# Parents, Pediatricians, and Prevention:
# Pathways to Adolescent Health


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# Objectives

- Good Parenting is prevention!
- Why should pediatricians be interested in preventive parenting programs?
- A new pragmatic trial:

  ***Parents, Pediatricians, and Prevention: Pathways to Adolescent Health*** *(MPIs: Catalano, Kuklinski, Sterling)*

# GOOD PARENTING IS PREVENTION!

# MANY BEHAVORIAL HEALTH PROBLEMS BEGIN OR RISE SHARPLY DURING ADOLESCENCE

By the time they leave high school

- **50% of adolescents** will have used some form of **illicit drugs**
- **20-25%** will have met diagnostic criteria for **depression**
- Many will engage in **delinquency or violence**
- **Other common behavioral health problems:** Sexual risk behavior, other mental health problems, academic and school problems

# BEHAVIORAL HEALTH PROBLEMS IN ADOLESCENCE INFLUENCE LATER HEALTH

- Behavioral health problems cause harm in adolescence
- Behavioral health problems begun in adolescence cause harm into adulthood
- Preventing these problems during adolescence can reduce morbidity and mortality across the lifespan

# COST IMPACT OF AN EXAMPLE BEHAVIORAL HEALTH PROBLEM COMPARED TO DIABETES

Annual costs of substance misuse:
**$442 billion**

Annual costs of diabetes:
**$245 billion**

(Surgeon General's Report, Facing Addiction in America, 2016)

# 40 YEARS OF PREVENTION SCIENCE RESEARCH ADVANCES

- **Etiology/epidemiology of problem behaviors**
  - ✓ Identify risk and protective factors that predict problem behaviors
  - ✓ Describe their distribution in populations
- **Efficacy trials**
  - ✓ Design and test preventive interventions to interrupt causal processes that lead to youth problems

# Much Commonality in Risk Factors for Behavioral Health Problems

**Community**

**Family**

**School**

**Individual/Peer**

| Risk Factors | Substance Abuse | Delinquency | Teen Pregnancy | School Drop-Out | Violence | Depression & Anxiety |
|---|---|---|---|---|---|---|
| **Community** | | | | | | |
| Availability of Drugs | ✓ | | | | ✓ | |
| Availability of Firearms | | ✓ | | | ✓ | |
| Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime | ✓ | ✓ | | | ✓ | |
| Media Portrayals of Viol | ✓ | | | | ✓ | |
| Transitions and Mobility | ✓ | ✓ | ✓ | ✓ | | |
| Low Neighborhood Attachment and Community Disorganization | ✓ | ✓ | | | ✓ | |
| Extreme Economic Deprivation | ✓ | ✓ | ✓ | ✓ | ✓ | |
| **Family** | | | | | | |
| Family History of the Problem Behavior | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Family Management Problems | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Family Conflict | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Favorable Parental Attitudes and Involvement in the Problem Behavior | ✓ | ✓ | | | ✓ | |
| **School** | | | | | | |
| Academic Failure Beginning in Late Elementary School | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Lack of Commitment to School | ✓ | ✓ | ✓ | ✓ | ✓ | |
| **Individual/Peer** | | | | | | |
| Early and Persistent Antisocial Behavior | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Alienation and Rebelliousness | ✓ | ✓ | | ✓ | | |
| Friends Who Engage in the Problem Behavior | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Favorable Attitudes Toward the Problem Behavior | ✓ | ✓ | ✓ | ✓ | | |
| Early Initiation of the Problem Behavior | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Constitutional Factors | ✓ | ✓ | | | ✓ | ✓ |

# Much Commonality in Protective Factors for Behavioral Health Problems

| Protective Factors | Substance Abuse | Delinquency | Risky Sexual Behavior | School Drop-Out | Violence | Depression & Anxiety |
|---|---|---|---|---|---|---|
| **Individual** | | | | | | |
| Cognitive Competence | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Emotional Competence | | ✓ | | | | |
| Social/Behavioral Competence | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Self Efficacy | | | ✓ | | | |
| Belief in the Future | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Self-determination | | | ✓ | | | |
| Pro-social Norms | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Spirituality | ✓ | ✓ | ✓ | | | |
| **Family, School and Community** | | | | | | |
| Opportunities for Positive Social Involvement | ✓ | ✓ | | | | |
| Recognition for Positive Behavior | ✓ | ✓ | | | ✓ | ✓ |
| Bonding to Prosocial Others | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

# OVER 70 EFFECTIVE POLICIES AND PROGRAMS PROVEN TO PREVENT BEHAVIORAL HEALTH PROBLEMS ARE NOW AVAILABLE

**Effective programs:** www.blueprintsprograms.com; **O'Connell, Boat & Warner, 2009.**

**Effective policies:** Anderson et al. 2009; Catalano et al. 2012; Hingson & White 2013; Vuolo et al., 2016, **Surgeon General, 2016**.

**Effective prevention saves money:** **www.wsipp.wa.gov**
Washington State Institute for Public Policy Benefit-Cost Results, May 2017

# WHY IMPLEMENT PARENTING PROGRAMS?

- Parents want their children to be successful
- Children want to discuss important issues with their parents throughout development
- Many risk and protective factors for behavior problems can be affected by family action
- Parenting programs have shown impact on risk and protective factors, increased positive and reduced behavioral health problems in controlled trials

# RISK FACTORS THAT PARENTS CAN IMPACT

| DOMAIN | RISK FACTORS<br>Risk factors increase the likelihood young people will develop health and social problems. | PROBLEM BEHAVIORS<br>Substance Abuse | Delin-quency | Teen Pregnancy | School Drop-Out | Violence | Depression & Anxiety |
|---|---|---|---|---|---|---|---|
| FAMILY | ▪ Poor family management and discipline | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | ▪ Family conflict | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ▪ A family history of antisocial behaviour | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ▪ Favourable parental attitudes to the problem behaviour | ✓ | ✓ | | | ✓ | |
| PEER / INDIVIDUAL | ▪ Rebelliousness | ✓ | ✓ | | ✓ | | |
| | ▪ Early initiation of problem behaviour | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | ▪ Impulsiveness | ✓ | ✓ | | | ✓ | ✓ |
| | ▪ Antisocial behaviour | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | ▪ Favourable attitudes toward problem behaviour | ✓ | ✓ | ✓ | ✓ | | |
| | ▪ Interaction with friends involved in problem behaviour | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | ▪ Sensation seeking | ✓ | ✓ | | | ✓ | ✓ |
| | ▪ Rewards for antisocial involvement | | | | | | |

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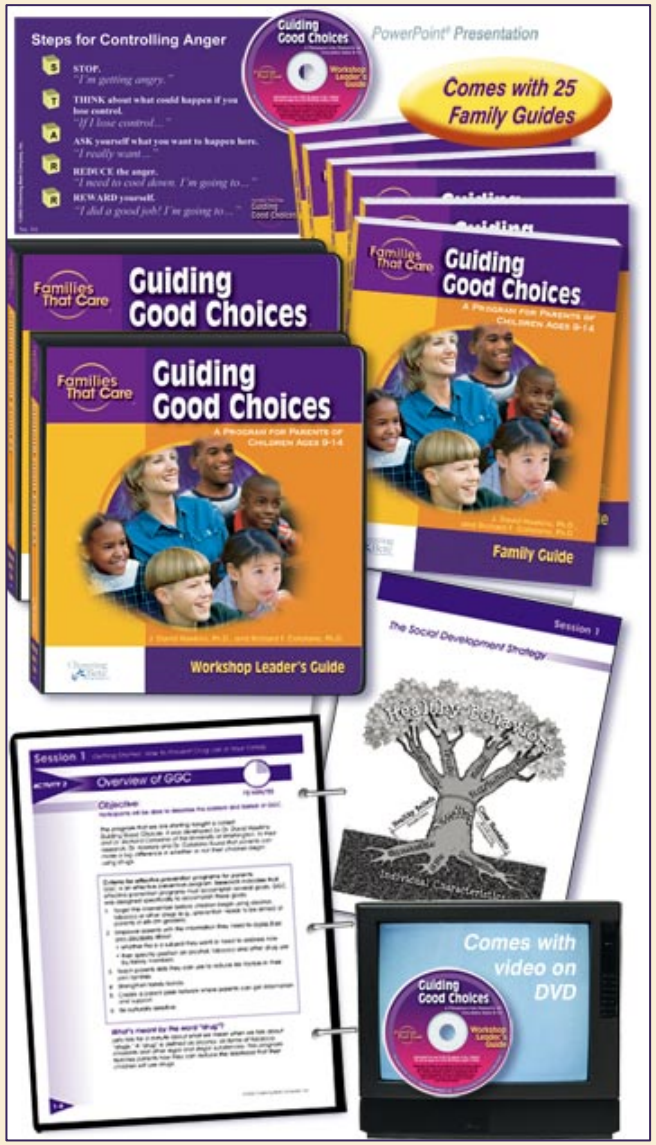
| | ▪ Sensation seeking | ✓ | ✓ | | | ✓ | ✓ |
| | ▪ Rewards for antisocial involvement | | | | | | |

# TESTED & EFFECTIVE PARENTING PROGRAMS FOR PARENTS OF ADOLESCENTS

- **Guiding Good Choices[1]***
- Family Check-Up/ Positive Family Support[1]*
- Strengthening Families 10-14[1]*
- Strong African American Families[1]*
- GenerationPMTO*
- Positive Family Support[1]
- Group Teen Triple P – Level 4*
- New Beginnings for Children of Divorce*
- Effekt*
- Familias Unidas[1]*
- Keep Safe*
- Parent Handbook[1]

[1]*Surgeon General, 2016 * blueprintsprograms.org*




# GUIDING GOOD CHOICES

- Parenting program for parents of early adolescents ages 11-14
- Theoretically grounded in the Social Development Model
- Evaluated in two RCTs
  - ✓ Strengthened parent / child relationships and parenting skills
  - ✓ Reduced early substance use initiation, delinquency, and depressive symptoms

# FIVE 2-HOUR SESSIONS, ONE INCLUDING ADOLESCENTS

| GUIDING GOOD CHOICES SESSIONS | |
|---|---|
| Session 1 | Getting Started: How to Prevent Drug Use in Your Family |
| Session 2 | Setting Guidelines: How to Develop Healthy Beliefs and Clear Standards |
| Session 3 | Avoiding Trouble: How to Say No to Drugs *(with children in attendance)* |
| Session 4 | Managing Conflict: How to Control and Express Your Anger Constructively |
| Session 5 | Involving Everyone: How to Strengthen Family Bonds |

Sessions emphasize parenting skills

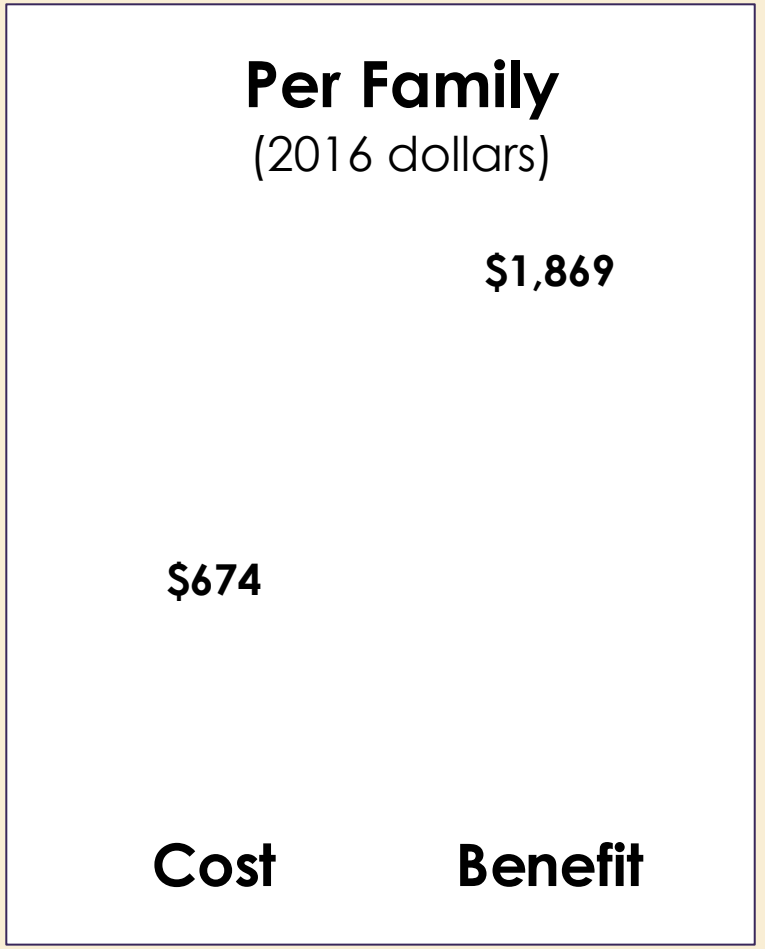
- Build family bonding
- Establish and reinforce clear and consistent guidelines for children's behavior
- Teach children skills to resist peer influence
- Improve family management practices
- Reduce family conflict

# GUIDING GOOD CHOICES IMPACT

- Affects Parenting Behavior regardless of family risk (Spoth et al., 1998)
- Reduced Growth in Substance Use (Park et al., 2000; Mason et al., 2003)
- Reduced Growth in Delinquency (Mason et al., 2003)
- Reduced Depressive symptoms (Mason et al., 2007)

# GUIDING GOOD CHOICES IS COST-BENEFICIAL

- Analysis by Washington State Institute for Public Policy
- Impacts included: Alcohol, marijuana, smoking, illicit drug use in high school, and internalizing symptoms
- Net Present Value: $1,195 per Family
- Benefit-Cost Ratio: $2.77



# SCHOOL-BASED TRIALS OF PARENTING PROGRAMS RECRUIT A SMALL PROPORTION OF THE ELIGIBLE SAMPLE: PROSPER EXAMPLE

- 17% of the eligible families enrolled in the Strengthening Families 10-14 study.

- PROSPER demonstrated that this level of involvement was still enough for significant population-level effects on youth substance use initiation.

# WHY ARE EFFECTIVE PROGRAMS NOT WIDELY ATTENDED?

- Social norms and stigma limit participation.
- Legitimacy of sponsoring organizations to provide parenting advice is not clear.

# WHAT POPULATION LEVEL EFFECTS MIGHT BE ACHIEVED IF 40% OR MORE OF ELIGIBLE FAMILIES WERE REACHED WITH AN EFFECTIVE PREVENTIVE INTERVENTION?

# CAN WE ACHIEVE THIS LEVEL OF RECRUITMENT THROUGH PRIMARY CARE SETTINGS?

# WHY SHOULD PEDIATRICIANS BE INTERESTED IN PARENTING PROGRAMS?

# SUPPORTING PARENTS SUPPORTS HEALTHY ADOLESCENT DEVELOPMENT

- Pediatric primary care provides a patient-centered medical home for children and adolescents
- Offers "whole-person" care by addressing biomedical and social determinants of health
- Parents are cornerstone in adolescent's social context
- AAP's Bright Futures guidelines recommend developmentally tailored anticipatory guidance to all parents at wellness visit

# ADVANTAGES TO PROVIDING PARENTING PROGRAMS IN PRIMARY CARE

- **Pediatricians have high credibility** and are trusted by parents. Therefore, are good agents for validating good parenting practices.
- Pediatric primary care is more **universally** available **and relatively affordable** with new health insurance coverage.
- Care provided in **a pediatric setting is non-stigmatizing** because most families go to a pediatrician or family physician, not just those with health problems.
- These advantages **may create high recruitment and retention rates** for family-focused prevention programs.

# PROVIDING ANTICIPATORY GUIDANCE CAN BE A CHALLENGE!

- Wellness visits are short, include multiple objectives
- Pediatricians may not feel equipped to offer

## A POSSIBLE SOLUTION

- Have behavioral health specialists deliver Guiding Good Choices to parents of early adolescents at the primary care clinic to provide developmentally appropriate anticipatory guidance
- Pediatrician's role: Recommend enrollment

# EVIDENCE FROM OTHER "PARENTING IN PRIMARY CARE" STUDIES ALSO POINTS TO SUCCESS

- Parent enrollment rates are significantly higher when offered in pediatric primary care
  - ✓ **eHealth Familias Unidas:** >90% in primary care compared to 51% in school setting *(Prado, personal communication, May 2017)*
  - ✓ **Family Check-Up:** >90% in primary care compared to 27-40% in school setting *(Shaw, personal communication, May 2017)*
- Parenting programs offered in primary care have also demonstrated sustained impact on children's behavioral health *(Kolko et al., 2014; Lavigne et al., 2008; Perrin et al., 2014; Richardson et al., 2014; Shah et al., 2016)*

KAISER PERMANENTE COLORADO

KAISER PERMANENTE Northern California

Henry Ford HEALTH SYSTEM

A NEW PRAGMATIC TRIAL:

# PARENTS, PEDIATRICIANS, AND PREVENTION: PATHWAYS TO ADOLESCENT HEALTH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# MULTISITE PARTNERSHIP TO IMPLEMENT GUIDING GOOD CHOICES (GGC) IN 3 LARGE HEALTHCARE SYSTEMS

- **Social Development Research Group, School of Social Work, University of Washington:** Founders Catalano and Hawkins developed GGC
- **Kaiser Permanente of Northern California**
- **Henry Ford Health System**
- **Kaiser Permanente of Colorado**

# 5-YEAR COOPERATIVE AGREEMENT

- **UG3 Phase:** 1-year of planning/piloting procedures
- **UH3 Phase:** 4-year pragmatic RCT, with funding contingent on completion of UG3 milestones
- **Funders:** NCCIH, with co-funding from NIDA, ODP, OBSSR
- Part of **NCCIH Healthcare Systems Research Collaboratory**

  **HSRC Goal:** *"Strengthen the national capacity to implement cost-effective, large-scale research studies that engage health care delivery organizations as research partners"*

# 3 LARGE, LEARNING HEALTHCARE SYSTEMS:

## Kaiser Permanente of Northern California

## Henry Ford Health System

## Kaiser Permanente of Colorado

- All are affiliated with the **NIDA Clinical Trials Network** and the **Healthcare Systems Research Network** (HCSRN: 18 systems), and within HCSRN, the **Mental Health Research Network** (MHRN) and **Addiction Research Network** (ARN).
- As such, have strong avenues for **disseminating study results and evidence-based best practices** across a wide variety of **large health systems, community-based health centers, Federally Qualified Health Centers, and patient-engaged research centers.**

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Northern California


- 4.2 million members, with **1 million pediatric members**
  - ✓ 45% of all commercially insured Northern Californians; diverse SES;
  - ✓ 52% female, 17% Hispanic, 20% Asian, and 7.5% African American.
  - ✓ Members insured through employer-based plans, Medicare, Medicaid and health insurance exchanges.
  - ✓ 21 medical centers, 238 medical offices, and 2,000 primary care physicians and providers.
  - ✓ Specialty psychiatry and substance use intervention are a covered benefit.
- Approximately **50% of adolescents ages 11-12** have **annual well-check.**
- Implementation site: **KPNC Oakland Pediatrics Department**
  - ✓ SES and racial/ethnic diversity in members
  - ✓ Physicians' demonstrated interest in partnering in research studies
  - ✓ 45 PCPs, all board certified in Pediatrics or Family Medicine, 59% female and 49% non-white.

Henry Ford Health System


- A leading non-profit health care system serving **over 1 million people** in **Metropolitan Detroit.**
  - ✓ Diverse membership: 33% African American, 54% White, 3% Asian, 1% Hispanic
  - ✓ Patients are insured through a number of health plans, including the HFHS-owned Health Alliance Plan.
- **72% of young people** have annual primary care visit, **often with well-check.**
- Candidate clinics chosen for **racial and socio-economic diversity** and **clinicians' support for and enthusiasm about participation in research:**
  - ✓ **New Center One Clinic,** Midtown Detroit: Urban, high concentration of African-American families
  - ✓ **Ford Road Clinic,** Dearborn: Largest Arab-American population in the world outside of Middle East
  - ✓ **Sterling Heights Clinic:** Predominately working to middle class families, sizeable rural catchment area
  - ✓ **Farmington Road Clinic:** Suburban, higher SES families.

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COLORADO


- **625,000 members** in Denver, Boulder, Southern CO and Northern CO.
  - ✓ 70% White, 3% Asian, 4% African American, 22% mixed racial background, 22% report Hispanic ethnicity.
  - ✓ Multilingual membership.
  - ✓ Provides health insurance for approximately 20% of the Denver metropolitan population.
  - ✓ Approximately 1,000 physicians, 80 pediatricians, and 5,000 employees
- Over **70% of members ages 11-15 in candidate clinics** received a **well-check** in prior year.
- Candidate clinics represent **urban and rural Coloradans** (select up to 4):
  - ✓ Denver/Boulder metro area clinics: **East, Skyline, Smoky Hill**
  - ✓ Eastern plains clinics: **Greeley, Pueblo**
  - ✓ Rocky Mountain clinics: **Frisco, Edwards**

# MODEL OF ANTICIPATORY GUIDANCE

**ISSUE:**
Bright Futures recommend-dation for universal anticipatory guidance and education to prepare parents for adolescence not being met

**ENGAGE & MAINTAIN SUPPORT**
of stakeholders in KPNC, KPCO, HFHS HCS. With input from stakeholders, refine Recruitment, Enrollment, and Program Delivery Protocols, and finalize plans for pragmatic trial to assess feasibility and impact.*

**ENGAGE & ENROLL PARENTS IN GGC**
IDENTIFY eligible families who have an adolescent age 11-12 at next well-check using electronic HCS data

PUBLICIZE GGC with flyers from HCS & PCP endorsement letter, via HCS online communication system or regular mail

PRESCRIBE GGC at well-check: Front desk gives flyer, PCP offers "warm hand off" prescription, medical assistant enrolls

1 FOLLOW-UP CALL by ancillary staff to enroll parents

GGC Group Intervention or Workbook Self-Study for non-enrollees

**DELIVER GGC**
DELIVER GGC parent groups to provide anticipatory guidance and education; offer some outreach to support self-study parents

PROXIMAL IMPACT on target parenting behaviors and skills, e.g., family involvement, monitoring, discipline, parent-adolescent relationship quality communication, bonding, and adolescent skills for refusing influences on health-risking behavior

IMPROVE ADOLESCENT BEHAVIORAL HEALTH: Alcohol, tobacco, marijuana and other drug use; depression and anxiety; delinquency and violence; other risk behaviors; ED and inpatient utilization

**DISSEM-INATE MODEL & FINDINGS** TO HCS & NON-HCS RESEARCH, PRACTICE, AND POLICY STAKE-HOLDERS

**USE ONGOING FINDINGS & FEEDBACK**
FROM ALL HCS STAKEHOLDERS – HCS SYSTEM, CLINIC STAFF, PCPs, INTERVENTIONISTS, PARENTS, ADOLESCENTS – IN RECURSIVE QUALITY IMPROVEMENT OF MODEL

# STUDY DESIGN – UH3 PHASE

- **Cluster-randomized controlled trial (C-RCT): Randomization of pediatricians within healthcare systems (HCS)**
  - ✓ 3 HCS
  - ✓ 24 pediatricians per HCS (N = 72 total)
- **Pediatricians recommend that parents enroll in GGC at their child's age 11-12 wellness visit**
  - ✓ Group intervention
  - ✓ Self-study with outreach/support for those who do not choose group
- **2 cohorts of families**
  - ✓ Cohort 1: Intervention in Y2, follow-up in Y3 – Y5
  - ✓ Cohort 2: Intervention in Y3, follow-up in Y4 – Y5

# ESTIMATED SAMPLE SIZE

| | HCS Site KPNC | | HCS Site HFHS | | HCS Site KPCO | | TOTAL ACROSS HCS SITES | | |
|---|---|---|---|---|---|---|---|---|---|
| **PCPs** | | | | | | | | | |
| **Intervention** | 12 | | 12 | | 12 | | | | **36** |
| **Control** | 12 | | 12 | | 12 | | | | **36** |
| **Total PCPs** | 24 | | 24 | | 24 | | | | **72** |
| **FAMILIES** | Cohort 1 | 2 | Cohort 1 | 2 | Cohort 1 | 2 | Cohort 1 | 2 | TOTAL |
| **Control** | 384 | 384 | 384 | 384 | 384 | 384 | 1152 | 1152 | **2304** |
| **Intervention** | 384 | 384 | 384 | 384 | 384 | 384 | 1152 | 1152 | **2304** |
| Delivery mode | | | | | | | | | |
| GGC groups | 128 | 128 | 128 | 128 | 128 | 128 | 384 | 384 | **768** |
| GGC self-study | 256 | 256 | 256 | 256 | 256 | 256 | 768 | 768 | **1536** |
| **Total** | 768 | 768 | 768 | 768 | 768 | 768 | 2304 | 2304 | **4608** |
| **Total Families** | **1536** | | **1536** | | **1536** | | **4608** | | |

# ADOLESCENT ASSESSMENT SCHEDULE

| | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 |
|---|---|---|---|---|
| **Cohort 1 (n=2304)** | **Baseline** | **Follow-up** | **Follow-up** | **Follow-up** |
| **Intervention (n=1152)** | **x** | **1** | **2** | **3** |
| **Control (n=1152)** | **x** | **1** | **2** | **3** |
| *Adolescent age* | *11-12* | *12-13* | *13-14* | *14-15* |
| **Cohort 2 (n=2304)** | | **Baseline** | **Follow-up** | **Follow-up** |
| **Intervention (n=1152)** | | **x** | **1** | **2** |
| **Control (n=1152)** | | **x** | **1** | **2** |
| *Adolescent age* | | *11-12* | *12-13* | *13-14* |

# ADOLESCENT BEHAVIORAL HEALTH OUTCOMES

- **Primary – Substance use initiation with 3 indicators**
  - ✓ Alcohol use
  - ✓ Marijuana use
  - ✓ Tobacco use
- **Secondary – Other impacts from prior trials**
  - ✓ Depressive symptoms
  - ✓ Antisocial behavior
- **Exploratory – Available in EHR, not previously evaluated but plausibly linked to GGC**
  - ✓ Anxiety symptoms
  - ✓ Health service utilization

# REPRESENTATIVE "PROCESS" HYPOTHESES & MEASURES*

| CONSTRUCT | HYPOTHESES | MEASURES |
|---|---|---|
| REACH | • Parent enrollment in GGC will be higher than in non-HCS settings. | EHR data,<br>Enrollment call sheets |
| ADOPTION | • HCS partners will remain engaged and find the model feasible and useful.<br>• Parents will be engaged in GGC and find it useful. | Stakeholder meeting notes,<br>Qualitative Interviews,<br>GGC Session Attendance Records,<br>GGC Satisfaction Surveys,<br>Project Self-Study Call Sheets |
| IMPLEMEN-TATION | • Engagement, enrollment, and program delivery will be consistent with protocols. | Enrollment call sheets,<br>GGC Session Fidelity Forms |
| MAINTEN-ANCE | • Results will be maintained or strengthened over time.<br>• Results will generalize across HCS, and participant gender, race/ethnicity, health insurance status, and primary language. | Measures used for other constructs |

**** Data sources: HCS Stakeholders, pediatricians, parents, adolescents, and EHR records***

# SUMMARY AND CONCLUSIONS

- Prevention science advances over the past 40 years have led to the development of several effective family-focused prevention programs.
- If implemented broadly, these programs could achieve population-level improvements in public health.
- Pediatric primary care is an ideal setting for delivering universal prevention:
  - ✓ to reach large numbers of parents of adolescents,
  - ✓ to fulfill the Bright Futures guideline around anticipatory guidance, and
  - ✓ to improve adolescent behavioral health

# OPPORTUNITY FOR THE CLINICAL TRIALS NETWORK

**Multiple trials** of **family-focused preventive interventions** are **needed to establish evidence** for family recruitment and retention, implementation feasibility, and effectiveness when provided through primary health care.

These trials could provide an **empirical foundation** for recommendations for **insurance reimbursement** or **incorporation of family-focused preventive interventions routinely provided** as part of primary health care.

# Thank You!

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