Adolescent Brain Development: Implications for Policy Makers

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In this presentation....

- Why is the focus on adolescents so important?
- What changes have occurred in the field of adolescent health that respond to recent brain development research?
- Examples of Developmentally Appropriate Policies – Graduated Driver’s License, Teenage Pregnancy Prevention, 21 Critical Health Objectives for the Nation
- Implications for future policy making
Why Focus on Adolescents and Young Adults?
Adolescents & Young Adults – Who are they?

- Between 1990 and 2020, the number of adolescents ages 10-19 is projected to increase from 35 to 42 million; representing 13% of the total population.

![Graph showing US Population, Ages 10-19, 1980-2050]

Sources: U.S. Census Bureau, 2000; U.S. Census Bureau, 2002

Adolescents & Young Adults – Who are they?

- The racial/ethnic diversity among adolescents will increase: the number of White, non-Hispanics will decrease by 21% between 2000 and 2040.

![Bar chart showing Race/Ethnicity of Adolescents Ages 10-19, 2000 & 2040]

Sources: U.S. Census Bureau, 2000; U.S. Census Bureau, 2002
Why Invest in Adolescents?
Ignoring prevention is costly

- Costs of risky behaviors initiated in adolescence:
  - Short Term: $33.5 billion during adolescence\(^1\)
  - Long Term: Up to $700 billion\(^2\) over the entire life course
    - Includes consequences of tobacco and substance use, violence, unsafe sexual behavior, health productivity and premature death
  - E.g. In 2004, teen childbearing in the US cost taxpayers at least $9.1 billion, an average of $1430 per teen mother annually\(^3\)

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Distribution of the Number of Health Risk Behaviors by Race/Ethnicity, 7th-12th Grade, 1995

Source: Urban Institute, Teen Risk-Taking, 2000
Determinants of Health

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<thead>
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Changing Landscape

- **Old Paradigm**
  - Risk Factors
  - High Risk
  - Punitive
  - Homogeneous
  - Individualization
  - Hopelessness
  - Alienation
  - Problems

- **New Paradigm**
  - Protective Factors
  - Resiliency
  - Educational and Restorative
  - Heterogeneous
  - Societal Influences
  - Belief in the Future
  - Connectedness
  - Resources
Developmental Needs of Youth

Resilience: Innate Wisdom Guiding Development

LaughParade®
By Bunny Hoest and John Reiner

“No, you can’t have your old room back.”
Why Invest in Adolescents?
Many young people are not prepared for adulthood

- Young people should:
  - Be economically self-sufficient
  - Have healthy habits and healthy relationships
  - Be civically engaged
- Yet, less than half of all youth (43%) are prepared (Forum for Youth Investment)

Adults’ Role: Help Teens be Ready for Adulthood

Prior research has shown a strong association between adolescent connections to meaningful adults and schools and the prevention of every risk behavior studied as part of the National Longitudinal Study on Adolescent Health (Add Health).
California School Data
% of Students Scoring High in Each External Asset

- **Caring Relationships**
  - 7th: 35%
  - 9th: 35%
  - 11th: 32%
  - Non-Traditional: 30%

- **High Expectations**
  - 7th: 36%
  - 9th: 44%
  - 11th: 36%
  - Non-Traditional: 30%

- **Meaningful Participation**
  - 7th: 20%
  - 9th: 19%
  - 11th: 13%
  - Non-Traditional: 13%

Home Data
% of Students Scoring High in Each External Asset

- **Caring Relationships**
  - 7th: 73%
  - 9th: 66%
  - 11th: 50%
  - Non-Traditional: 61%

- **High Expectations**
  - 7th: 84%
  - 9th: 83%
  - 11th: 83%
  - Non-Traditional: 60%

- **Meaningful Participation**
  - 7th: 57%
  - 9th: 34%
  - 11th: 37%
  - Non-Traditional: 15%
Community
% of Students Scoring High in Each External Asset

- Caring Relationships
  - 7th: 60%
  - 9th: 84%
  - 11th: 95%
  - Non Traditional: 65%

- High Expectations
  - 7th: 75%
  - 9th: 80%
  - 11th: 85%
  - Non Traditional: 70%

- Meaningful Participation
  - 7th: 30%
  - 9th: 40%
  - 11th: 55%
  - Non Traditional: 35%

What Else Have We Learned?

- Importance of connectivity to meaningful adults--specifically parents
- Supervision helps to decrease risk-taking opportunities
- Effective parenting (authoritative vs. authoritarian) leads to better adolescent decision making
Connectivity as a Health Intervention

- Students who Feel Connected to School Experience ...
  - Less Emotional Distress
  - Less Likely to Use Substances
  - Less Violent or Deviant Behavior
  - Less Likely to Become Pregnant

Youth Development Process: Resiliency in Action

External Assets
- Supports & Opportunities
  - Protective Factors
    - Caring Relationships
    - High Expectations
    - Opportunities to participate and contribute

Youth Needs
- Love
- Belonging
- Respect
- Mastery
- Safety
- Challenge
- Power
- Meaning

Internal Assets
- Positive Developmental Outcomes
- Resilience Traits
  - Social competence
  - Problem Solving
  - Autonomy and sense of self
  - Sense of purpose and future

Improved Health, Social & Academic Outcomes
Examples of successful models

- Graduated Driver’s License
- Teenage Pregnancy Prevention
Research...

- According to research, car crashes (#1 cause of adolescent death) are more likely when:
  - Teens drive at night;
  - Teens drive without an adult in the car;
  - Teens drive with multiple passengers.
...to Practice

- Graduated Driver’s License (GDL) programs phase in driving privileges. Teens who have passed their driving test have to wait before they can:
  - Drive at night;
  - Drive with multiple passengers;
  - Drive without an adult in the car.

- GDL programs have saved lives. Many lives.

Policy Changes

- Law enforcement of underage drinking laws
  - sobriety and traffic safety checkpoints, reduce alcohol outlet intensity,
- Changes in policy and laws to control underage drinking
- Responsible beverage service: merchant education, partnership with officials from law enforcement, alcohol industry, and local government.
Some Good News...

- Decrease in adolescent births due to:
  - Abstinence – Reduction in the proportion of adolescents who are sexually active (from 55% in 1988 to 46% in 2001) &
  - Access to contraceptive methods – improved condom use and use of other effective methods among teens who are sexually active.
Investment in Prevention

- Nationally, availability of family planning services to sexually active teens avoids:
  - Between 750,000 to 1.25 million pregnancies,
  - 480,000 live births,
  - 390,000 abortions, 120,000 miscarriages, and 10,000 ectopic pregnancies.

State of the State

- Body of knowledge has expanded — curricula, good clinic strategies, comprehensive youth development programs, evidence-based practices

- Communities can choose different strategies for different age groups and can put together a continuum of programs
Some Successes Due to...

- Increasing and widespread societal consensus about acceptable approaches to improving health.
- Sound fiscal backing--policy and program initiatives.
- Strategies that engage multiple and non-traditional stakeholders.
- Creation of new social norms of behavior.
- Data collection-research and evaluation.
- Professional commitment and advocacy.

Why Relatively Little Change?

- Deep rooted belief of “rugged individual” vs. community responsibility has shaped public policy.
- Ambivalence regarding adolescents and their role in society.
- Ambivalence regarding the role that government should play.
- Blame adolescents without acknowledging contributing role of adults.
Why Relatively Little Change?

- Major biological and psychological changes often test adults’ limits and comfort level—resulting in a negative response from adults.
- Many parents and adults not equipped with the knowledge and skills to raise adolescents or the support systems that would help them through this developmental stage.

Additional Barriers

- Fragmentation of health services, resulting from categorical funding streams
- Bewildering and sometimes conflicting diversity of eligibility criteria
- Lack of staff trained to respond to needs of teens and their parents
- Lack of or inadequate reimbursement for counseling, health education and case management
Barriers to Progress

- Many of the health, social and educational supports require long-term investments.
- Considerable controversy surrounding behavior initiated during adolescence prevents consensus.
- Little guidance for making change—communities feel overwhelmed with information, often lack information, skills, “political will” to select best strategies.

How do we get there?

It will require involvement of all parts of society.

Adolescents & Young Adults

- Parents & Families
- Government Agencies
- Employers
- Post-Secondary Institutions
- Media
- Faith-based Organizations
- Community Agencies
- Health Care Providers
- Schools
Federal Government Supports this Broad Approach to Adolescent Health

- National Initiative to Improve Adolescent Health (NIIAH)
  - Collaborative effort to improve the health, safety, and well-being of adolescents and young adults
  - Aims to achieve Healthy People 2010’s 21 critical health objectives for adolescents and young adults, which focus on individual health outcomes and related behaviors

What is the National Initiative?

- Launched in a unique partnership of two federal agencies:
  - Centers for Disease Control and Prevention’s Division of Adolescent and School Health (CDC-DASH); and
  - Health Resources and Services Administration’s Maternal and Child Health Bureau’s Office of Adolescent Health (HRSA-MCHB-OAH).
National Initiative to Improve Adolescent Health: Philosophy & Approach

- Reducing behaviors that jeopardize health and safety and improve health outcomes are important – but not enough
- Fostering **healthy youth development** is integral to improving adolescent and young adult health
- It is critical to create a **healthy environment**, and not focus exclusively on changing individuals – adults carry primary responsibility
- A **societal commitment** is critical for creating a positive environment that supports healthy youth development and promotes healthy behaviors
- The **involvement of diverse organizations and institutions** is critical to success

National Initiative to Improve Adolescent Health: 4 Goals

- **Elevate national, state and community focus** on, and commitment to, the health, safety and well-being of adolescents, young adults and their families
- **Increase adolescents’ and young adults’ access** to quality health care
- **Eliminate health disparities** among adolescents and young adults
- **Improve health and safety outcomes** in areas defined by the 21 Critical Health Objectives
Adolescent- and Young Adult-Specific Health Objectives

- **21 Critical Health Objectives for Adolescent & Young Adult Health:**
  - Include individual health outcomes (injury, disease & death), as well as related behaviors (e.g., substance abuse, physical activity, safety belt use).

- **21 Objectives fall into six general areas:**
  - Mortality;
  - Unintentional Injury;
  - Violence;
  - Mental Health and Substance Abuse;
  - Reproductive Health;
  - Chronic Disease Prevention.
Given state of the state… what are next policy development steps?
Adolescents’ Search for Meaning

- Who am I?
- What do I love?
- How shall I live?
- What is my gift to the family of the earth?

Improving the Health of Adolescents and Youth

Take-home Message #1

- Develop multi-strategy programs and interventions that:
  - Respond to both the observable health behaviors and underlying causes
  - Consider the role of adolescents’ adult environments
Public health institutions must focus on antecedent and behavioral factors at each of the four contextual levels that contribute to observable behaviors.

Public health educational approaches have been mainly geared toward modifying observable behaviors, such as teen pregnancy.

Antecedent factors at each of the following levels:
- Individual/Family
- School/Peers
- Community
- Policy

Risk Factors

Protective Factors

Observable behaviors: Antecedent Risk and Observable Behaviors: Antecedent Risk and Protective Factors at Four Contextual Levels

Example: Teen Pregnancy and the Antecedent Risk and Protective Factors at Four Contextual Levels
Observable behaviors: Antecedent Risk and Protective Factors at Four Contextual Levels

Antecedent factors at each of the following levels:
- Individual/Family
- School/Peers
- Community
- Policy

Improving the Health of Adolescents and Youth

Take-home Message #2

Early Childhood Policies have implications for adolescents...

- Early childhood policies promote:
  - healthy development (access to care);
  - high quality education and early care;
  - effective parenting
  - Research points to lifelong importance of early childhood development setting stage for future development – hard wiring of brain – how children approach life, learn, manage emotions, and relate to others
  - Importance of investments in education and health – close achievement gaps
**Developmental Health Prevention Strategies**

**Prenatal Period**
- Are children planned for?
- Full Service Prenatal Care?
- Infant development and parenting preparation?
- Social support?

**Early Childhood (ages 0-5)**
- Active engagement of parents and family?
- Education and social support?
- Stability of housing?
- Pre-K program, with additional community experiences?

**Middle Childhood (6-10)**
- Engagement of Parents and other family members in the lives of children.
- Preparations for entry into adolescence?
- Parent support and education?
- Academic success?

**Teens (11-19)**
- Do teens play a role in helping to shape the types of programs available to them in school and after-school settings?
- Academics?
- Health Services?
- Other social supports.
- Science-based programs.

**Young Adults (20-24)**
- Transition efforts in community: Work, college, vocational opportunities, Health services, preparation for parenthood?

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**Improving the Health of Adolescents and Youth**

**Take-home Message #3**

- Recognize special populations and how programs and policies are shaped for each:
  - Demographically-defined;
  - Legally-defined (incarcerated, foster care, migrant groups);
  - Chronic conditions (physical, emotional);
  - Other populations (unique qualities, such as homeless, pregnant and parenting).
**Improving the Health of Adolescents and Youth**

**Take-home Message #4**

- Develop concurrent, multi-strategy programs and interventions
- Incorporate community planning, quality assurance and evaluation

**Concurrent Health Prevention Strategies**

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<tr>
<th>Parents/Family</th>
<th>Coalition Task Force</th>
<th>Community Based Org's</th>
<th>Youth and Peers</th>
<th>Classroom Education</th>
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</thead>
<tbody>
<tr>
<td>Do parents have the opportunity to develop skills? Do they receive information about effective parenting practices? Support groups?</td>
<td>Does the Coalition engage different groups in the community and work to identify common ground? Do they use needs and assets assessments?</td>
<td>Do CBOs work with health providers, education system, social system to help coordinate services and provide inter-agency referrals?</td>
<td>Do teens play a role in helping to shape the types of programs available to them in school and after-school settings? Is there peer education?</td>
<td>Are teachers providing the intended hours and content of instruction of well-tested curricula? Is there oversight of the quality of what is being taught?</td>
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**Improving the Health of Adolescents and Youth**

**Take-home Message #5 – The Role of Emerging Partners**

- Support families—in order to create supportive communities—and make the institutional changes required to address discrepancies.
- Go beyond medical and public health partners—“non-traditional” community stakeholders—
  - School and after school
  - Junior Achievement
  - Service organizations
  - the business sector,
  - juvenile justice,
  - media,
  - the faith community
  - community-based organizations
All have an investment in tomorrow’s future leaders.

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**Philosophy**

“Healthy kids make better students.”

Better students make better communities.”
Improving the Health of Adolescents and Youth

Take-home Message #6

Youth Engagement

- Recruitment, training, supervision of adolescents
- Advisory Boards
- Peer Provider Clinics
- Service Learning – Teen Outreach Program

How do we help adolescents?

- Reducing risky behavior is not enough
- Need to foster healthy youth development, including resiliency and social skills
- Protect against health damaging behavior
- Help youth achieve their potential
Implications of Adolescent Brain Development

- During time of “exuberant” brain development, adolescents need opportunities to engage in:
  - Supportive decision making
  - Healthy dialogue with meaningful, caring, engaged, and competent adults
  - Develop ability to look at decisions from multiple points of view and weigh the potential consequences of their choices

Improving the Health of Adolescents and Youth

Take-home Message #7 Support Research - More questions than answers...

- No easy connection between counting synapses or measuring white matter and behavior
- Culture, nutrition, and teen’s own behavior all affect brain development
- Research in other cultures reveal that teens experience no turmoil whatsoever
- Teens have the potential for performing in exemplary ways—as soldiers, as voters, etc.
**Improving the Health of Adolescents and Youth**

**Take-home Message #8**

Consider a variety of policies that impact adolescents

- Implement tax policies that promote family economic security
- Flexible work hours that enable parents to have opportunity to bond with their teens
- Support education - opportunities that enable teens to enhance brain architecture, providing the foundation for adult function and safe transitions
Resources

- National Initiative to Improve Adolescent Health by the Year 2010
  http://www.cdc.gov/HealthyYouth/NationalInitiative
  http://nahic.ucsf.edu/nationalinitiative
- 2010 Guide
  Order It! http://www.cdc.gov/HealthyYouth/NationalInitiative/order/
  Download it! http://nahic.ucsf.edu/2010guide
- Partner Resources Database
  http://nahic.ucsf.edu/index.php/partnerresources/
- Tracking Adolescent Health Policy
  http://policy.ucsf.edu/publications.html

Resources

- Link to Useful Briefs
  - NAHIC – Best Practices Brief:
  - Child Trends Briefs:
    http://www.childtrends.org/_portalcat.cfm?LID=C6CEDAFE-34FF-4DFD-9CD745899CE5D128
  - School Wellness websites:
    http://www.schoolhealthaward.wi.gov
References


References


References


National Adolescent Health Information Center &
Public Policy Analysis & Education Center for Middle Childhood, Adolescent & Young Adult Health

WEB SITES
http://nahic.ucsf.edu
http://policy.ucsf.edu

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