Guiding Good Choices for Health: Offering Universal Family-Focused Prevention to Parents of Adolescents in Pediatric Primary Care

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Prevention Science Methods Group Virtual Grand Rounds
April 20, 2021
1) Social Development Research Group

2) Healthy Parenting is Prevention

3) Opportunities for Prevention in Pediatric Primary Care: Guiding Good Choices for Health Study
SDRG Mission: Promote healthy behaviors and positive social development among diverse populations by using prevention principles rooted in rigorous science.
SDRG: Prevention Science for Over 40 Years
Continuum of Efforts Aimed at Health Equity
**MPI, Community Youth Development Study**

- **Long-term evaluation of Communities That Care prevention system**
  - Cluster randomized trial
  - 24 communities, 4,407 youth

- **Current focus – young adulthood**
  - CTC impacts through Age 28
  - Association between cannabis context, substance use

- **Age 23 Impacts (Kuklinski et al., 2021)**
  - Substance use, antisocial behavior
  - College completion – females
  - Return: $11.14 per dollar invested

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**Co-Chair, Health Economics Working Group (HEWG)**

- **NIDA HEAL Prevention Initiative**
- **Opioid Misuse: Adolescents and Young Adults Ages 16-30**
- **11 Funded Trials**
  - Prevention continuum
  - Different settings and stakeholders
  - Health economic evaluation required

- **HEWG Goals**
  - Cross-project Cost-effectiveness Analysis
  - Budget Impact Analysis – Scale implementation

- **Health Economist: Preventing Opioid Misuse Through Successful Transitions**

5R01DA044522-17, Oesterle and Kuklinski

SR01DA044522-17, Oesterle and Kuklinski

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18 YEARS
HEALTHY PARENTING IS PREVENTION
Many Young People Don’t Reach Their Potential

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

- **Annual costs of substance misuse $442B v. diabetes $245B**

40+ Years of Prevention Science Advances

- Etiology, epidemiology of problem behaviors and health development
- Development, testing of prevention programs
- Effective programs
  - National Academies, 2019
  - www.blueprintsprograms.com
  - Surgeon General, 2016
- Effective prevention saves money
Why Parent-focused Prevention and Health Promotion?

- Parents want children to be successful
- Children want to discuss important issues with parents
- Stronger bonds with family: Better health and educational outcomes
- Parenting programs
  - Increase protection, reduce risk
  - Improve health, reduce problems
## Risk Factors That Parents Can Impact

### Risk Factors
- Poor family management and discipline
  - Family conflict
- A family history of antisocial behaviour
- Favourable parental attitudes to the problem behaviour
- 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

### Problem Behaviours
- Substance Abuse
- Delinquency
- Teen Pregnancy
- School Drop-Out
- Violence
- Depression & Anxiety

Risk factors increase the likelihood young people will develop health and social problems.
### Evidence-based Programs for Parents of Adolescents

**BLUEPRINT PROGRAMS**
- Group Teen Triple P – Level 4
- New Beginnings for Children of Divorce
- Effekt
- Keep Safe
- GenerationPMTO

**BLUEPRINTS & SURGEON GENERAL**
- Guiding Good Choices
  - Family Check-Up/Positive Family Support
  - Strengthening Families 10-14
  - Strong African American Families
  - Familias Unidas

**SURGEON GENERAL**
- Parent Handbook

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Surgeon General, 2016; blueprintsprograms.org
Guiding Good Choices – Parents of Adolescents Ages 9-14

SOCIAL DEVELOPMENT STRATEGY

Opportunities
Skills
Recognition

HEALTHY BEHAVIORS

Clear Standards
Bonding

Individual Characteristics

SCHOOL OF SOCIAL WORK
GGC Logic Model

**GGC**

- Family management (GMC) skills
- Conflict management skills
- Refusal skills
- Family bonding, family involvement
- Positive communication

**Proximal Risk and Protection**

- Substance use initiation
- Problematic substance use
- Delinquency
- Depression
- Sustained improvement

6-12 months

**Distal Adolescent Health**

24-36 months
Five 2-hour Sessions

1. **Getting Started:** How to Promote Health and Wellbeing During the Teen Years

2. **Setting Guidelines:** How to Develop Healthy Beliefs and Clear Standards

3. **Avoiding Trouble:** How to Say No, Keep Your Friends, and Still Have Fun *(with adolescents)*

4. **Managing Conflict:** How to Deal with Anger in a Positive Way

5. **Involving Everyone:** How to Strengthen Family Bonds
Support for High-fidelity GGC Implementation

Refusal Skills: The Goals
1. Keep your friends.
2. Have fun.
3. Stay out of trouble.

Session 4: Family Activity Ideas
It can take practice to control and express anger in positive ways. These family activity ideas will support you and other family members in learning these new skills.
GGC improved adolescent health
- Reduced alcohol, marijuana, cigarette use
- Reduced symptoms of depression
- Reduced antisocial behavior
- Effects sustained for 4-6 years

GGC also strengthened families
- Better communication
- Closer relationships
- Less family conflict

Catalano et al., 1998; Mason et al., 2003, 2007, 2009; Park et al., 2000; Redmond et al., 1999; Spoth et al., 1998
Parents like GGC!

It can’t help but enrich your family bonds.

The classes were easy to understand and applied to everyday situations.

It helps us talk to our kids about all sorts of things we worry about with teenagers.

It gives you permission to talk about the tougher topics.

It lets the kids know exactly where you stand, instead of taking it for granted.

It can’t help but enrich your family bonds.

It was really helpful to talk with other parents and share with each other.

It was so valuable.
Trial samples were largely white.

Could we find evidence of efficacy with more diverse families?

Enrollment and uptake were limited in community-based trials.

- PROSPER: 17% of eligible families enrolled in Strengthening Families 10 to 14.

- Enough for significant population-level effects on youth substance use initiation.

Could we reach more children and families through pediatric primary care?
OPPORTUNITIES FOR PREVENTION IN PEDIATRIC PRIMARY CARE: GUIDING GOOD CHOICES FOR HEALTH
Advantages of Offering Parenting Programs in Primary Care

- Pediatric primary care: More universally available and relatively affordable since ACA
- Medical home for children and adolescents
- Care is non-stigmatizing
- Pediatricians have high credibility and are trusted by parents
- “Whole-person” care, social determinants of health
- Parents are cornerstone in adolescent’s social context

Perrin, Leslie, & Boat, 2016; Leslie, et al., 2016
GGC Helps Fill a Service Gap

- AAP: Pediatricians provide anticipatory guidance

- Barriers: Lack of time, skill, and comfort

- Another way: Pediatricians refer parents to GGC for delivery by embedded behavioral health specialists

→ Advantages may create greater enrollment – potential for broader public health impact
Goal:
More rapid uptake of learnings from pragmatic clinical trials
Overall aim

Evaluate feasibility and effectiveness of implementing Guiding Good Choices in 3 large integrated healthcare systems:

Kaiser Permanente Northern California
Kaiser Permanente Colorado
Henry Ford Health System

working in partnership with University of Washington, developers and distributors of GGC

Funders: NCCIH, NIDA, ODP, OBSSR
Spanish Language GGC

- KPNC Oakland

- Needs assessment:
  - Parent focus groups, interviews
  - Pediatrician interviews

- Deliver GGC to monolingual Spanish-speaking or Spanish-preferred parents
# GGC4H Leadership Team

## Guiding Good Choices for Health (GGC4H)

### GGC4H Scientific Leadership

<table>
<thead>
<tr>
<th>University of Washington</th>
<th>Kaiser Permanente Northern CA</th>
<th>Kaiser Permanente Colorado</th>
<th>Henry Ford Health System</th>
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<tbody>
<tr>
<td>Richard Catalano, PhD, MPI</td>
<td>Stacy Sterling, DrPH, MPI</td>
<td>Arne Beck, PhD Site PI</td>
<td>Jordan Braciszewski, PhD, Site PI</td>
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<td>Margaret Kuikins, PhD, MPI</td>
<td>Rahel Negusse, BA, Site PM</td>
<td>Jennifer Boggs, PhD Post-Doc</td>
<td>Farah Elsiss, MA, Site PM</td>
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<td>Sabrina Oesterle, PhD Methodologist</td>
<td>Charles Quesenberry, PhD, Lead Biostatistician</td>
<td>Erica Morse, MA, Site PM</td>
<td>Amy Loree, PhD, Co-Investigator</td>
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<td>Kevin Haggerty, PhD GGC Master Trainer</td>
<td>Oleg Sofrygin, PhD, Biostatistician</td>
<td>Matt Daley, MD Physician Leader</td>
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<td><strong>Consultants</strong></td>
<td>Constance Weisner, PhD, Senior Leader</td>
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<td>Hendricks Brown, PhD</td>
<td>Lauren Hartman, MD, Physician Leader</td>
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<td>John Graham, PhD</td>
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<td>Kathryn McCollister, PhD</td>
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<td>Ellen Perrin, MD</td>
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### NIH Leadership

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<tr>
<th>NCCIH</th>
<th>Della White, PhD, Project Officer</th>
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<td>Robin Boineau, MD, Project Scientist</td>
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### Ad Hoc Members

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<tr>
<th>Qilu Yu, PhD, NCCIH</th>
<th>Elizabeth Nielsen, PhD, ODP</th>
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<td>Erica Spotts, PhD, OBSSR</td>
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### Funders

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Longitudinal Cluster-randomized Trial

- Randomize 75 pediatricians within 3 HCS and 10 clinics
  - Constraints: pediatrician gender, panel size, % on Medicaid

- Recruit adolescents to study – 2 Cohorts

- Offer GGC to all parents in intervention arm
  - Pediatrician letter & well-visit recommendation
  - 2 delivery modalities: Group and self-guided

- RE-AIM measurement framework
  - **Implementation**: Reach, adoption, implementation fidelity, participant engagement and skills
  - **Effectiveness**: Evaluate GGC’s impact on adolescent health
GGC INTERVENTION

GGC Study Design

Randomize Pediatricians

Recruit Adolescents

Implement GGC

Follow-up

1. Randomize Pediatricians
2. Recruit Adolescents
3. Implement GGC
4. Follow-up

GGC Study Design:
- Randomize Pediatricians
- Recruit Adolescents
- Implement GGC
- Follow-up

GGC INTERVENTION:
- Pediatrician letter / email referral to GGC
- Well Visit: Pediatrician in-person referral
- Study team enrolls parents

Control Arm Pediatricians

Recruit Adolescents

Yes: Baseline Survey

No to Study

Intervention Arm Pediatricians

Recruit Adolescents

Yes: Baseline Survey

No to Study

Annual Follow-up Assessments

Annual Follow-up Assessments

Adolescents

Recruit Adolescents

Yes: Baseline Survey

No to Study

Recruit Adolescents

Yes: Baseline Survey

No to Study

GGC Group

eGGC

SCHOOL OF SOCIAL WORK
Partially Cross-Classified Design

- Parents are nested within pediatrician
- 2 GGC delivery modalities: Group and Self-guided
- Pragmatic enrollment approach: Parents from same pediatrician (P) enroll in different groups, parents from different pediatricians (P) enroll in same group → cross-classification
- Result: C-RCT with partial cross-classification in intervention arm
- If not modelled appropriately: Threats to inference, increased Type I error
Innovative Modelling Approach, Adequate Power

- **Biostatisticians Quesenberry and Sofrygin**
  - Extend Luo et al.’s (2015) linear model to generalized linear model for binary outcomes (logistic mixed effects regression)

- ** Appropriately model random effects – with 2 different subsets in intervention arm**
  - **Self-guided subset**: Pediatrician is the only random effect, same as in control arm
  - **Group GGC**: Both Pediatrician and GGC group are random effects
  - Fixed covariates at Levels 1 and 2, with focus on point and interval estimation of trial arm indicator regression coefficient

- **Simulation study**
  - >.80 power, adequate coverage, Type 1 error at a range of Pediatrician and Group ICCs and anticipated effect sizes
## Effectiveness Outcomes: Adolescent Behavioral Health

<table>
<thead>
<tr>
<th>Primary Outcomes</th>
<th>Secondary Outcomes</th>
<th>Exploratory Outcomes</th>
<th>Mechanisms to Impact</th>
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<tbody>
<tr>
<td>Substance Use</td>
<td>Substance Use</td>
<td>Anxiety (GAD-7)</td>
<td>Parent and Family Risk &amp; Protective Factors (RPFs)</td>
</tr>
<tr>
<td>Lifetime Initiation with four indicators: Alcohol, Marijuana, Cigarettes, E-Cigarettes</td>
<td>Age of Initiation, Lifetime Past-Year, Past 30-day Use Frequency &amp; Amount</td>
<td>Screen &amp; Social Media Time Sexting</td>
<td>Individual RPFs</td>
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<td>Mental Health</td>
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<td>Peer RPFs</td>
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<tr>
<td></td>
<td>Depression (PHQ-9)</td>
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<td>School RPFs</td>
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<td>Antisocial Behavior</td>
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<td>Ever</td>
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<td>Past-Year</td>
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- Developed Adolescent Behavioral Health Survey to collect data on key adolescent outcomes not routinely captured in EHRs
- **EHR data: 2 uses in GGC4H**
  1) **Clarity**: Relational database refreshed in real time or daily, used to identify well-child visits
  2) **Virtual Data Warehouse**: Developed over 20 years to support multisite HCS research
  - Enrollment, demographics, encounters, diagnoses, pharmacy, labs, claims, PRO
  - Harmonized, standardized data, continually updated
Implementation Outcomes

- **Reach**
  - Exclusions
  - Enrollment

- **Adoption**
  - Participation by HCS and clinics
  - Parent attendance, satisfaction

- **Implementation**
  - GGC referral process
  - Groups held as planned
  - Intervention implementation fidelity
  - Parent knowledge, skills, attitudes, behavior

- **Maintenance**
  - Ongoing HCS support
## PRE-COVID 19 TIMELINE

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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<tbody>
<tr>
<td>• Milestones-driven planning phase</td>
<td>• Recruit Cohort 1 into study</td>
<td>• Recruit Cohort 2 into study</td>
<td>• Cohort 1 Follow-up 2</td>
<td>• Cohort 1 Follow-up 3</td>
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<tr>
<td>• Pilot study</td>
<td>• Implement GGC with Cohort 1</td>
<td>• Implement GGC with Cohort 2</td>
<td>• Cohort 2 Follow-up 1</td>
<td>• Cohort 2 Follow-up 2</td>
</tr>
<tr>
<td>• Protocol review committee</td>
<td>• Recruit Cohort 2 into study</td>
<td>• Cohort 1 Follow-up 2</td>
<td>• Cohort 1 Follow-up 3</td>
<td>• Cohort 2 Follow-up 2</td>
</tr>
<tr>
<td></td>
<td>• Implement GGC with Cohort 1</td>
<td>• Cohort 1 Follow-up 1</td>
<td>• Cohort 2 Follow-up 1</td>
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## ACTUAL TIMELINE

<table>
<thead>
<tr>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6 NCE</th>
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<tbody>
<tr>
<td>• Develop Virtual GGC</td>
<td>• Retrain for Virtual GGC</td>
<td>• Recruit Cohort 2 into study</td>
<td>• Cohort 1 Follow-up 2</td>
<td>• Cohort 2 Follow-up 2</td>
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<td></td>
<td>Cohort 1 Mini-baseline</td>
<td>• Implement GGC with Cohort 2</td>
<td>• Cohort 2 Follow-up 1</td>
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<td></td>
<td>Implement GGC with Cohort 1</td>
<td>• Cohort 1 Follow-up 1</td>
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Pre-implementation Focus Groups & Interviews

- All HCS, GGC pilot and GGC naïve families, Virtual or phone

- Barriers – expected
  - Exhausting to be online right now
  - Technology: Who could access?

- Reasons to enroll in GGC
  - Other parents’ experiences are valuable
  - Friendships are being tested
  - Concerns about anger management, discipline, mental health, social media use

“In doing this group you will be giving your child an advantage in life, equipping them to be successful in their future relationships and their relationship with you. This is a gift you are giving to your child.”

GGC Pilot Family at Focus Group
975 Adolescents – Cohort 1

- Ethnically diverse, 17% Latinx, 52% female

- Mini baseline: >80% completion
Enduring Key Leader Support

- All clinics, pediatricians chose to participate
- Universal recommendation → no risk assessment
- Low-burden workflow: Minimal ask of pediatricians, flexible supportive tools

Pediatrician referral “scripts”

“We have a new free program called Guiding Good Choices for Health and I’m encouraging all parents of my 11-12 year old patients to attend this free program.”

“We’re offering a new free class called Guiding Good Choices. It’s for parents of children your son’s/daughter’s age in my practice, to provide you with tools to help your child avoid risky behaviors during the challenging teen years while keeping your relationship strong.”
Enrollment: Cycles 1-3 (of 6 planned for Cohort 1)

- All intervention arm families offered GGC ("PAWS" study and non-study)
- Enrollment rate: 23% overall (17% Group, 6% eGGC)
- Enrollment among study participants is much higher
- Cross-site variability

PAWS participants are a subset of the Total.
Does Well Visit Recommendation Boost GGC Enrollment?

- Preliminary look: Only 18% of Cohort 1 have had a well visit.
- Enrollment is generally higher among those with well visits – but it’s too early to reach any conclusions.

PAWS participants are a subset of the Total.
Transition from GGC Enrollment to Attendance

- About 55-60% of enrollees attend 1+ session, somewhat more for PAWS.
- Target: 75% transition.
- Team is focusing on how to boost the transition rate.

**Total - Attended 1+ Session**

- Total: 55%
- Total - HCS 1: 50%
- Total - HCS 2: 44%
- Total - HCS 3: 63%

**PAWS - Attended 1+ Session**

- PAWS: 61%
- PAWS - HCS 1: 52%
- PAWS - HCS 2: 45%
- PAWS - HCS 3: 73%

PAWS participants are a subset of the Total.
What Do GGC Parents Say?

“I enjoyed having my daughter be able to participate with us!”

GGC Participant, Henry Ford Health System

“The topic of this session [Session 2 - guidelines, monitoring, consequences] could be the topic of the entire program. Much of our children’s emotional health is in reaction to the choices made regarding substance abuse and/or other excessive behaviors.”

GGC Participant, Kaiser Permanente Colorado

“It is comforting to "see" other parents who share the same hopes for our kids. I am looking forward to learning all together. During this difficult time, it is especially beneficial. Thank you!”

GGC Participant, Kaiser Permanente Northern California
Next Steps

- Recruit Cohort 2 and implement GGC
- Conduct first Cohort 1 follow-up
- Complete Qualitative Interview Study: Support for Prevention
  - PRISM framework
  - HCS Key leaders, department heads, clinic heads, pediatricians
- Start examining implementation data
  - Higher enrollment among those with well visits?
  - Mean and modal attendance among enrolled
  - Parent satisfaction
  - Implementation fidelity
Closing Thoughts

- Support for universal, evidence-based, parent-focused prevention in pediatric primary care

- Pragmatic trials offer an important opportunity to study uptake and effectiveness of EBPs in real-world settings

- COVID-19 has posed an unanticipated challenge (and confound), but the study will yield rich information with implications for prevention science
THANK YOU!

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