



U.S. Research Priorities for Pediatric Clinical Preventive Services

From the viewpoint of the
USPSTF

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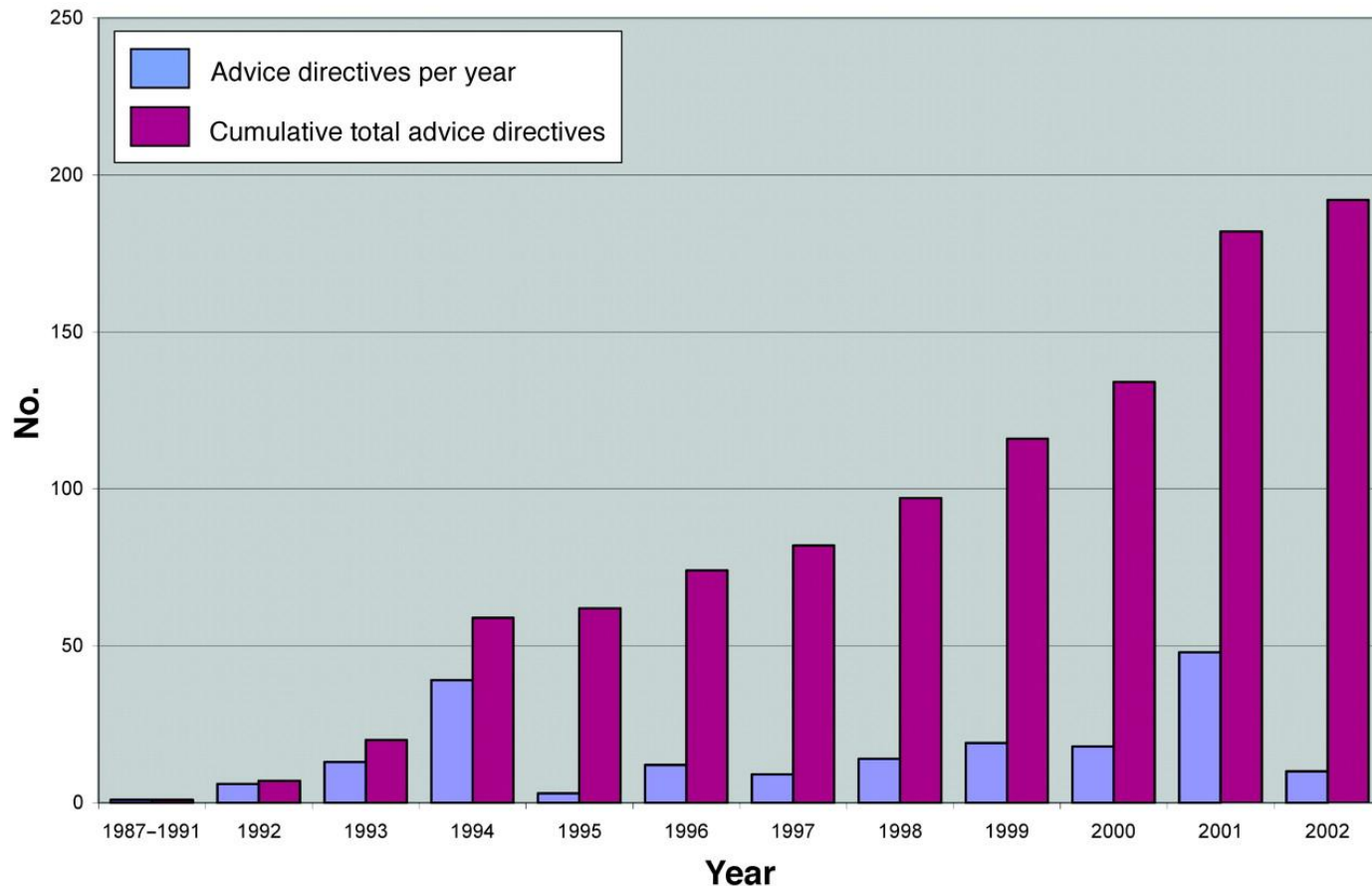


The Problem

Child Health Promotion is a core component of primary care for children

- Which activities are worth doing?
- Does health promotion add value worth paying for?
- How do we decide?

Number of “Advice Directives” from the AAP



Belamarich, P. F. et al. Drowning in a Sea of Advice: Pediatricians and AAP Policy Statements. Pediatrics 2006;118:e964-e978

State of the evidence

- For a few preventive services, evidence of effectiveness
 - Indirect evidence (that counseling changes behavior and behavior changes outcome) – car seat and seat belt use, safe tap water temperature
 - Intensive, multifactorial programs including reinforcement over time more often result in behavior change – ex: physical activity
 - Intensive preschool vision screening by orthoptists resulted in less amblyopia and better vision (NNT=100)
 - Chlamydia screening reduced incidence of PID at 1 year
 - Folate supplementation prevents NTDs
 - Hearing screening improves early language development

State of the evidence

- For a few preventive services, evidence of *lack* of effectiveness
 - “Mr. Yuk” stickers increase attractiveness of poisons
 - Nutrition education during routine health visits (27% vs. 28% anemic at follow up)
 - Counseling of mothers not to use pacifiers*
 - Paradoxical increases in harmful behavior
 - Increased drinking in counseled youth
 - Reduced desire to quit in parents counseled to quit smoking
 - One RCT of 1 vs 2 newborn exams (n=9,712) found no difference between the two groups

*Good thing, too, since the AAP now recommends pacifier use!

State of the evidence

- For most recommended preventive services, lack of strong evidence of effectiveness
 - Screening for gonorrhea in adolescent females
 - PAP smear in teens
 - Screening for Chlamydia or gonorrhea in adolescent males
 - HIV screening
 - Developmental screening
 - Speech and Language screening
 - Tuberculosis screening
 - Cholesterol/Lipid screening
 - Lead Screening
 - Growth monitoring
 - Blood pressure monitoring
 - Scoliosis screening
 - Screening for physical and sexual abuse
 - Behavioral Risk assessment: alcohol and drug use, depression, suicide
 -

- You get the picture



Research Challenges in Child & Adolescent Preventive Services

- Lack of sufficient data
 - Less Federal Funding
 - Ethical/design issues limit use of RCT
- What is the “right” health outcome
 - Maintenance of normal function
 - Need of assistance: glasses, hearing aid
 - Maximal potential for developmental trajectory
 - Family benefit

Challenges in Child & Adolescent Health

- What is “sufficient benefit”
 - Does small benefit in childhood represent large benefit in adulthood
 - Healthy behaviors
 - Does the trajectory potential benefit vary with age
 - Infant >toddler>child>adolescent



Sufficiency of Evidence

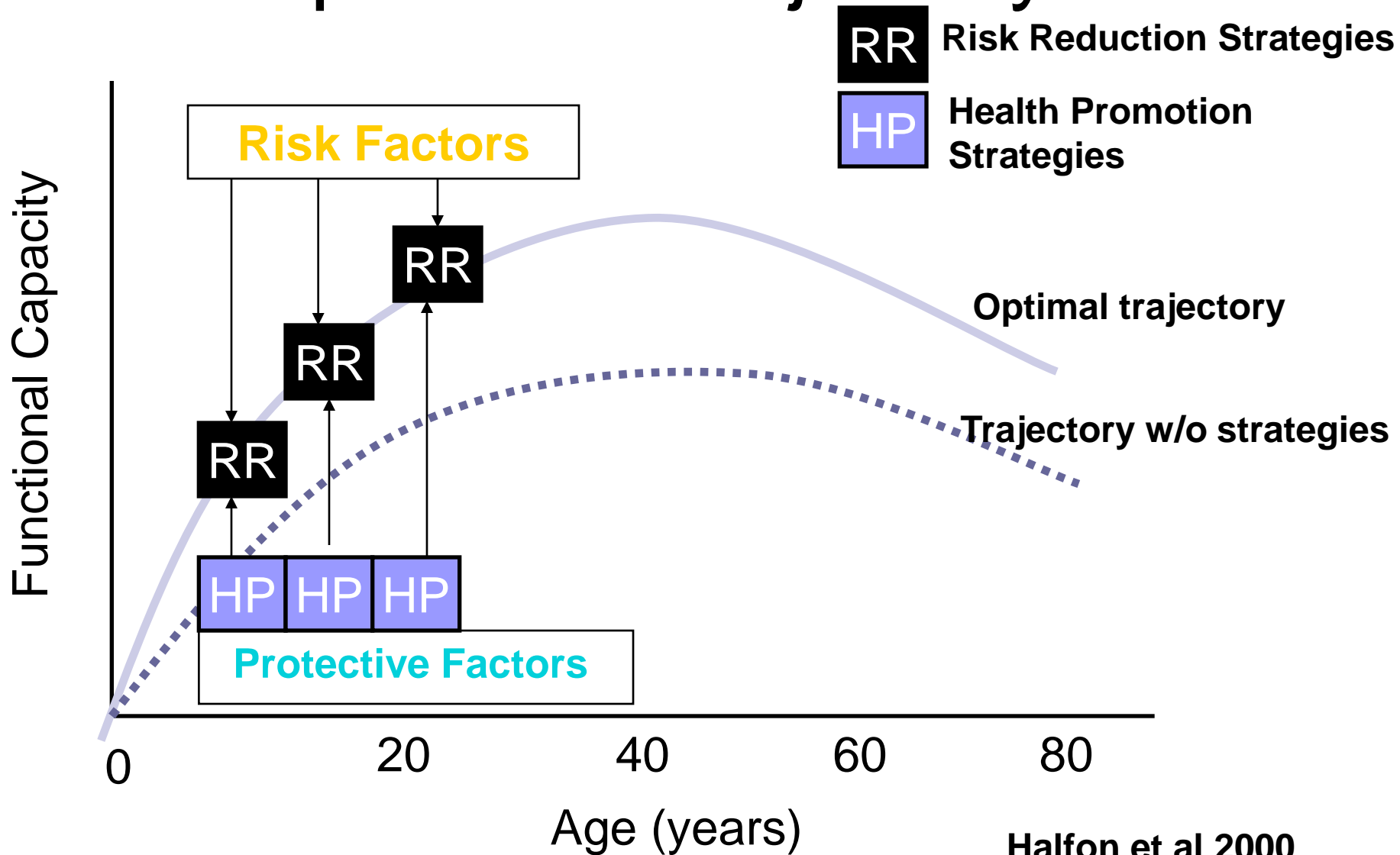
- How much is enough?
 - Sufficiency depends on risk / benefit of the intervention
 - Marginal cost of marginal improvement in certainty through further study v. value of information
- Decision analytic frame of reference



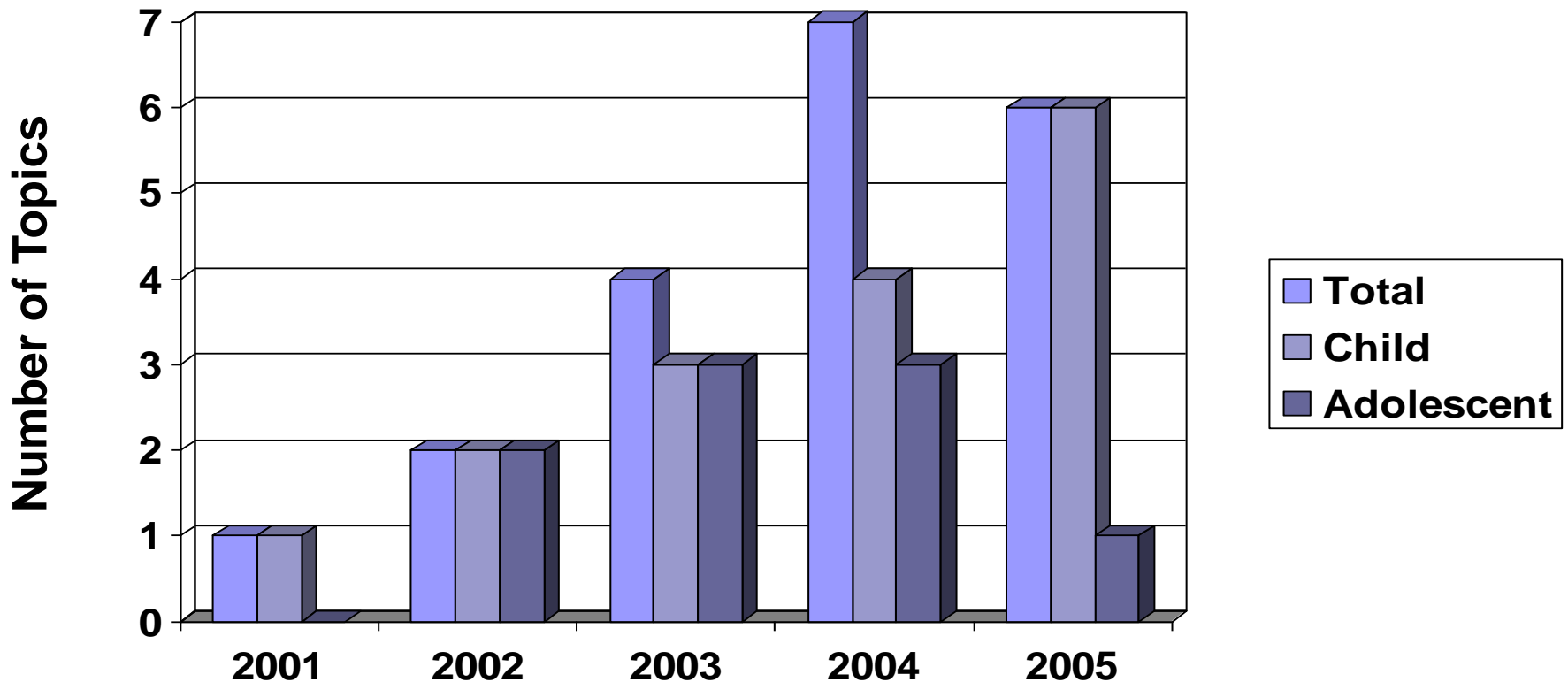
Historical Review

- Recruitment of pediatricians to USPSTF
- Increased awareness of child health topics
- Development of policy papers to increase child health presence

Developmental Trajectory



Trends in USPSTF Child and Adolescent Topics*



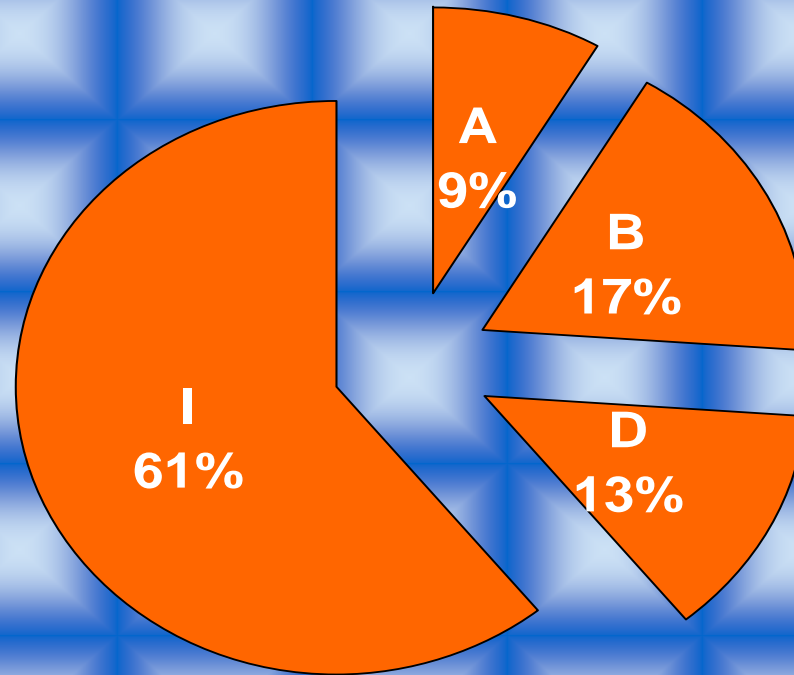
*Excludes STI related Topics




Topics in Progress

- Aspirin Use to Prevent Preeclampsia
- Cervical Cancer Screening
- Coronary Heart Disease Screening
- Falls in Older Adults
- Hearing Impairment, Older Adults
- Oral Cancer Screening
- Osteoporosis Screening
- Osteoporosis Preventive Medicine
- Ovarian Cancer
- Skin Cancer Counseling
- Vitamin Supplements to Prevent Cancer and CHD

Recommendation Trends 2001-2005





The effect of “I Statements”

- Screening for Obesity
- Newborn Hearing Screening



USPSTF Child Health Workgroup

- Developing a new child health-specific road map for determining what evidence to include and exclude.
- Highlighting topics for which evidence is missing or weak to identify key areas for additional research.

Current Members:

- Thomas Dewitt, MD, David Grossman, MD, MPH, Bernadette Melnyk, Ph.D., R.N., C.P.N.P./N.P.P., Wanda Nicholson, M.D., M.P.H., M.B.A.

Past members:

- Carol Loveland-Cherry, PhD, RN, Virginia Moyer, MD, MPH, Barbara Yawn, MD, MSPH, MSc



Considerations in Child Health

- Developmental trajectories—keeping children on the most advantageous path as they grow and develop.
- The influences of family and other caregivers on child and adolescent health decisions and outcomes.
- Building the chain of evidence to support clinical preventive services recommendations.

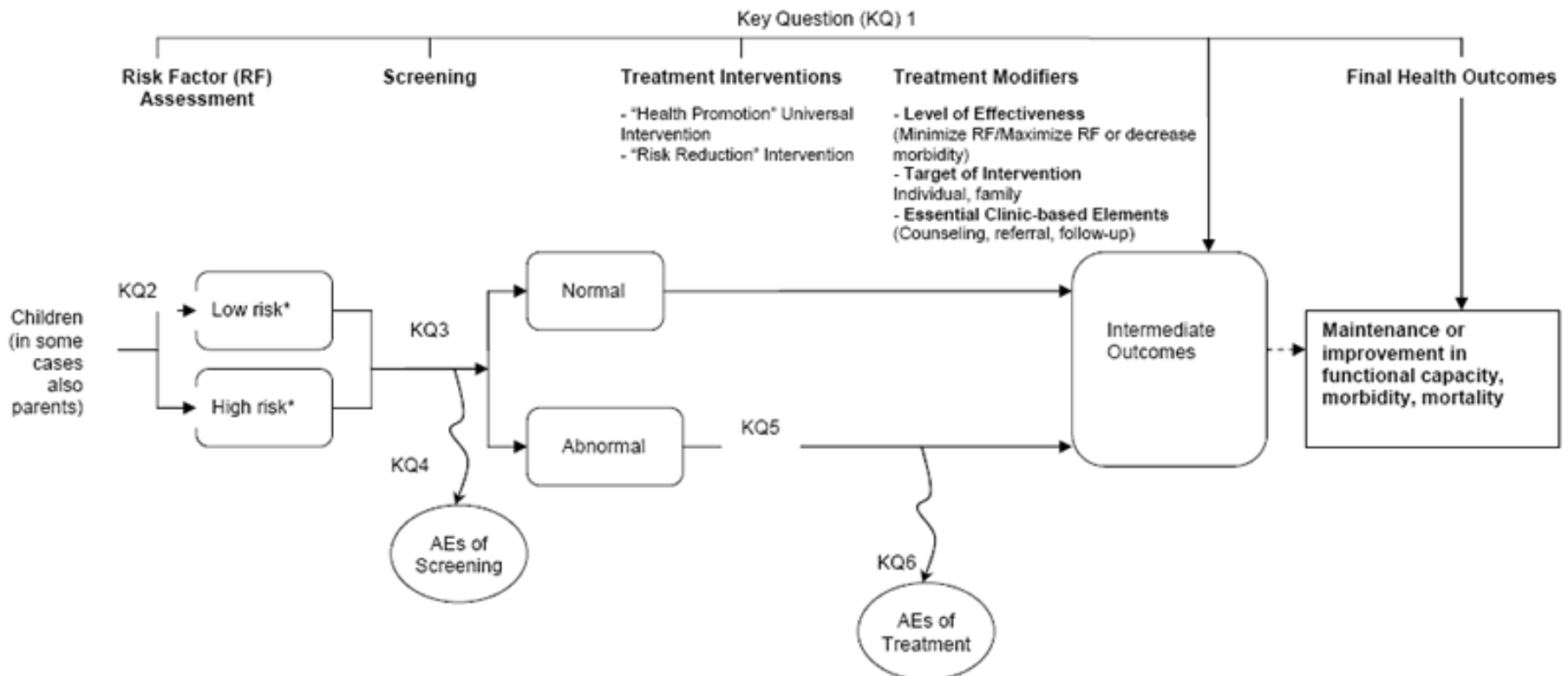
Analytic Framework for Screening

PHASE I

PHASE II

Is risk factor assessment accurate and screening effective?
* Identified risk factors: ...

Does the intervention improve or maintain functional capacity or health outcomes?



Questions & Suggestions



Cancer

- Cervical Cancer (Pap Smear): [Screening](#) (2003)
- Skin Cancer: [Counseling](#) (2003)
- Testicular Cancer: [Screening](#) (2004)

Cardiovascular Disorders (Heart and Vascular Diseases)

- Lipid Disorders in Children (Cholesterol Abnormalities, Dyslipidemia): [Screening](#) (2007)
- High Blood Pressure: [Screening](#) (2007)

Development and Behavior

- Speech and Language Delay: [Screening](#) (2006)

Infectious Diseases

- Chlamydial Infection: [Screening](#) (2007)
- Gonococcal Ophthalmia Neonatorum: [Preventive Medication \(Newborns\)](#) (2005)
- Gonorrhea: [Screening](#) (2005)
- Herpes Simplex, Genital: [Screening](#) (2005)
- Human Immunodeficiency Virus (HIV) Infection: [Screening](#) (2005)
- Sexually Transmitted Infections: [Counseling](#) (2008)

Injury Prevention

- Family Violence: [Screening](#) (2004)
- Motor Vehicle Occupant Restraints: [Counseling](#) (2007)

Mental Health Conditions and Substance Abuse

- Alcohol Misuse (Drinking, Risky/Hazardous): [Screening and Counseling](#) (2004)
- Depression in Children and Adolescents: [Screening](#) (2009)
- Illicit Drug Use: [Screening](#) (2008)
- Smoking (Tobacco Use): [Counseling \(Children and Adolescents\)](#) (2003)
- Suicide Risk: [Screening](#) (2004)

Metabolic, Nutritional, and Endocrine Conditions

- Dental Caries in Preschool Children: [Screening](#) (2004)
- Exercise (Physical Activity): [Counseling](#) (2002)
- Healthy Diet (Nutrition): [Counseling](#) (2003)
- Hyperbilirubinemia in Infants: [Screening](#) (2009)
- Iron Deficiency Anemia (Anemia): [Screening](#) (2006)
- Lead Levels in Childhood and Pregnancy: [Screening](#) (2006)
- Overweight in Children and Adolescents: [Screening](#) (2005)

Musculoskeletal Disorders

- Hip, Developmental Dysplasia: [Screening](#) (2006)
- Idiopathic Scoliosis in Adolescents (Scoliosis): [Screening](#) (2004)

Perinatal Care

- Hypothyroidism, Congenital: [Screening](#) (2008)
- Phenylketonuria: [Screening](#) (2008)
- Sickle Cell Disease: [Screening](#) (2007)

Vision and Hearing Disorders

- Hearing Loss, Newborn: [Screening](#) (2008)
- Visual Impairment in Children Ages 0-5: [Screening](#) (2004)