clients are:
- Due (reminder) for screening, or
- Overdue (recall) for screening

- Notes in client charts or
- Memorandum or letter
## Body Of Evidence For Provider Reminders

<table>
<thead>
<tr>
<th>Quality of Execution</th>
<th>Candidate Studies for Provider Reminder Review (n = 36)</th>
<th>Qualifying Studies (n = 25)</th>
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<tr>
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<td><strong>Suitability of Study Design</strong></td>
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<td><strong>Moderate</strong></td>
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</tr>
<tr>
<td><strong>Limited</strong> (5+ Limitations)</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>
Provider Reminders to Increase Screening for Breast, Cervical, Colorectal Cancers

- **Mammography**
  - Median: 12.0 pct pt
  - IQI: 5.5, 19.9

- **Pap**
  - Median: 4.7 pct pt
  - IQI: 2.6, 10.6

- **FOBT & Flex Sig**
  - Median: 17.6 pct pt

---

**Absolute (percentage point) change in test completion**

- **p** 0.05
- **NS**
Provider Reminders: Applicability

- US, Italy, UK, Canada, Australia, and Israel
- University hospitals, clinics, HMOs, and independent offices
- Urban and rural
- White and African-American (clients)
- Physician trainees (residents/interns) and non-trainees
- Due and overdue for screening
Provider Reminders

- **Barriers**
  - Access to electronic/computerized records
  - Perceived physician time investment

- **Other benefits/harms**
  - May increase utilization of other preventive services
  - No harms reported
For breast, cervical, colorectal (FOBT and flexible sigmoidoscopy)

- **Recommended**
- **Strong evidence**
## Evidence of Effectiveness for Cancer Screening Interventions

<table>
<thead>
<tr>
<th>Community Demand:</th>
<th>Breast</th>
<th>Cervical</th>
<th>Colorectal</th>
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<tbody>
<tr>
<td>Client reminder</td>
<td>Strong</td>
<td>Strong</td>
<td>Sufficient</td>
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<tr>
<td>Client incentive</td>
<td>Insufficient*</td>
<td>Insufficient*</td>
<td>Insufficient*</td>
</tr>
<tr>
<td>Mass media</td>
<td>Insufficient*</td>
<td>Insufficient**</td>
<td>Insufficient*</td>
</tr>
<tr>
<td>Small media</td>
<td>Strong</td>
<td>Strong</td>
<td>Strong</td>
</tr>
<tr>
<td>Group education</td>
<td>Insufficient†</td>
<td>Insufficient**</td>
<td>Insufficient†</td>
</tr>
<tr>
<td>One-on-one education</td>
<td>Strong</td>
<td>Strong</td>
<td>Insufficient**</td>
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<thead>
<tr>
<th>Community Access:</th>
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</thead>
<tbody>
<tr>
<td>Reduce structural barrier</td>
<td>Strong</td>
<td>Insufficient**</td>
<td>Strong</td>
</tr>
<tr>
<td>Reduce out-of-pocket expense</td>
<td>Sufficient</td>
<td>Insufficient**</td>
<td>Insufficient*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provider Role:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Provider reminder</td>
<td>Strong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provider assessment &amp; feedback</td>
<td></td>
<td>Sufficient</td>
<td></td>
</tr>
<tr>
<td>Provider incentive</td>
<td></td>
<td>Insufficient**</td>
<td></td>
</tr>
</tbody>
</table>

Reason evidence insufficient:
* No studies
** Too few studies
† Inconsistent findings
What to Do with Insufficient Evidence

- If the intervention is currently being used
  - May want to continue using it if there are no associated harms
  - May choose to stop due to issues such as cost

- If the intervention is not being used
  - May not want to begin using it

- Consider:
  - Are there better-documented alternatives for reaching the same goals?
Still Have to Make Tradeoffs and Judgment Calls

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For More Information

n Community Guide website:  
www.thecommunityguide.org

n American Journal of Preventive Medicine

n Shawna Mercer, Community Guide Director  
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RBaron@cdc.gov

The findings and conclusions in this presentation are those of the presenter and do not necessarily represent the views of CDC.