Teen Options to Prevent Pregnancy (TOPP)

Background and Research

WHERE WE ARE

care site locations

hospital

1. OHIOHEALTH RIVERSIDE METHODIST
2. OHIOHEALTH GRANT MEDICAL CENTER
3. OHIOHEALTH DOCTORS HOSPITAL
4. OHIOHEALTH GRADY MEMORIAL
5. OHIOHEALTH DUBLIN METHODIST
6. OHIOHEALTH HARDIN MEMORIAL
7. OHIOHEALTH MARION GENERAL
8. OHIOHEALTH O'BLENESS HOSPITAL
9. OHIOHEALTH MANSFIELD HOSPITAL
10. OHIOHEALTH SHELBY HOSPITAL
11. OHIOHEALTH GROVE CITY METHODIST
12. OHIOHEALTH BERGER HOSPITAL

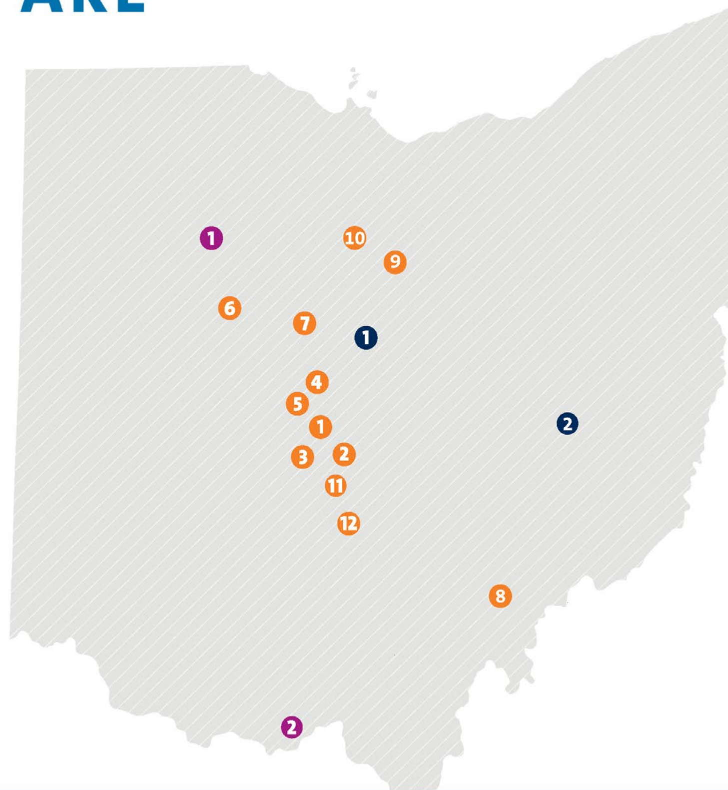
managed

1. MORROW COUNTY HOSPITAL
2. SOUTHEASTERN OHIO REGIONAL MEDICAL CENTER

affiliate

1. BLANCHARD VALLEY MEDICAL CENTER
2. SOUTHERN OHIO MEDICAL CENTER

60+ OUTPATIENT LOCATIONS



Represents Fiscal Year 2019

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Background

- Most interventions designed to reduce teen pregnancy have not focused on secondary prevention.
- The TOPP RCT targeted pregnant and parenting adolescent mothers receiving Medicaid insurance.
- This program recommended monthly sessions between a participant and a registered nurse over 18 months.

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TOPP Study Design and Evidence

Objective of the TOPP Study

- The primary goal of the TOPP program was to reduce the rates of rapid repeat pregnancy and achieve healthy birth spacing with an inter-pregnancy interval of 18 months.
- The impact of the program on rapid repeat pregnancies at 18 months after enrollment was evaluated.

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Design of the TOPP Study

- 598 adolescent females were enrolled from 7 obstetric-gynecology clinics and 5 postpartum units of a large hospital system in Columbus, Ohio.
- Participants were at least 28 weeks pregnant or less than 9 weeks postpartum.
- Each participant was either randomized to the Teen Options to Prevent Pregnancy Program or a Usual Care Condition. (n=297 intervention, n= 301 control)

Components of TOPP

- Telephone and home-based care coordination
  - One-on-one **motivational interviewing** sessions with a trained **nurse educator**
- Facilitated access to contraceptive services
  - Provided **transportation** using a van to and from clinic appointments
  - Stationary clinic staffed by the nurses and an obstetrician/gynecologist
- Risk assessment and referrals by a **social worker**
  - Screened for depression and domestic violence
  - Provided referrals to support services

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Usual Care Control Group

- Randomly assigned.
- No access to any of the TOPP components.
- Could still receive health care services, including contraception.
- Regardless of assigned group, all participants received handouts on birth control options, STIs and interpregnancy intervals at recruitment.

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Data Collection

- Contact at 6 months (mid-intervention) and 18 months (post-intervention).
- Survey administered by independent evaluators.
- Multiple-choice questions assessing contraceptive use, pregnancy statue and future pregnancy intentions.
- Information on future births also gathered through state vita statistics files.

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Baseline Data

TABLE 1
Baseline sociodemographic characteristics and sexual behaviors

Variables	TOPP mean (SD) or n, %	UC mean (SD) or n, %
Age, y, n, %		
15 and younger	22 (7.4)	16 (5.3)
16	26 (8.8)	30 (10.0)
17	35 (11.8)	36 (12.0)
18 and older	214 (72.1)	219 (72.8)
Race/ethnicity, n, %		
White, non-Hispanic	137 (47.1)	143 (48.5)
Black, non-Hispanic	107 (36.8)	105 (35.6)
Hispanic	17 (5.8)	21 (7.1)
Multiracial/other	30 (10.3)	26 (8.8)
Highest level of education, n, %		
No high school	14 (4.7)	18 (6.1)
Some high school	146 (49.5)	148 (50.0)
High school graduate/GED	111 (37.6)	110 (37.2)
Postsecondary	19 (6.4)	19 (6.4)
Other	5 (1.7)	1 (0.3)
Economic situation (in past 30 d), n, %		
SNAP or WIC	239 (91.2)	254 (90.7)
TANF	61 (24.1)	71 (27.1)
Family structure for participant, n, %		
Lives with parents	32 (10.8)	31 (10.3)
Lives with one parent	115 (38.7)	132 (43.9)
Lives with neither parent	150 (50.5)	138 (45.8)
Believe condoms are easy to get	4.5 (0.8)	4.5 (0.7)
Believe condoms should be used when someone her age has sex	4.6 (0.8)	4.7 (0.6)

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TABLE 1

Baseline sociodemographic characteristics and sexual behaviors *(continued)*

Variables	TOPP mean (SD) or n, %	UC mean (SD) or n, %
Lifetime number of pregnancies (including most recent)	1.48 (0.80)	1.41 (0.71)
Lifetime number of sexual partners	5.04 (6.49)	5.14 (7.62)

All variables measuring beliefs have a range of 1–5, with higher scores reflecting more favorable beliefs. The difference in scores for "Believe women can trust what doctors say about birth control" was statistically significant (P = .04). No other statistically significant differences were noted between the 2 groups. Effective birth control refers to using any of the following methods: condoms, birth control pills, the shot, the patch, the ring, intrauterine device, and implants. Unprotected vaginal intercourse refers to having vaginal intercourse without using any of the following methods: condoms, birth control pills, the shot, the patch, the ring, intrauterine device, and implants.

GED, general equivalency degree; *LARC*, long-acting reversible contraception; *SNAP*, Supplemental Nutrition Assistance Program; *TANF*, Temporary Assistance for Needy Families; *WIC*, Women, Infants, and Children.

Stevens et al. Randomized trial to prevent rapid repeat pregnancy. Am J Obstet Gynecol 2017.

Impacts on Repeat Pregnancy and Related Outcomes

Measure	Treatment group	Control group	Difference	p-value
Percentage of respondents reporting a repeat pregnancy in the past 18 months	20.5	38.6	-18.1	<0.01
Percentage of respondents who reported the following in the past 18 months:				
Unintended repeat pregnancy	17.2	34.7	-17.5	<0.01
Repeat pregnancy resulting in a live birth	10.3	20.6	-10.3	<0.01
Trying to avoid pregnancy in the next, year	63.7	58.7	-5.0	.265

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Impacts on Contraceptive Use and Unprotected Sex

Measure	Treatment group	Control group	Difference	p-value
Percentage of respondents reporting use of the following birth control methods in the past 3 months:				
LARC method	40.2	26.5	13.7	0.002
Any effective birth control method	83.1	74.3	8.8	0.031
Percentage of respondents who reported having had unprotected sex in the past 3 months	23.7	32.5	-8.8	0.044

Unintended Consequences

- The focus on increasing LARC use and decreasing barriers to LARC use had no unintended consequences.
- Participants in the treatment group were no more likely than those in the control group to report having sexual intercourse or a greater number of sexual partners.

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Qualitative Feedback

- Fifty intervention participants were reached by non-interventionists and independent evaluators to provide qualitative feedback about the program.
  - What did you like best about the program?
  - If you could change something, what would it be?

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Conclusions

- Analysis suggests that TOPP was able to positively influence rates of unprotected sex and increase exposure to information on birth control.
- Findings suggest the importance of considering barriers such as a lack of awareness of LARC methods, lack of reliable or convenient transportation, and poor access to a regular, convenient healthcare provider.
- Most important, the intervention had statistically significant impact on the primary goal of reducing rapid repeat pregnancy within 18 months.

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The Need for TOPP

Teen Pregnancy

- The United States has one of the highest teen pregnancy rates in the western industrialized world.
- One in six adolescent women will give birth before age 20.
- One in four adolescent mothers will go on to have a second child as a teenager.
- More than one in three recently pregnant teens experience a repeat pregnancy within 2 years of a previous birth or abortion.
- Roughly 80% of pregnancies among teenagers are unintended.
- Less than 5% of women ages 15–19 are using a long-acting reversible contraceptive.

Why Does It Matter?

Infant

- Prematurity
- Infant mortality
- Abuse
- Future teen pregnancy

Teen Mom

- Low educational attainment
- Unemployment
- Poverty
- Risk of teen pregnancy

Society

- $9–11 billion per year

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Repeat Births to Teen Mothers

- Nearly one-sixth of births to adolescent mothers are repeat births.
- The vast majority of adolescent pregnancies are unintended.
- Adolescents with more than one child and their offspring are at heightened risk for educational and economic difficulties relative to adolescent-led families with only one child.

Birth Spacing

- Birth to conception intervals shorter than 18 months and longer than 59 months are significantly associated with increased risk of several adverse perinatal outcomes.
- Adverse perinatal outcomes include:
  - Preterm birth
  - Low birth weight
  - Small for gestational age

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Unmet Needs of Teenagers

- Adolescents had knowledge gaps about birth control, particularly long-acting reversible birth control methods.
- Transportation is a barrier to care for teens.
- Teens also need to understand birth spacing recommendations.

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Transportation and TOPP

- The TOPP program provided van service to bring participants to and from clinic appointments.
- Staff completed a car seat testing class.
- One in five participants received a van ride through the program during the first 6 months.

TOPP Contraceptive Clinic

- Provided direct access to contraceptive services through a part-time program clinic staffed by a board-certified OB/GYN and nurse.
- Available to participants not already affiliated with a clinic or struggling to receive timely or effective services
- Services:
  - Urine pregnancy tests
  - Screening for and treatment of STIs
  - Same day placement of LARCs and Depo-Provera shot
  - Prescriptions for other forms of birth control
  - Assisted in establishing care with a provider

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TOPP and Contraception: An Overview

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Declines in Adolescent Pregnancy

- Majority of decline attributable to increased contraceptive use among adolescents
- Among adolescents who become pregnant about half are due to contraceptive failure
  - Failure of the method
  - Failure to use the method correctly and consistently

Contraceptive CHOICE Project

- Two-thirds of females ages 14–20 chose a LARC.
- Showed a decrease in unintended pregnancy, abortion, repeat abortion and adolescent birth rate.
- Continuation rate higher with use of LARCs than other forms on contraception.
- Confirmed that LARC methods over short-acting methods were 20 times more effective than oral contraceptive pills, patches, or rings.

Policy Statements

- American College of Obstetricians and Gynecologists (ACOG)
  - *With top-tier effectiveness, high rates of satisfaction and continuation, and no need for daily adherence, LARC methods should be the first-line recommendation for all women and adolescents.*
- American Academy of Pediatrics (AAP)
  - *Given the efficacy, safety, and ease of use, LARC methods should be considered first-line contraceptive choices for adolescents.*
- Institute of Medicine (IOM)
  - *Expanding access to LARC for young women has been declared a national priority.*

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Teach Most Effective Methods First

- Abstinence: 100% effective in preventing pregnancy and sexually transmitted infections (STIs) including human immunodeficiency virus (HIV)
- LARCs (long-acting reversible contraception): more than 99% effective, but do not prevent HIV or other STIs; implant and IUD are LARC methods
- Hormonal methods (shot, pills, patch, ring): 92–99% effective; must be used consistently; do not protect from HIV/STIs
- Barrier methods, such as condoms: 85–98% effective; must be used consistently; help prevent HIV and other STIs

Advantages of LARC Methods

- Effectiveness independent from coitus, user motivation, and adherence
- Highest effectiveness, continuation rates, and user satisfaction of all reversible methods
- No requirements for frequent visits for resupply or additional funding for consistent use once placed
- Highly cost effective
- Reversible, with a rapid return to fertility after removal
- Few contraindications

LARC Methods

- Single-rod Implant – Etonogestrel
  - Nexplanon®
- Intrauterine Devices (IUDs)
  - CopperT380A
    - Paragard®
  - Levonorgestrel-releasing hormone
    - Kyleena®, Liletta®, Mirena®, Skyla®

Addressing Misconceptions

- IUDs are safe to use among adolescents.
- IUDs do not increase an adolescent's risk of infertility.
- IUDs may be inserted without difficulty in most adolescents and nulliparous women.
- Adolescents should be routinely screened for STIs at the time of IUD insertion.
- IUD expulsion is uncommon in adolescents.

Addressing Misconceptions (continued)

- IUDs and the implant cause changes in bleeding patterns.
- The implant has minimal or no effect on weight.
- The IUD and the implant have secondary health benefits.
- IUDs and contraceptive implants may be used immediately postpartum.

Resources

- Brochures – ETR (Education, Training & Research) (etr.org/pub)
- *Contraceptive Technology* 21st Edition – ISBN# 978-1-59708-005-7
- The American College of Obstetricians and Gynecologists (ACOG)
- U.S. Medical Eligibility Criteria for Contraceptive Use
  - Recommendations for using contraceptive methods for persons who have certain characteristics or medical conditions
- U.S. Selected Practice Recommendations for Contraceptive Use
  - Addresses a select group of common yet sometimes controversial or complex issues regarding initiation and use of specific contraceptive methods

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