

# An Overview of Screening and Prevention Interventions for Rural Populations: *What has worked?*

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# Acknowledgements

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- University of Virginia Cancer Center
  - Karen S. Rheuban Center for Telehealth at UVA
  
- Support for this webinar is provided the Patient-Centered Outcomes Research Institute (PCORI) Eugene Washington Engagement Award Program (Contract #10254)
  - *“Cancer Center without Walls: Advancing Patient-Centered Research for Cancer Control in Rural Virginia”*

# PCORI Engagement Contract

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- Cancer Center Without Walls (CCWW): Community Advisory Board of Southwest Virginia
  - Originated in 2013
  - Represent a variety of public, private and government sectors
  - Dedicated to solving regional cancer-related concerns and expanding action-based and patient-centered cancer research
  
- Purpose of the Engagement Contract
  - Build and strengthen research capacity among CCWW for Cancer Prevention and Early Detection
  - Identify actionable, research priorities based on local data and stakeholder/patient input
  - Advance the community capacity of Community Action Teams to conceptualize, plan, mobilize resources, and execute cancer control projects in their communities

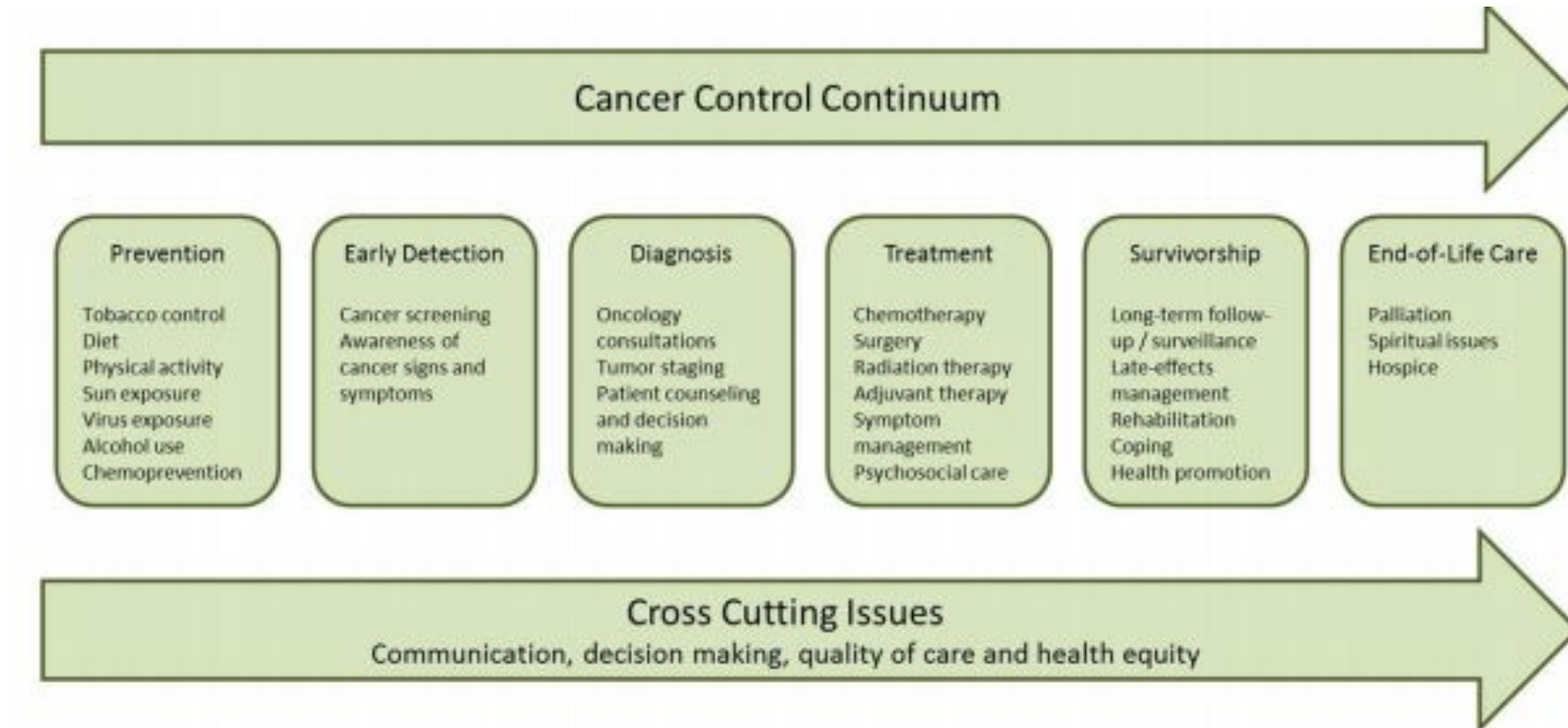
# Objectives & Presentation Flow

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- Objectives
  - Attendees will become aware of screening and prevention interventions that have been successful in other rural communities
  - Attendees will reflect on how interventions like these might fit in their own communities
  
- Webinar Structure
  - Why focus on evidence-based prevention and screening interventions in rural (Appalachian) communities?
  - Cancer Prevention
  - Cancer Screening
  - Q & A
  
- Please note: This presentation is being recorded.

# Important Terms

- **Cancer Control:** The continuum of cancer control includes prevention, detection, diagnosis, treatment, and survivorship. This continuum provides a comprehensive perspective to decrease incidence and mortality.



# Important Terms

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- **Cancer Prevention:** Actions that reduce risk for the development of cancer
- **Incidence:** Number of new cases confirmed
- **Mortality:** Number of deaths; often presented as a percentage
- **Behavioral Interventions:** Interventions (or programs) that are intended to change participants behaviors related to risk reduction and/or screening behaviors. They can be programs using group classes, counseling programs, technology, informational campaigns, marketing campaigns, etc...

# Why are we doing this?

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Framing the Discussion

# What We Know: National Trends

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- Rural areas have **lower incidence rates** of new cancers than urban areas.

|            | Rural incidence compared to urban |
|------------|-----------------------------------|
| Breast     | ↓                                 |
| Prostate   | ↓                                 |
| Lung       | ↑                                 |
| Colorectal | ↑                                 |
| Cervical   | ↑                                 |

- Rural areas have **higher mortality rates** from cancers than urban areas.



# What We Know: Appalachian Context

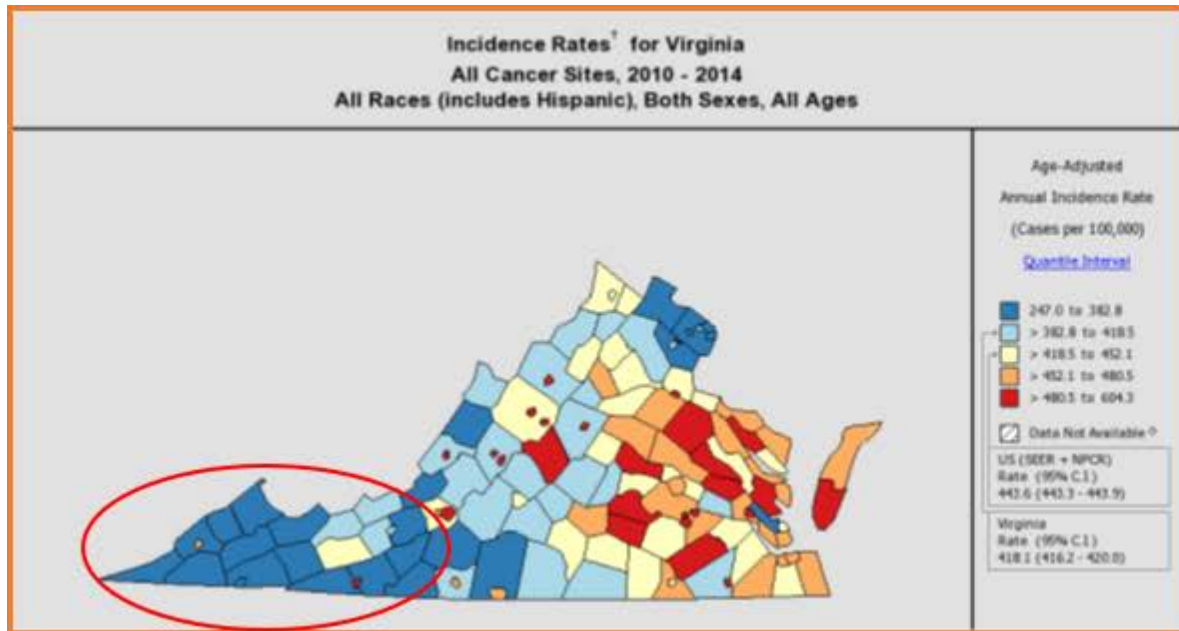
| State        | Cervical Cancer Mortality Rates (female) |                | Lung Cancer Mortality Rates (female and male combined) |                | Colorectal Cancer Mortality Rates (female and male combined) |                |
|--------------|--|----------------|--|----------------|--|----------------|
|              | Appalachia                               | Non-Appalachia | Appalachia   | Non-Appalachia | Appalachia   | Non-Appalachia |
| Kentucky     | 3.1                                      | 2.7            | 88.2   | 75.1           | 22.2   | 21.9           |
| Ohio         | 2.9                                      | 2.4            | 64.2   | 59.3           | 21.3   | 19.7           |
| Pennsylvania | 2.2                                      | 2.4            | 53.4   | 53.2           | 20.1   | 16.8           |
| Virginia     | 2.1                                      | 2.1            | 72.7   | 54.7           | 16.6   | 15.3           |

# What We Know: Appalachian Context

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| Ohio         | 2.9                                      | 2.4            | 64.2   | 59.3           | 21.3   | 19.7           |
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# What We Know: Appalachian Virginia

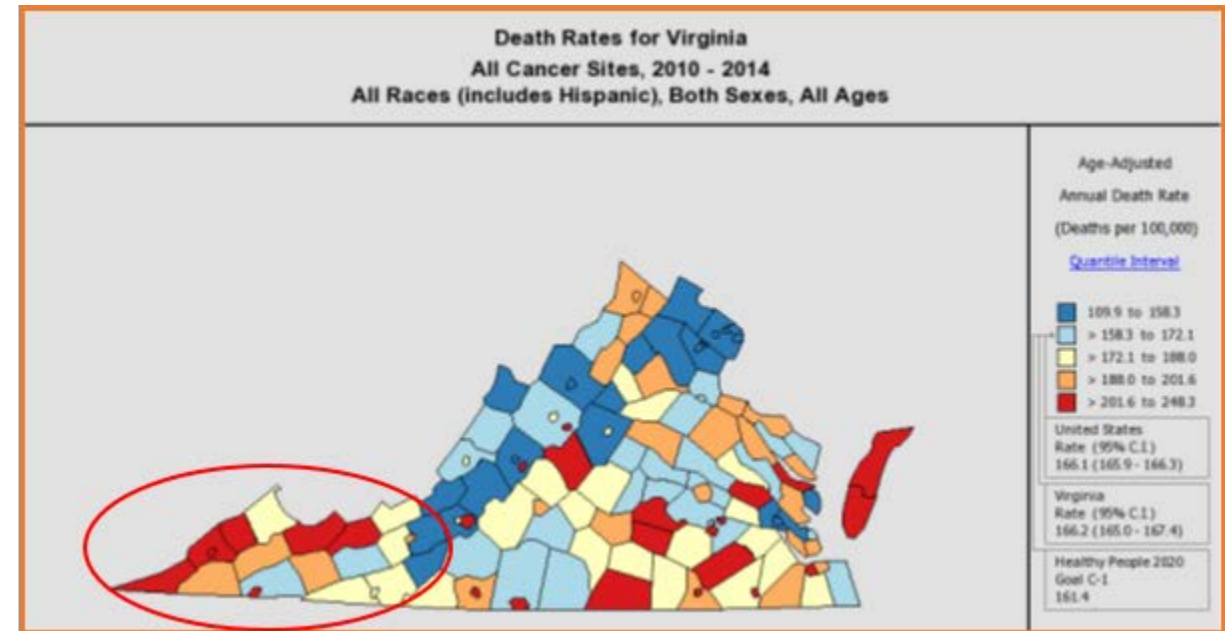
- Lower incidence rates of new cancers



# What We Know: Appalachian Virginia

➤ Lower incidence rates of new cancers

➤ Higher mortality rates



# What We Know: Rural Appalachian Context

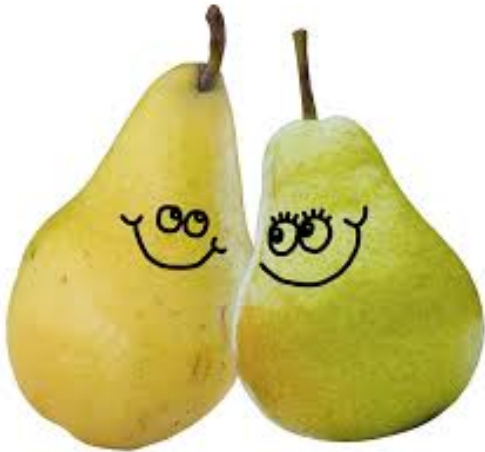
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- Lower screening rates
- High rates poor health behaviors (tobacco use, low fruit & vegetable intake, inactivity)
- High prevalence of other health concerns (e.g., obesity, diabetes)
- Limited access to general and cancer-specific medical care
- Social determinants of health (e.g., poverty, low education, insurance rates).
- Individual-level and system-level barriers that limit ability and motivation to seek care
- Barriers to transportation and barriers to connecting with technology

**Take a moment to  
think about .....**

**your community and the  
people who live there...**

**the organizations that  
promote the health of  
your community...**



# **Cancer Prevention Research in Rural Areas**

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# Evidence-based programs

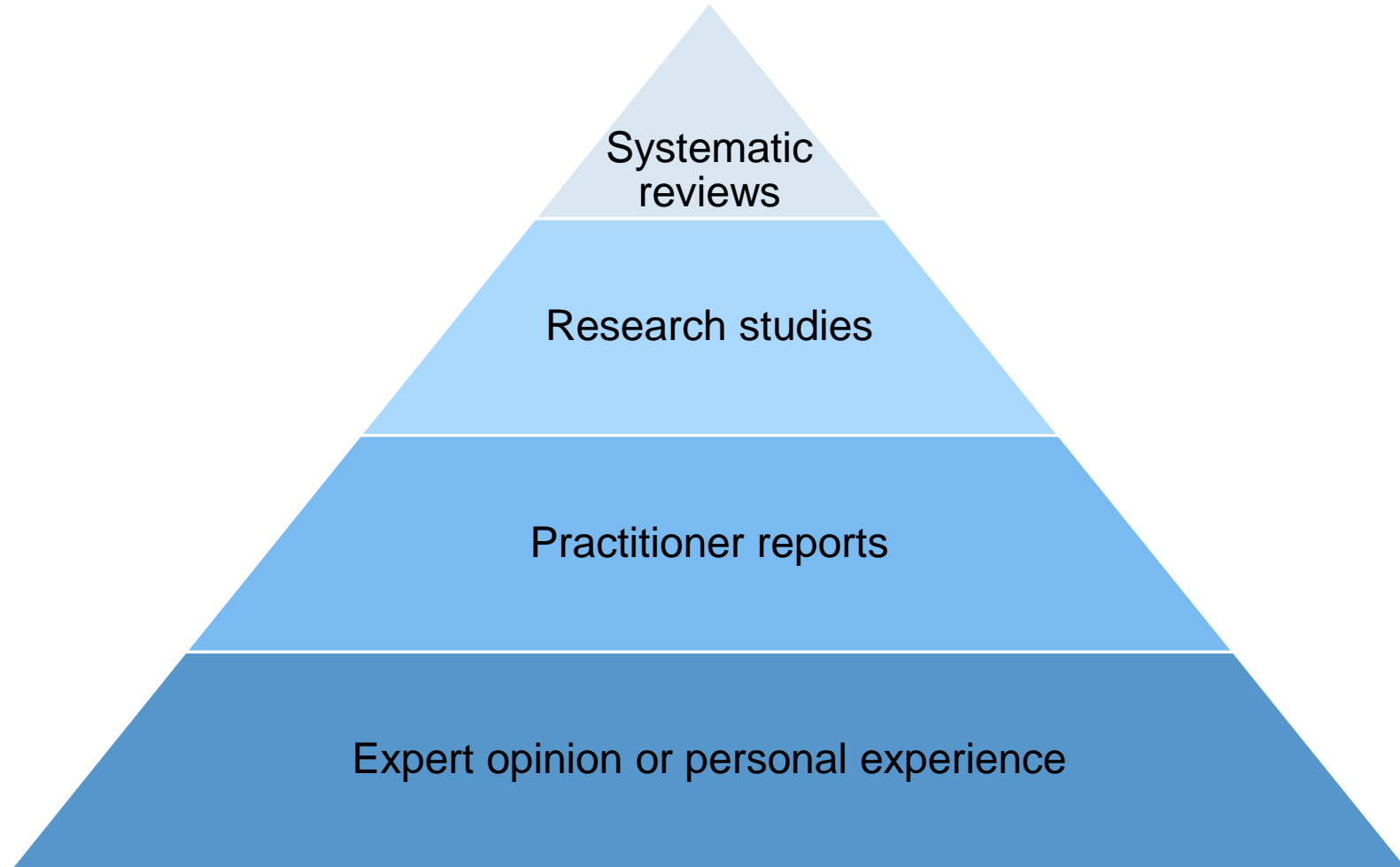
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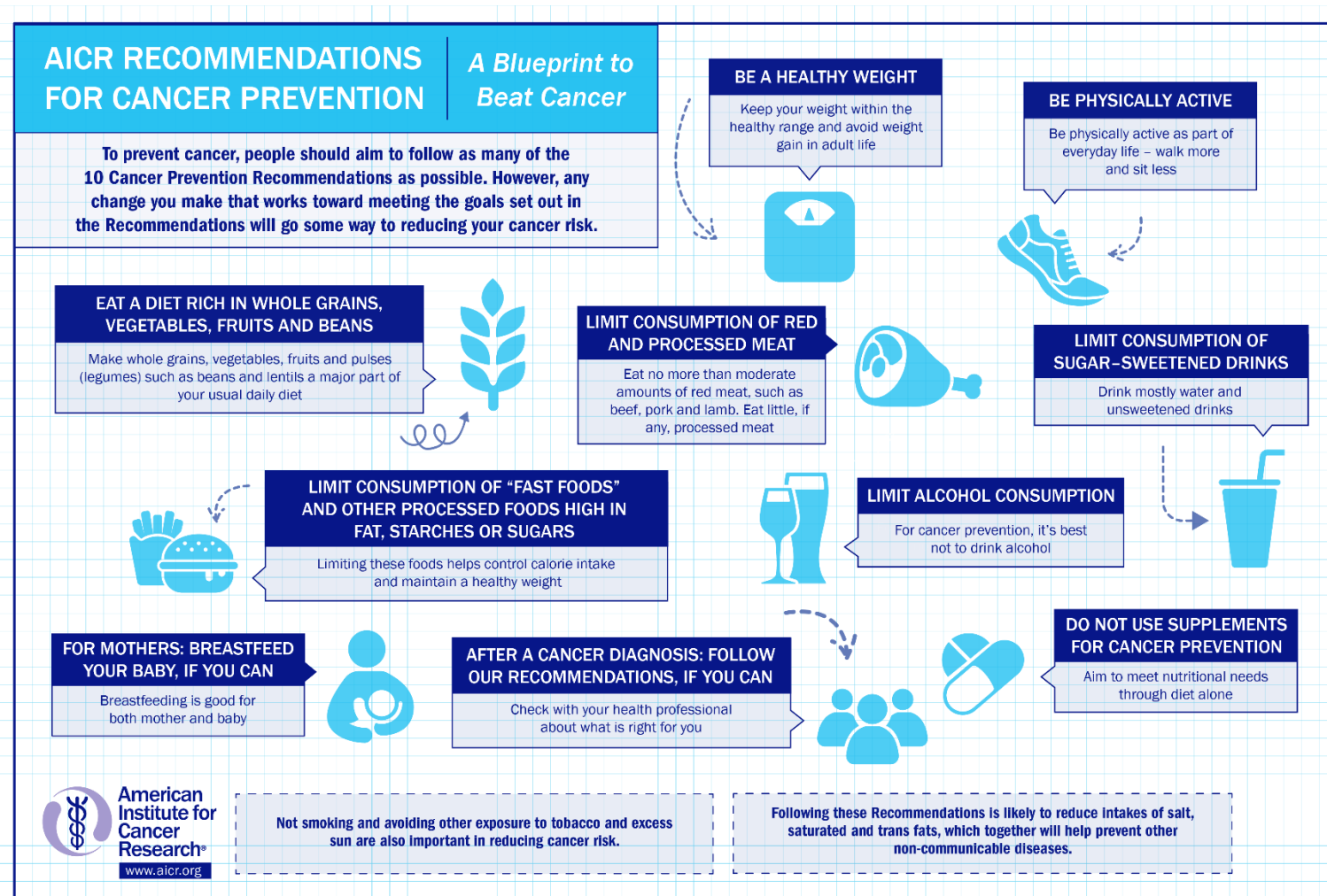


# Types of Evidence

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# Health behaviors that reduce cancer risk



# Health behaviors that reduce cancer risk

| Health Behavior (Recommendations)                                       | Rates in SWVA |
|---|---------------|
| 1. Not using tobacco products   |               |
| 2. Maintaining a healthy weight   |               |
| 3. Physical activity (150 minutes/week and 2 days of strength training) |               |
| 4. Nutrition: ↑ fruits and vegetables                                   |               |
| 5. Nutrition: ↑ fiber   |               |
| 6. Nutrition: ↓ fat   |               |
| 7. Nutrition: ↓ processed foods   |               |
| 8. Nutrition: ↓ sugary drinks   |               |
| 9. Limit alcohol intake   |               |
| 10. Sun safety  |               |
| 11. Communication with medical providers                                |               |

# Health behaviors that reduce cancer risk

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| 4. Nutrition: ↑ fruits and vegetables                                   |                                    |
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| 4. Nutrition: ↑ fruits and vegetables                                   | <b>40% and 22% consume &lt;1 serving/day</b> |
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| 4. Nutrition: ↑ fruits and vegetables                                   | 40% and 22% consume <1 serving/day                                |
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| 7. Nutrition: ↓ processed foods   |  |
| 8. Nutrition: ↓ sugary drinks   | 4x the recommendations                                     |
| 9. Limit alcohol intake   | <b>7.3% report dependence</b>                              |
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# Health behaviors that reduce cancer risk

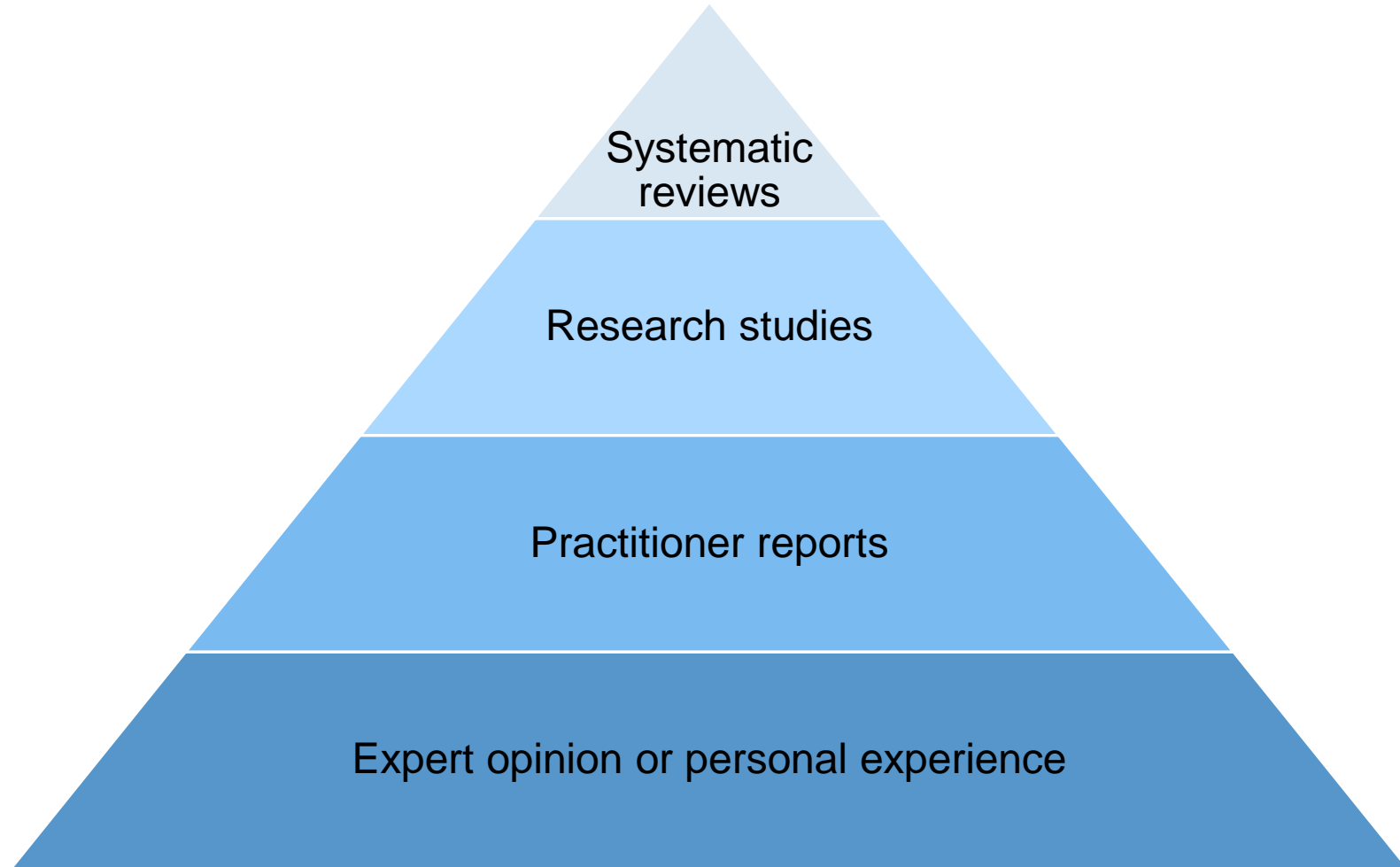
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| 11. Communication with medical providers                                | <b>evidence that Appalachians avoid their providers more than in other areas</b> |

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# Types of Evidence

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# Research & Practice Create Evidence

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Evidence derived  
from research

- Interventions that have been tested in a research study
- Systematic review of multiple interventions
- Policy analysis

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## Evidence derived from research

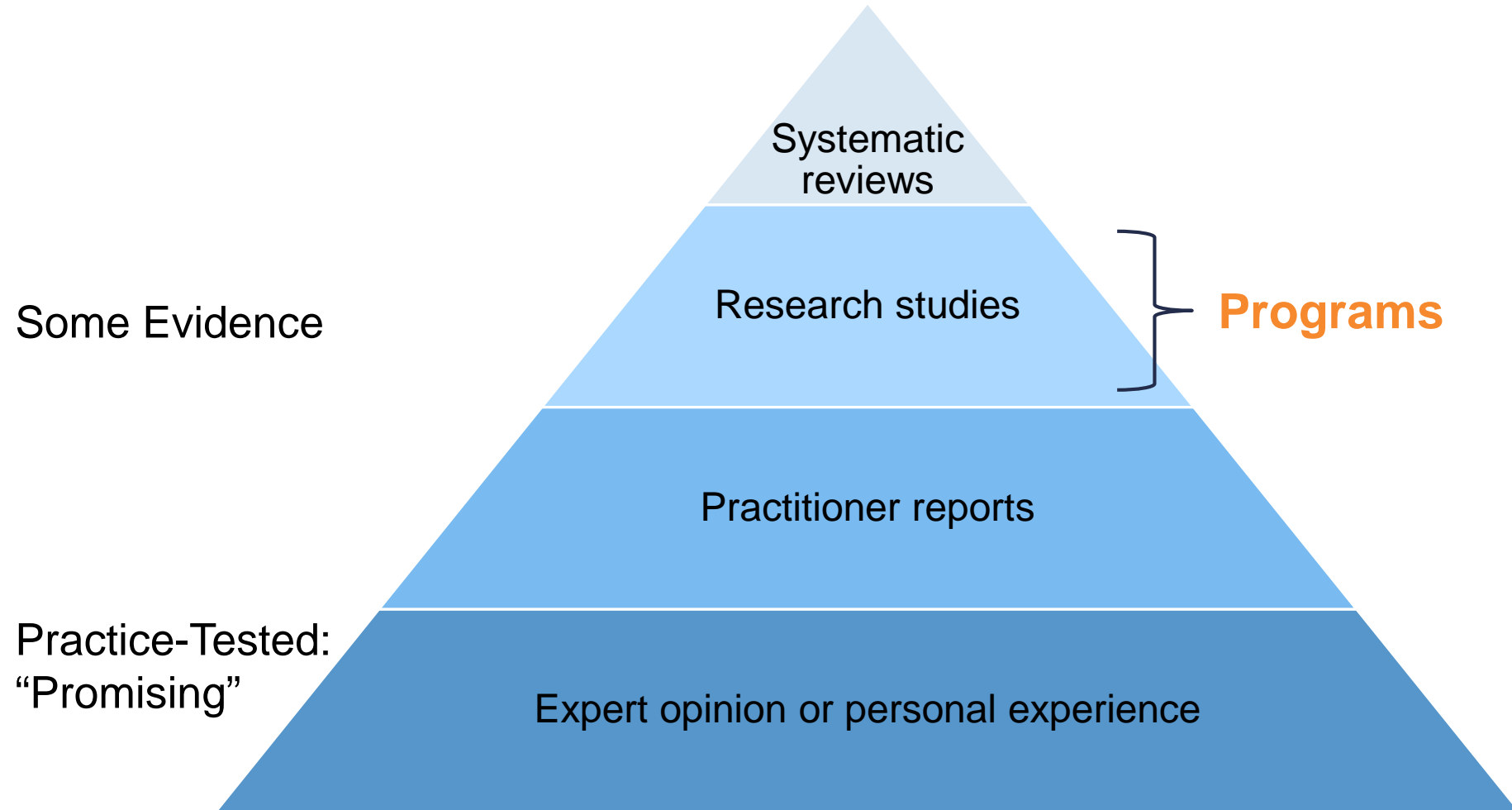
- Interventions that have been tested in a research study
- Systematic review of multiple interventions
- Policy analysis

## Evidence derived from practice

- Intervention developed, implemented and evaluated in an organization, community or geographic region

# Types of Evidence

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# Sample Evidence-Based Behavioral Programs

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- **Weight Management:** Healthy Body Health Spirit, Keep It Off!
- **Nutrition:** SIPsmartER, Eat for Life, Little by Little
- **Physical Activity:** Fit and Strong!, Wheeling Walks, FitEx
- **Tobacco:** Not-On-Tobacco Program (N-O-T), Pathways to Change, CEASE
- **Sun Safety:** Sun Safe

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# Sample Effective Programs

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**Name**

Target  
behavior

---

Audience

---

Length

---

Components

---

# Sample Effective Programs

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| Name            | FitEx  |
|-----------------|--|
| Target behavior | Increasing physical activity & fruit/vegetable intake  |
| Audience        | Sedentary individuals  |
| Length          | 8-weeks  |
| Components      | <ul style="list-style-type: none"><li>▪ On-line program</li><li>▪ Individuals work in teams of 6</li><li>▪ Set personal goals based on needs and track weekly</li><li>▪ Friendly competition → achieving team and county goals</li></ul> |

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# Sample Effective Programs

| Name            | FitEx   | Wheeling Walks   |
|-----------------|---|--|
| Target behavior | Increasing physical activity & fruit/vegetable intake   | Increasing physical activity (walking)   |
| Audience        | Sedentary individuals   | Sedentary older adults in rural communities  |
| Length          | 8-weeks   | 12 months (8 weeks with 2 4-week boosters) & 12 weeks planning   |
| Components      | <ul style="list-style-type: none"> <li>▪ On-line program</li> <li>▪ Individuals work in teams of 6</li> <li>▪ Set personal goals based on needs and track weekly</li> <li>▪ Friendly competition → achieving team and county goals</li> </ul> | <ul style="list-style-type: none"> <li>▪ Community coordination</li> <li>▪ Newspaper ads</li> <li>▪ PR events</li> <li>▪ Provider prescriptions</li> <li>▪ Worksite challenges</li> <li>▪ Website with events</li> </ul> |

# Sample Effective Programs

| Name            | FitEx   | Wheeling Walks  | Keep It Off   |
|-----------------|---|---|---|
| Target behavior | Increasing physical activity & fruit/vegetable intake   | Increasing physical activity (walking)  | Weight maintenance (diet and PA)  |
| Audience        | Sedentary individuals   | Sedentary older adults in rural communities   | Adults who have lost 10% of their weight  |
| Length          | 8-weeks   | 12 months (8 weeks with 2 4-week boosters) & 12 weeks planning  | 2 years   |
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| Length          | 8-weeks   | 12 months (8 weeks with 2 4-week boosters) & 12 weeks planning  | 2 years   | 2-3 minutes for patient ~6 hours for clinic staff*  |
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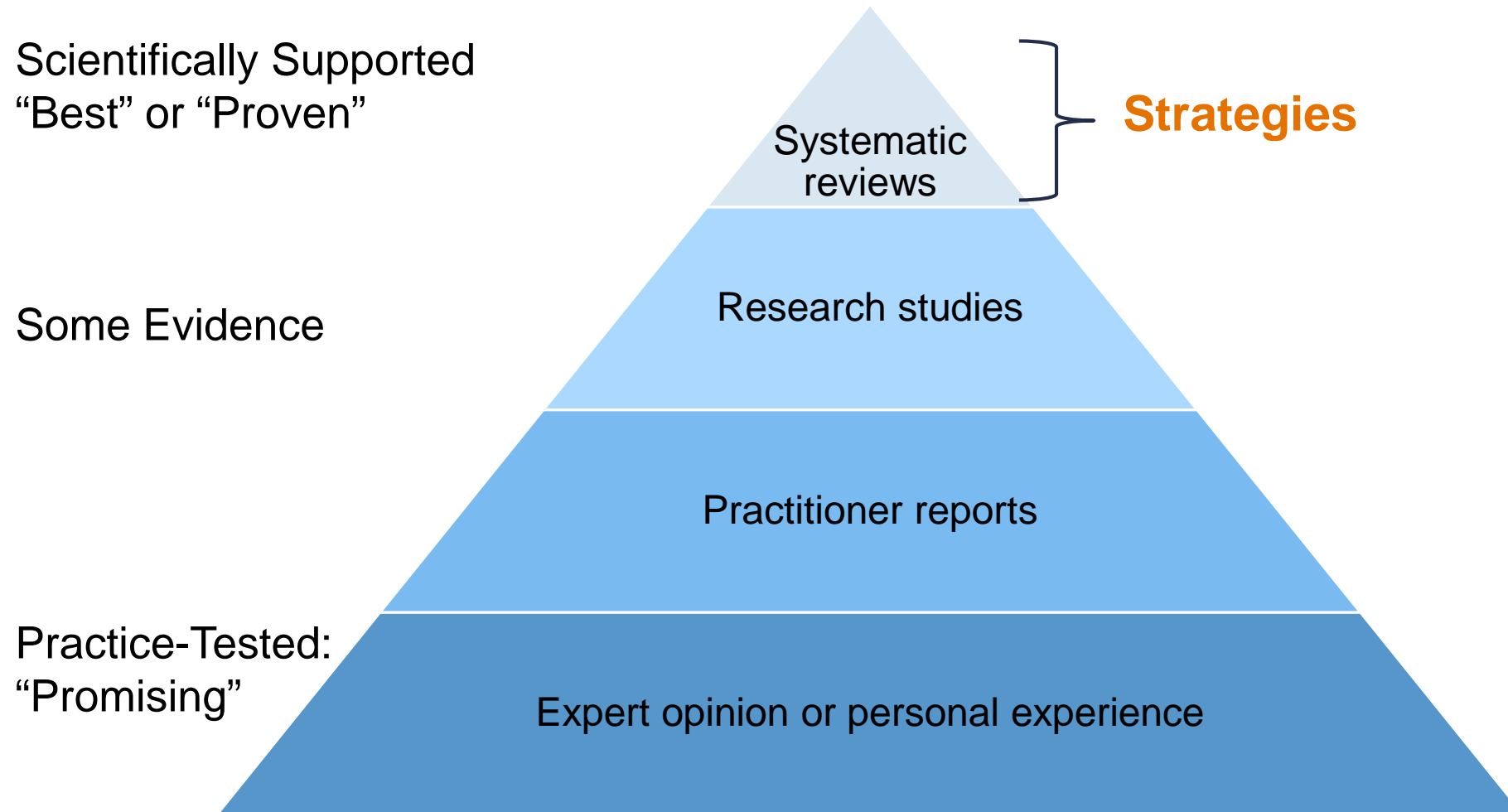
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# Types of Evidence

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# Evidence-based strategies

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- Behaviorally-focused
- Theory-based
- Multi-component
- Target multiple levels (individual, interpersonal, environmental)
- Incorporate self-monitoring techniques

*Strategies cut across behavioral interventions (not just cancer prevention)*

# **Screening and Early Detection: Rural Context**

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# Screening Recommendations

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- Where do recommendations come from:
  - United States Preventive Services Task Force (USPSTF)
  - Specialty Organizations have differing recommendations
    - ✓ For example, ASCCP, SWOG, ACOG
  
- Implications for providers
  
- Implications for patients

# Current Screening Recommendations: USPSTF

| Cancer Type | Year of Recommendation | Recommendation   |
|-------------|------------------------|--|
| Breast      | 2016                   | <ul style="list-style-type: none"><li>• Women aged 50-74: Biennial screening mammography</li></ul>   |
| Cervical    | 2018                   | <ul style="list-style-type: none"><li>• Women ages 21-29: Pap test every 3 years</li><li>• Women ages 30-65: Either a Pap test (every 3 years), an HPV test (every 5 years), or a Pap+HPV test (every 5 years)</li></ul>                                     |
| Colorectal  | 2008                   | <ul style="list-style-type: none"><li>• Adults ages 50-75: screening through fecal occult blood testing, sigmoidoscopy, or colonoscopy.</li></ul>  |
| Lung        | 2013                   | <ul style="list-style-type: none"><li>• Adults ages 55-80 with a 30 pack-year smoking history and/or currently smoking: Recommend annual screening with low-dose computed tomography &amp; discontinue once the person has not smoked for 15 years</li></ul> |

➤ Other Screening Guidelines: <https://www.uspreventiveservicestaskforce.org/>

# Barriers to Screening in Rural Areas & Strategies to Mitigate

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## Barriers to screening in rural settings

- Distance
- Time
- Embarrassment
- Cost/insurance status

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- Distance
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## Strategies to mitigate barriers to screening

- Mobile Health
  - Mobile Mammography
  - Episodic Clinics (important considerations for follow-up)
- Telemedicine/Telehealth
- Promoting health literacy

# Where can we find effective programs?

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- Research-tested Intervention Programs (RTIPs):  
<https://rtips.cancer.gov/rtips/index.do>
- National Institutes of Health/National Cancer Institute
  - Rural Cancer Control: <https://cancercontrol.cancer.gov/research-emphasis/rural.html>
- Literature searches



# Screening/Early Detection Research in Rural Areas

| Program  | Type of Cancer   | Main Take-Away Points   |
|--|--|---|
| Mobile Mammography (multiple locations)  | <u>Breast</u> : Analyzed mammograms provided at Cancer Center versus those performed through mobile mammography unit in South Carolina (including rural)   | Compared to those who sought mammograms at the cancer center, mobile unit attendees were younger, less likely to be up to date with screening, more diversity.                      |
| My Body My Test (MBMT), UNC, Increasing access to cervical cancer screening for underscreened women    | <u>Cervical</u> : Explored acceptability of mailed HPV self-collection for screening in underscreened women throughout North Carolina (including rural)    | Underscreened women were mailed kits to collect HPV sample. Highly acceptable, higher positive perceptions in rural women (79% of sample).  |
| Colorectal Cancer Education, Screening and Prevention Program (CCESP): Empowering Communities for Life | <u>Colorectal</u> : Designed to increase screening among adults 50-75 who were underscreened, study conducted in the Mississippi Delta of Arkansas (rural) | Compared with study team educational intervention, participants were more likely to get screened if provided educational intervention by community health worker and if given FOBT. |

# Highlight: Cervical Cancer Screening in Appalachia

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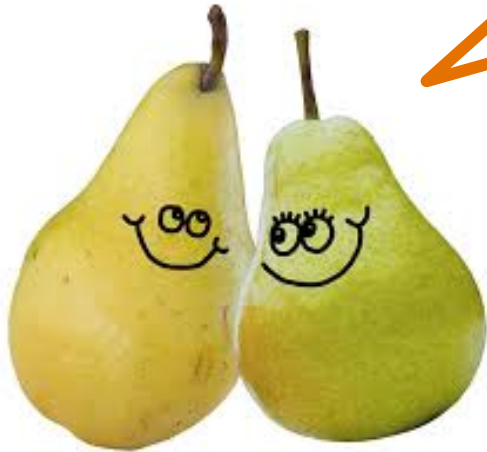
## ➤ Faith Moves Mountains (2012)

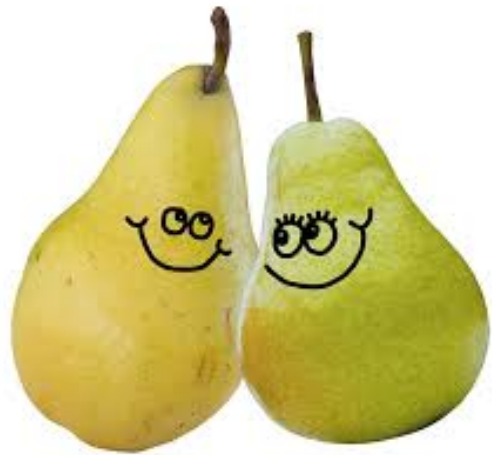
- Women in rural Appalachia have higher rates (incidence/mortality) and lower screening participation for cervical cancer
  - ✓ Barriers include: Poverty, isolation/transportation, housing/environmental/occupational hazards, limited access to health care and education.
- In other settings faith-based partnerships have led to successful intervention partnerships and increased health outcomes.
- FMM is a community-based intervention through lay health advisors (LHAs) targeting women 40-64 in Appalachia, designed to increase Pap tests, subsequently reducing the incidence of cervical cancer.
- LHA worked with participant (tailored newsletter, home visit, barriers-assessment, navigation) and the study found that 17.6% of women in the intervention group did follow-up and receive Pap testing, and 11.2% of women in the delayed intervention group also followed up.

# Tying everything together

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**What interventions (or ideas  
from interventions) seem  
important for your community?  
Seem feasible for your  
community?**





Questions??

# National and Regional Resources

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- Cancer Prevention and Control Research Network
- National Cancer Institute's RTIPs (Research Tested Interventions & Programs)
- CDC's Rural Health Initiative.
- The Centers for Medicare and Medicaid Services' Rural Health Council
- Health Resources and Services Administration's Federal Office of Rural Health Policy
- Rural Cancer Prevention Center at the University of Kentucky (<https://www.uky.edu/rcpc/>)
- Central Highlands Appalachian Leadership Initiative on Cancer