

Program Science: US Initiative

Gail Bolan, MD

Director, Division of STD Prevention
National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention
Centers for Disease Control and Prevention

National STD Prevention Conference
March 12, 2012

No conflicts of interest

The findings and conclusions expressed in this presentation do not necessarily represent the official position of the Centers for Disease Control and Prevention or the Agency for Toxic Substances and Disease Registry

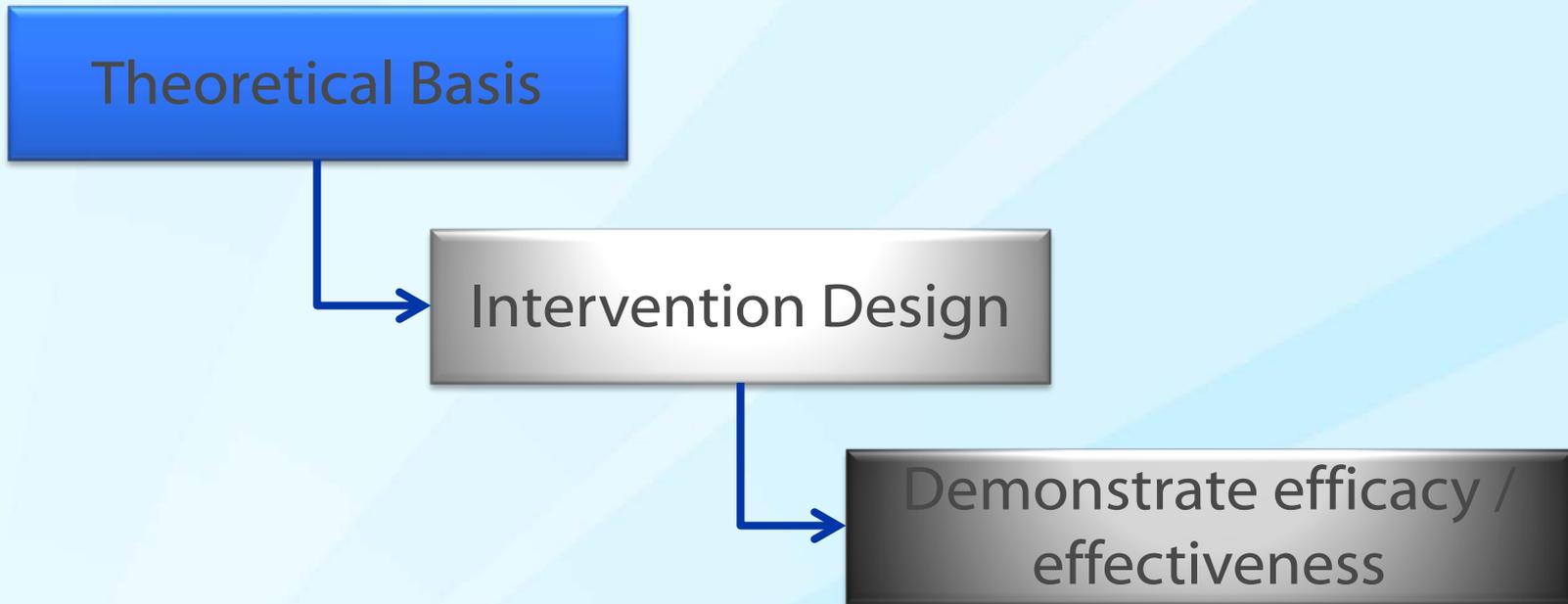
Overview

- Reflection on the scientific and public health approaches to STD/HIV prevention
- History of science-based STD prevention program approaches in the U.S.
- Challenges of the STD prevention program approaches
- US Program Science Initiative

Reflections on the scientific and public health approaches to STD prevention



“Research driven” approach to intervention design, implementation and assessment



Caveats:

- One intervention
- One well controlled context
- Well resourced

Translate, Implement and Scale Up
With “Fidelity”

“Public health driven” approach to program design, implementation and assessment

Problem
Identification

```
graph TD; A[Problem Identification] --> B[Design and Implement Interventions]; B --> C[Evaluate cost-effectiveness at program level];
```

Design and Implement
Interventions

Evaluate cost-effectiveness
at program level

Caveats:

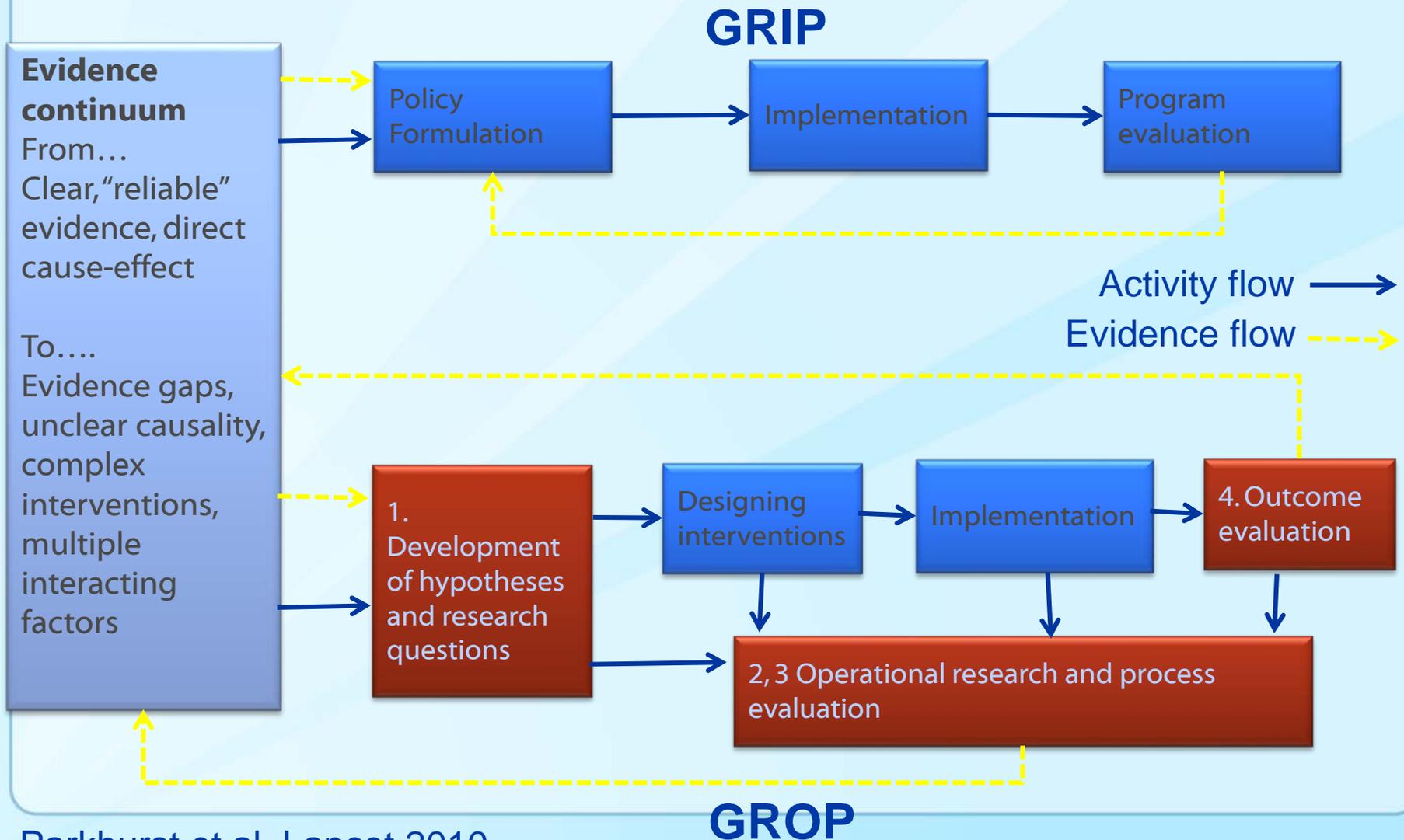
- Intuitive
- “One size doesn’t fit all”
- Resources and workforce capacity challenges
- Context is complex , fluid and heterogeneous:
epi, social, cultural, political

Differing Research Paradigms: “GRIP” to “GROP”¹

- “GRIP” – Getting Research Into Policy
- “GROP” – Getting Research Out of Practice

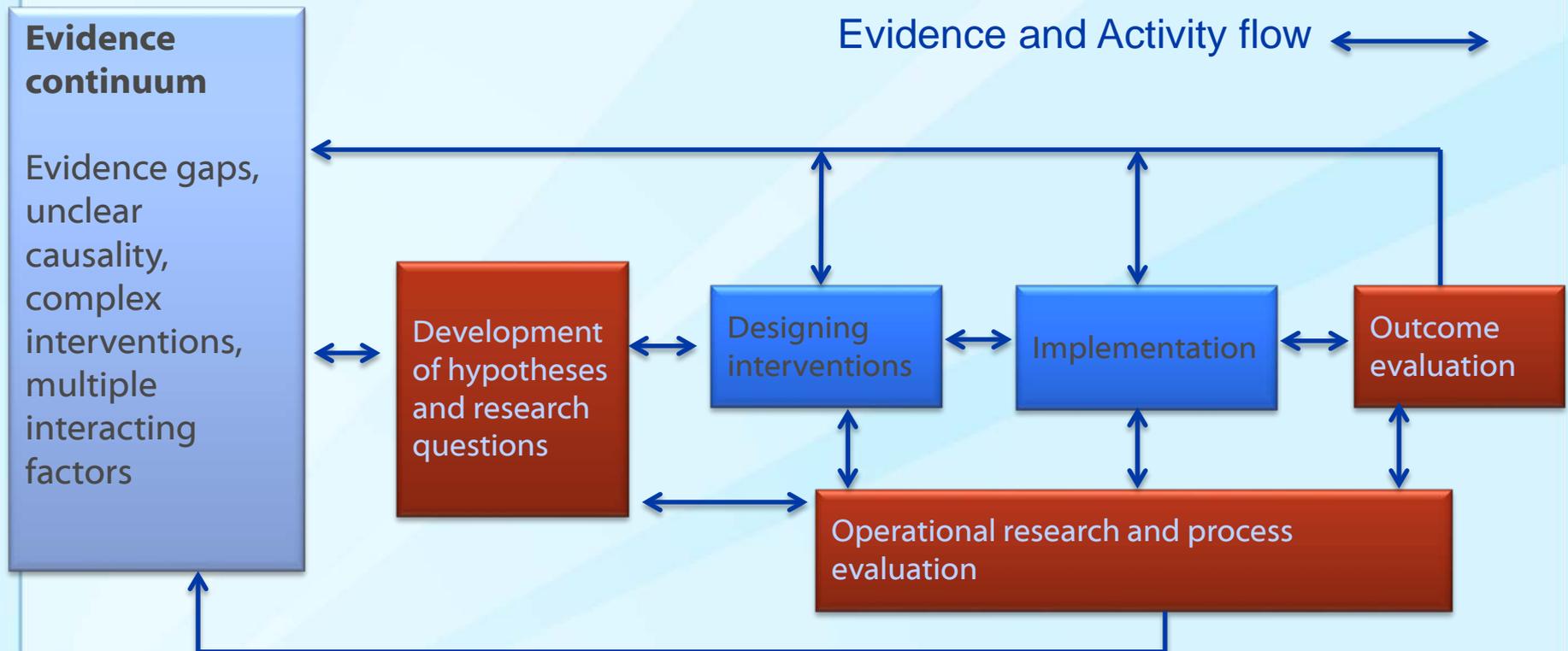
1. Parkhurst J, Weller I, Kemp J. Getting research into policy, or out of practice, in HIV? Lancet 2010;375:1414-5.

Differing Research Paradigms: Pathways of activities and evidence flow into, and out of, policy and practice¹



1. Parkhurst et al. Lancet 2010.

Getting Research and Program to Act as a team (GRAPA)

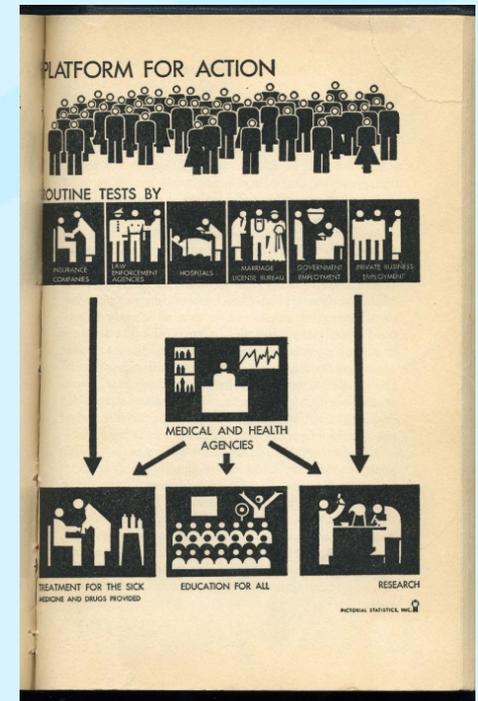


History of science- based STD prevention program approaches in the U.S.



U.S. STD Prevention: The Approach since 1937

- ❑ Health education, promotion and behavior change
- ❑ Identify and treat infected individuals through
 - Screening asymptomatic individuals and linkage to care
 - STD clinics for symptomatic care
 - HD partner notification and treatment
- ❑ Vaccination
- ❑ Individually-based interventions
- ❑ Public sector responsibility
- ❑ Specialty clinics and DIS focus



History of science- based STD prevention program approaches in the U.S.

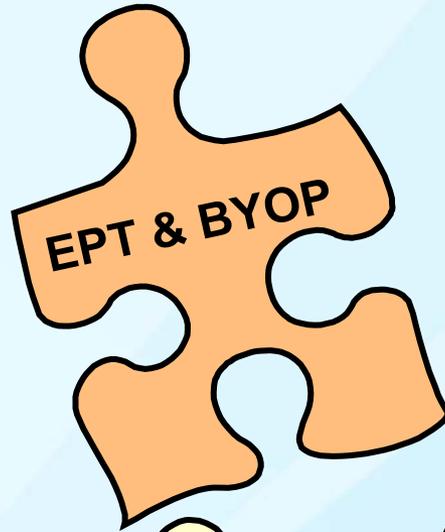
Chlamydia prevention as a case study



Science- based Chlamydia knowledge

- ❑ High burden of infection in adolescents and young people
- ❑ Population-based screening reduces adverse outcomes (PID)
- ❑ Clinic-based screening reduces clinic-based prevalence
- ❑ Timely treatment reduces adverse outcomes (PID) [and further transmission]
- ❑ EPT reduces reinfection
- ❑ Effective strategies to treat partners are EPT and BYOP
- ❑ Condoms used correctly reduce CT transmission

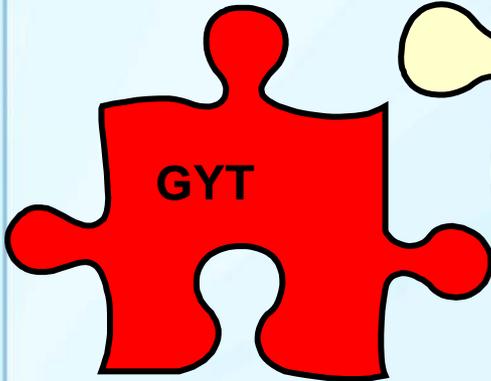
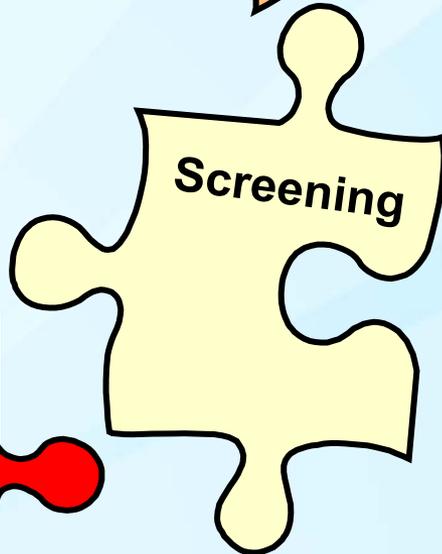
Current science-based CT prevention interventions



DEBIs



Vaccines



“Program Science” for HIV/STI Prevention*: A Component Model

Spheres of Knowledge

- Epidemiology
- Transmission dynamics
- Policy analysis
- Health systems research

- Efficacy / effectiveness
- Operations research

- Surveillance
- Monitoring/evaluation
- Operations research
- Health systems research
- Program evaluation

Spheres of Practice

Strategic Planning
Policy Development

Program
Implementation

Program
Management

Intended Outcomes

Choose:

- The best strategy...
- The right populations...
- The right time...

Do:

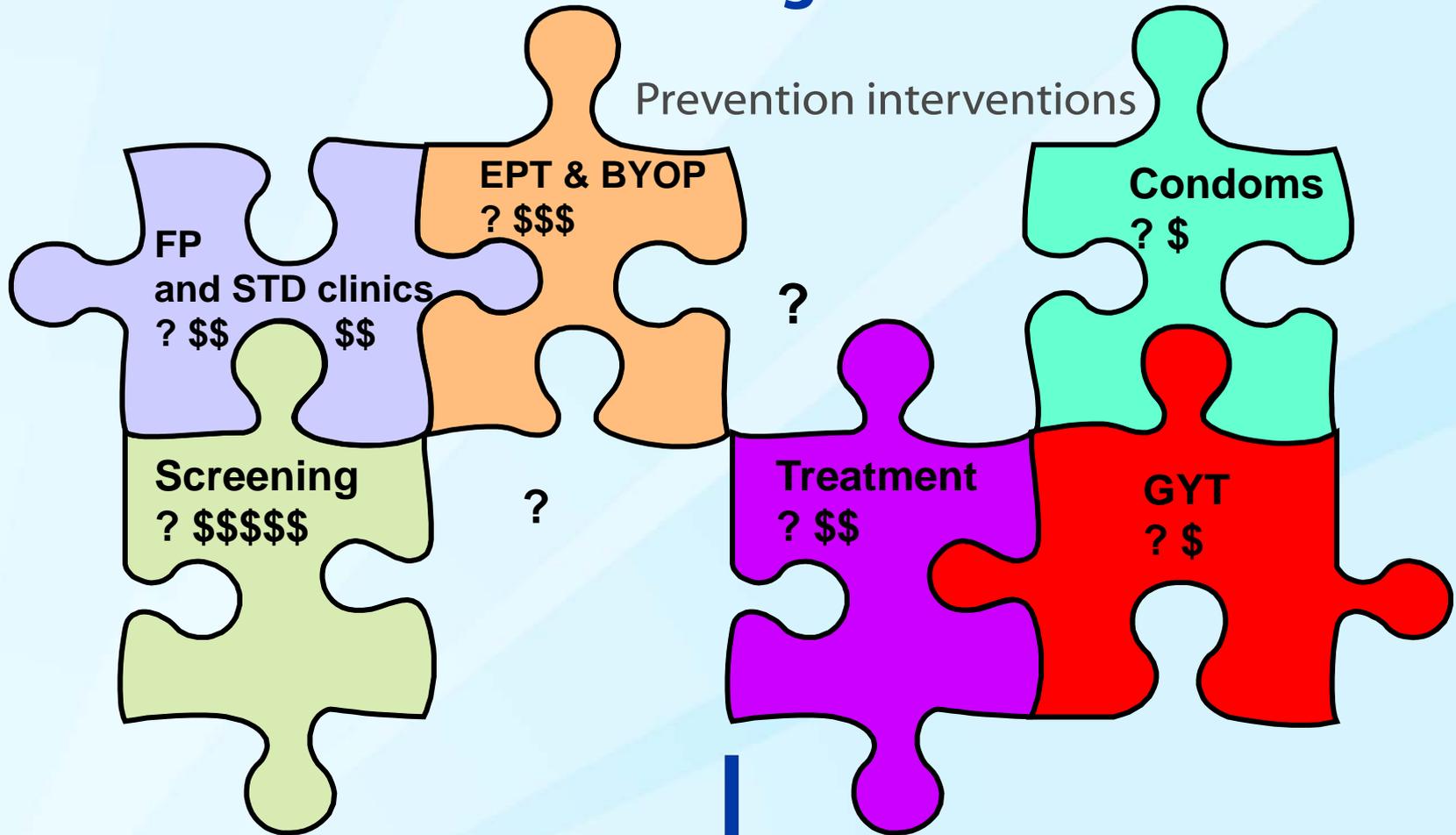
- The right things...
- The right way...

Ensure:

- Appropriate scale...
- Efficiency...
- Change when needed...

* Blanchard J, Aral S. Sex Transm Infection 2011;87: 2-3.

CT Prevention Programs in the US



Impact evaluation tools



Reduction of Population CT Incidence



Changing Health Care and Public Health Environment: Drivers of Change

- ❑ Declining public health dollars and infrastructure
 - Closure of STD clinics and reduction in DIS workforce
 - Competing priorities
- ❑ Shift of vulnerable, at risk populations because of investment in the health care system
 - Role of FQHCs and school-based clinics
- ❑ Investment in health information technology in the transformed health care system
 - Opportunities for better impact evaluation
- ❑ Need to maximize efficiencies
 - Based on the most cost-effective and feasible approaches
- ❑ Need to develop a business case for investment
 - ❑ “The so what factor”

Changing Social Media and Sexual Networks: Drivers of Change



Percent of all Family Planning Users Aged <25 Years Tested for Chlamydia, 2005–2010



Family Planning Annual Reports, 2005-2010

<http://www.hhs.gov/opa/title-x-family-planning/research-and-data/fp-annual-reports/>

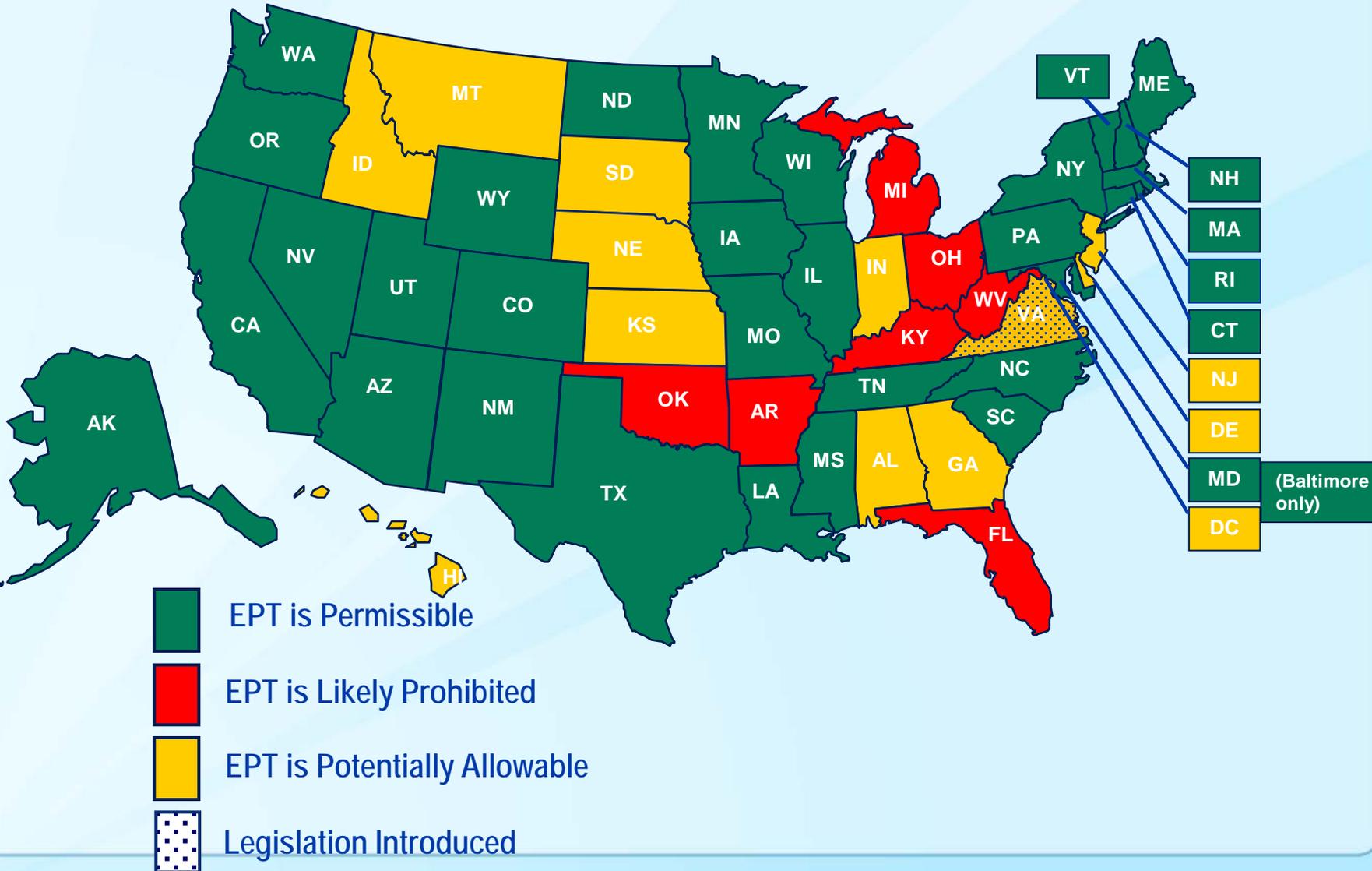
Annual Chlamydia Screening in Health Maintenance Organizations, HEDIS 2000 - 2010

	Commercial			Medicaid		
	2000	2004	2010	2000	2004	2010
Breast cancer screening	74%	73%	71%	55%	54%	51%
Cervical cancer screening	78%	81%	77%	60%	65%	67%
Childhood immunization (2 yr olds)	67%	76%	78%	56%	65%	74%
Chlamydia screening						
16 - 20 yr olds	24%	33%	41%	37%	46%	55%
21 - 26 yr oldst	21%	32%	46%	38%	49%	62%

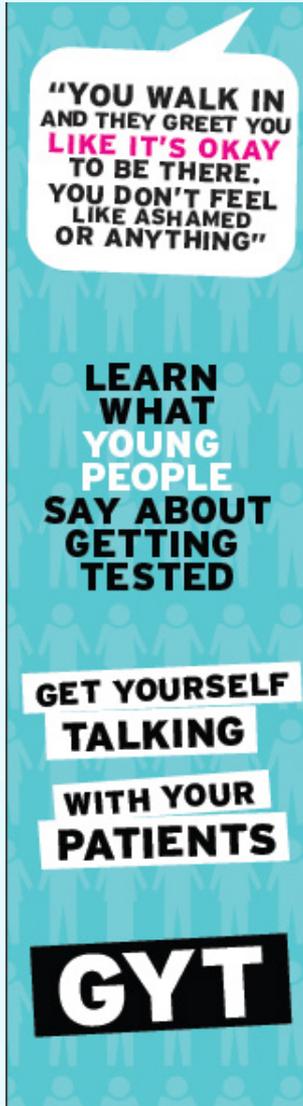
† Age range changed to 21 - 24 in 2008

Data from State of Health Care Quality reports from NCQA, Healthcare Effectiveness Data and Information Set

Expedited Partner Therapy Legal Status as of October 2011

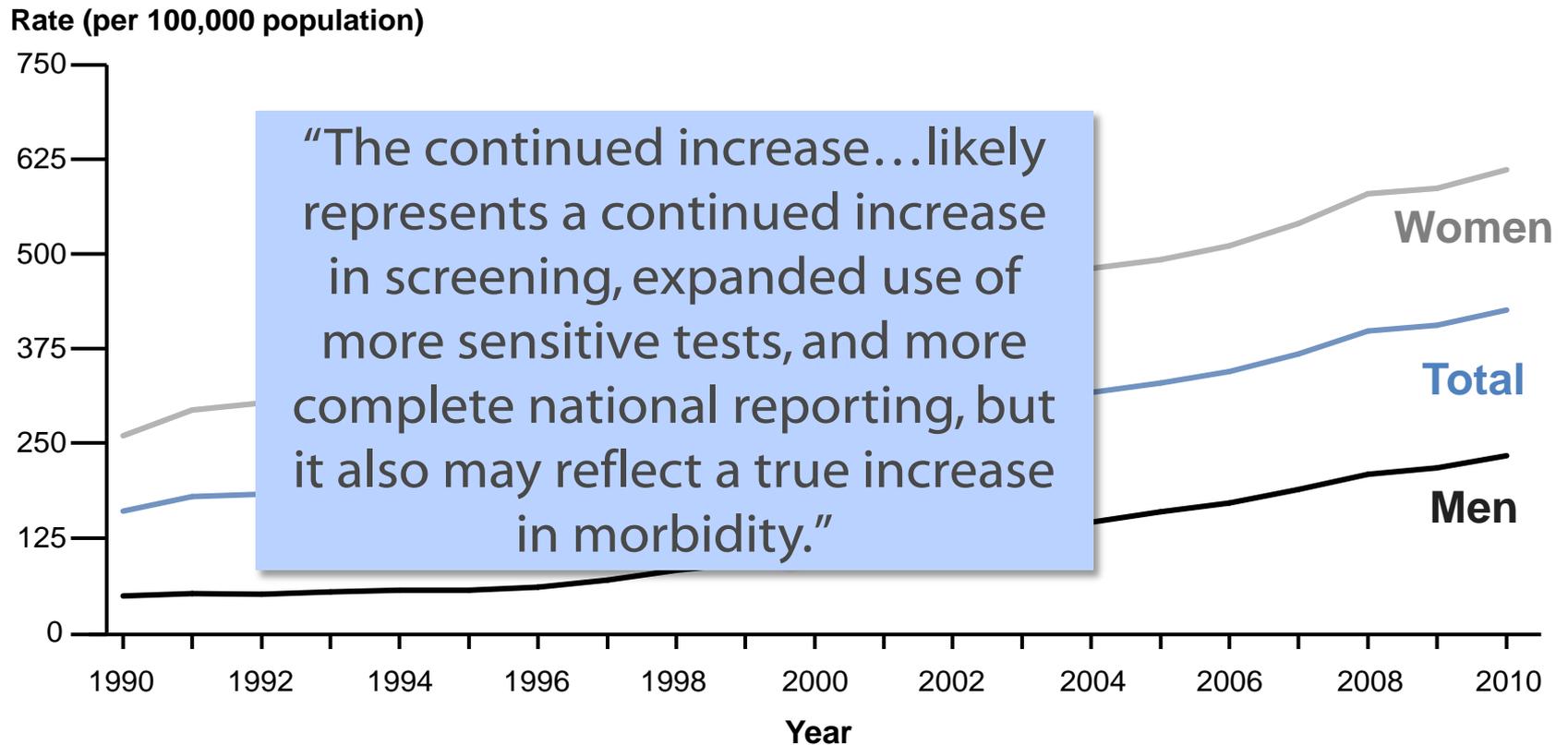


GYT: Get Yourself Tested



- ❑ Developed in partnership with Kaiser Family Foundation, MTV Networks, and Planned Parenthood Federation of America
- ❑ Goals:
 - ❑ Normalize conversation about sexual health
 - ❑ Empower youth to ask to be tested
 - ❑ Provide a “brand” that encourages testing on air, online, at events, and in the community/clinics
- ❑ Results: From 2009 – 2011, chlamydia testing in reporting PPFA affiliates is up 14%, despite reduced resources and competing priorities
- ❑ New “look and feel” for April 2012

Chlamydia—Rates by Sex, United States, 1990–2010



NOTE: As of January 2000, all 50 states and the District of Columbia have regulations that require the reporting of chlamydia cases.



Challenges of the STD prevention program approaches





Challenges of the STD Prevention Experience

- ❑ Limited number of high impact interventions
- ❑ Poor understanding of synergies and antagonisms of combination intervention packages
- ❑ Difficulty in implementing at sufficient scale and intensity relative to need
- ❑ Insufficient targeting of interventions
- ❑ Limited program capacity in the area of impact evaluation methods and tools
- ❑ Limited public health and private health care collaborations

US Program Science Initiative

Why now?





Changing Health Care and Public Health Environment: Drivers of Change

- ❑ Funders are demanding rigorous evidence that investments in interventions improve health outcomes
- ❑ Public health programs are being asked to generate rigorous public health programs using a combination of high impact interventions that improve health outcomes
 - ❑ Impact evaluations are needed in addition to process and outcome evaluations
- ❑ Translational, implementation, and operations research and science along with good program management are no longer enough

STD Prevention Programs Need to Close the Gap with Science

To better understand combination prevention strategies and program science

- ❑ Population health/public health is a complex adaptive system so programs need to:
- ❑ Identify the context and prevention targets
 - key populations, sexual and organizational structures, social practices and patterns
- ❑ Recognize the importance of complexity science and intervention mix
 - need, capacity, resources, synergies and antagonisms among interventions
- ❑ Design system models for planning, coverage and scale-up
- ❑ Improve impact monitoring/evaluation tools and metrics



REPOSITIONING STIs:

IMPROVING THE EFFICIENCY AND EFFECTIVENESS OF STI SPENDING

Improve :
Allocative Efficiency

Strengthen epidemiological intelligence through targeted surveillance, integrative synthesis studies and better prioritized strategic planning to improve the allocation of resources, among geographic, target group, disease and intervention priorities

Improve :
Program (Technical) Efficiency

Program management analysis, health systems integration, expenditure tracking and cost-effectiveness research to improve the flow and use of resources and intervention delivery options and mix in order to promote efficient resource management and program implementation

Improve :
Sustainability

Develop tools to assist countries to project their STI costs and to plan for a transition to sustainable financing

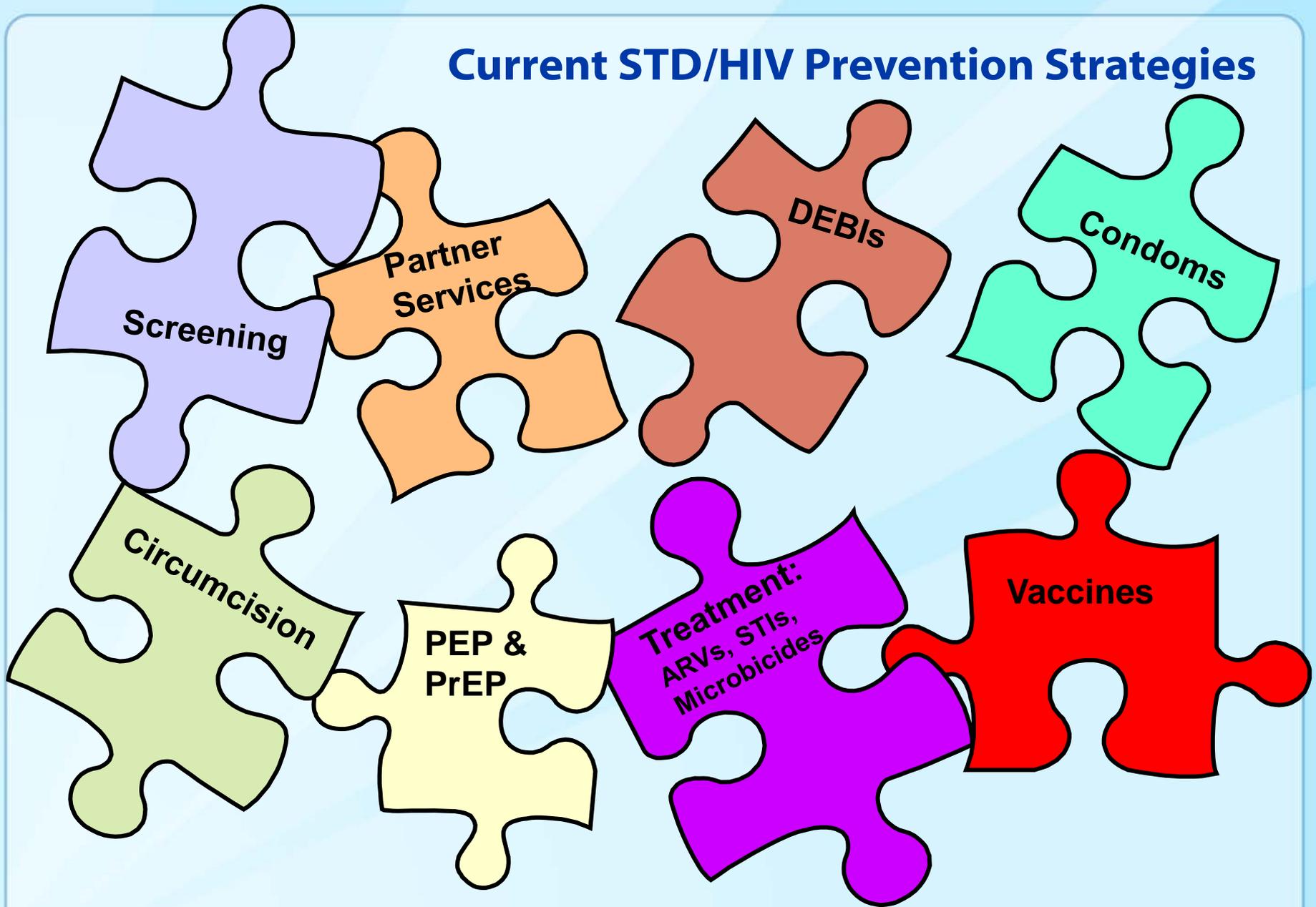
Improve :
Effectiveness

Effectiveness evaluation to establish what works, disseminate proven practice and improve program effectiveness

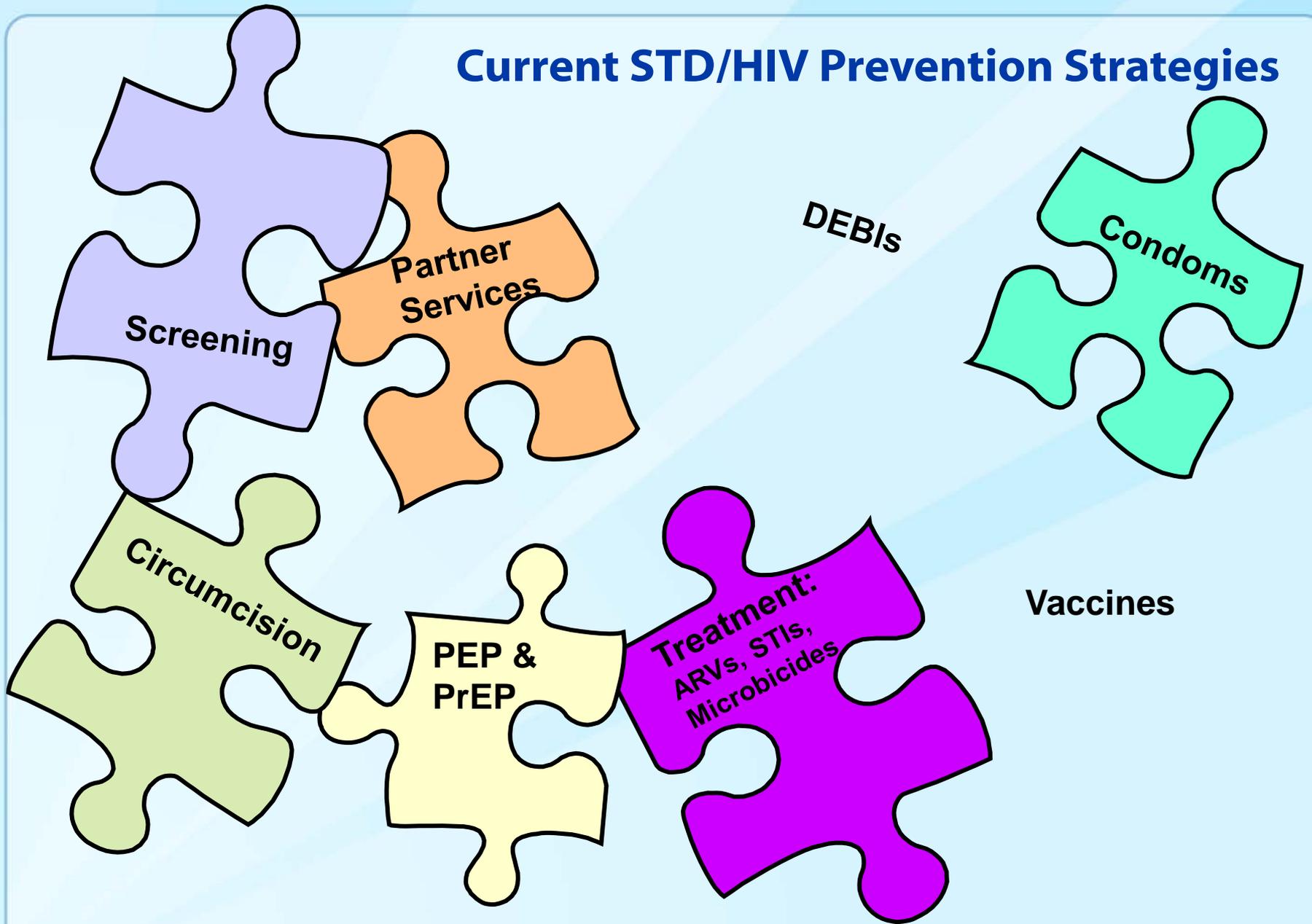
US Program Science Initiative

- ❑ Proposed collaboration with Schools of Public Health
 - ❑ Program science fellowship
- ❑ Begin with focused demonstration projects in 2-3 areas
- ❑ Develop the essential knowledge domains, methods and tools
- ❑ Establish empirical evidence that a program science approach is feasible, efficient and effective

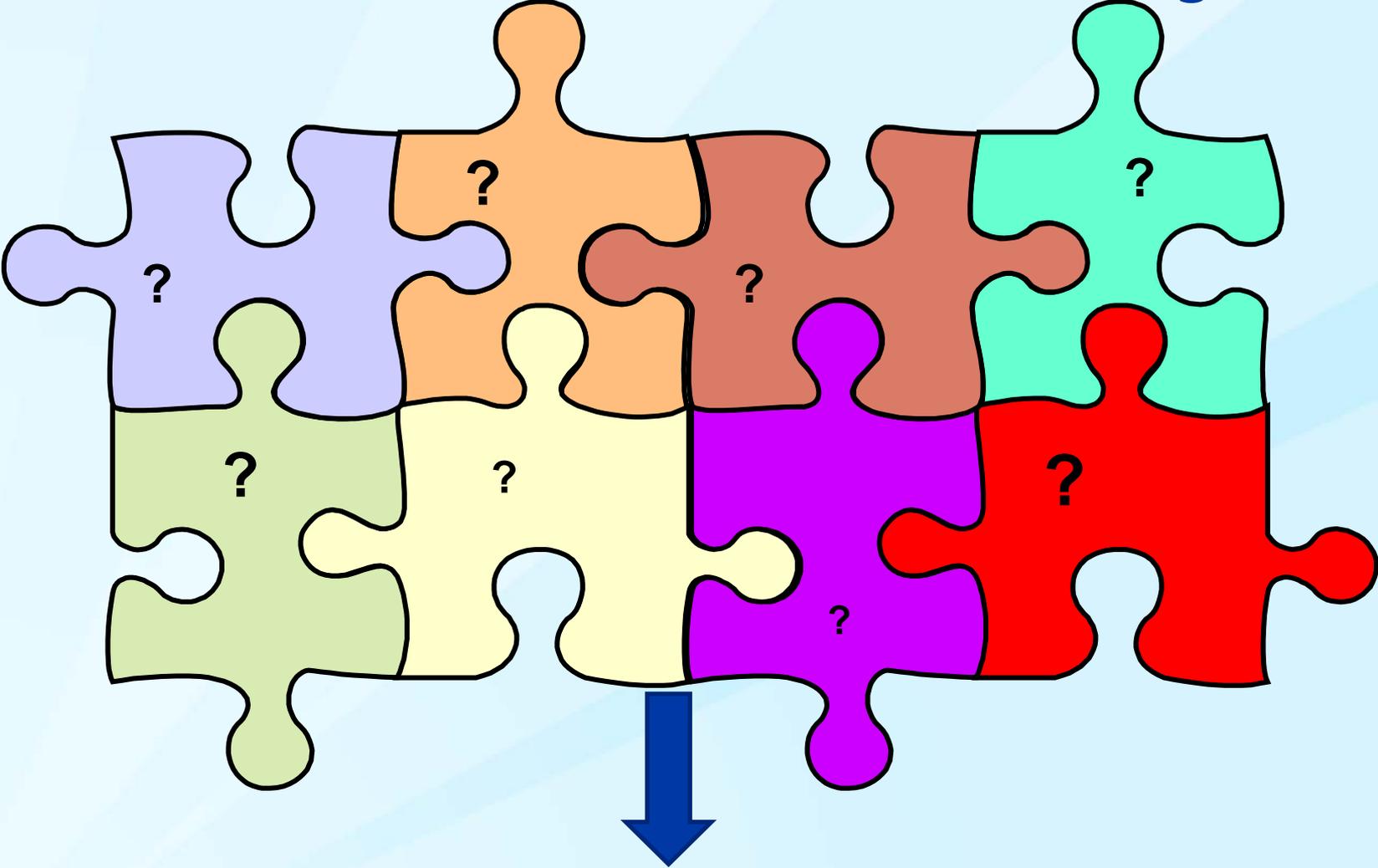
Current STD/HIV Prevention Strategies



Current STD/HIV Prevention Strategies



Cost-effective STD/HIV Prevention Program



Reduction of Population STD/HIV Incidence

Thank you!

Questions?

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

