



Limited Integration:

Teen Pregnancy and HIV/STD

- Research: Few empirical studies of sexual risk among pregnant and postpartum teens
 - Systematic review (1981-2003): 34 studies¹
- Clinical Care: Traditionally separate
 - "Contraceptive trade off dilemma"²

¹ Meade & Ickovics, in preparation; ² Cates, AJE 1996



Pregnant Teens at Risk for STDs

- Behavioral
 - early debut, more partners, hx poor contraceptive use
 - engage in unprotected sex during pregnancy
- Psychological
 - negative attitudes toward using condoms
 - poor negotiation skills
 - inaccurate risk perceptions
- Physiological
 - Histological/anatomical characteristics of genital tract
- Epidemiological
 - highest STD rates



Objectives

- To review results from our CIRA-sponsored research on STD/HIV risk among pregnant and post-partum teens ["Project 2"]
 - Do not perceive risk
 - Engage in risky sexual behavior
 - Have high incidence rates of *C trachomatis* and *N gonorrhoeae*
 - STD/Pregnancy as "window of opportunity" for intervention



Take-Home Message

- Must consider integration of reproductive health services “from before to beyond” pregnancy.



Methods

- Design: Longitudinal cohort study with follow-up visits at 6, 12, and 18 months
- Participants: 203 pregnant and 208 non-pregnant teens aged 14-19 without children at study entry
- Data Collection: Interview & STD testing by LCR



Study Sites

- **New Haven**

- Yale-New Haven Hospital Women's Center
- Hospital of Saint Raphael
- Fair Haven Community Health Center

- **Hartford**

- Hartford Hospital
- Chart Oak Terrace/Rice Heights Community Health Center

- **Bridgeport**

- Bridgeport Hospital
- Park City Center for OB/GYN
- Planned Parenthood
- Associates in Family Health
- High School Based Clinics



Study Participants

- Age 14-19; mean=16.7
- 44% African American; 42% Latina
- High-risk for STDs
 - 31% self-reported history of STD
 - 47% ≤ 14 at sexual debut
 - 36% have had 2-3 sexual partners; 38% have had 4+ sexual partners



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Perceived Risk

- 1) 51% of adolescent females underestimated their sexual risk given reported high-risk behaviors (e.g., # partners, unprotected sex)¹
- 2) Among those who contracted an STD almost all (81%) perceived themselves at little or no risk²
- 3) Pregnant adolescents had significantly lower perceived susceptibility of future pregnancy and STDs than non-pregnant adolescents³

¹ Kershaw et al., in press, Health Psych; ² Ethier et al., in press, STI; ³ Kershaw et al., in press, J Comm Psych



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Sexual Behavior, Baseline

- 66% pregnant teens are sexually active
 - versus 77% non-pregnant ($p=.02$)
- Among sexually active
 - No difference by pregnancy status:
risky partners, frequency of sexual activity
(median = 5/month)

(Niccolai et al., AJOG 2003;188:63-70)

Consistent Condom Use (Baseline)



	Adjusted* Odds Ratio (95% CI)
Non-pregnant (38%)	4.7 (2.3, 9.7)
Pregnant (12%)	1.0 (referent)

*Adjusted for age, race, lifetime number of sexual partners, frequency of sexual intercourse, current partnership.

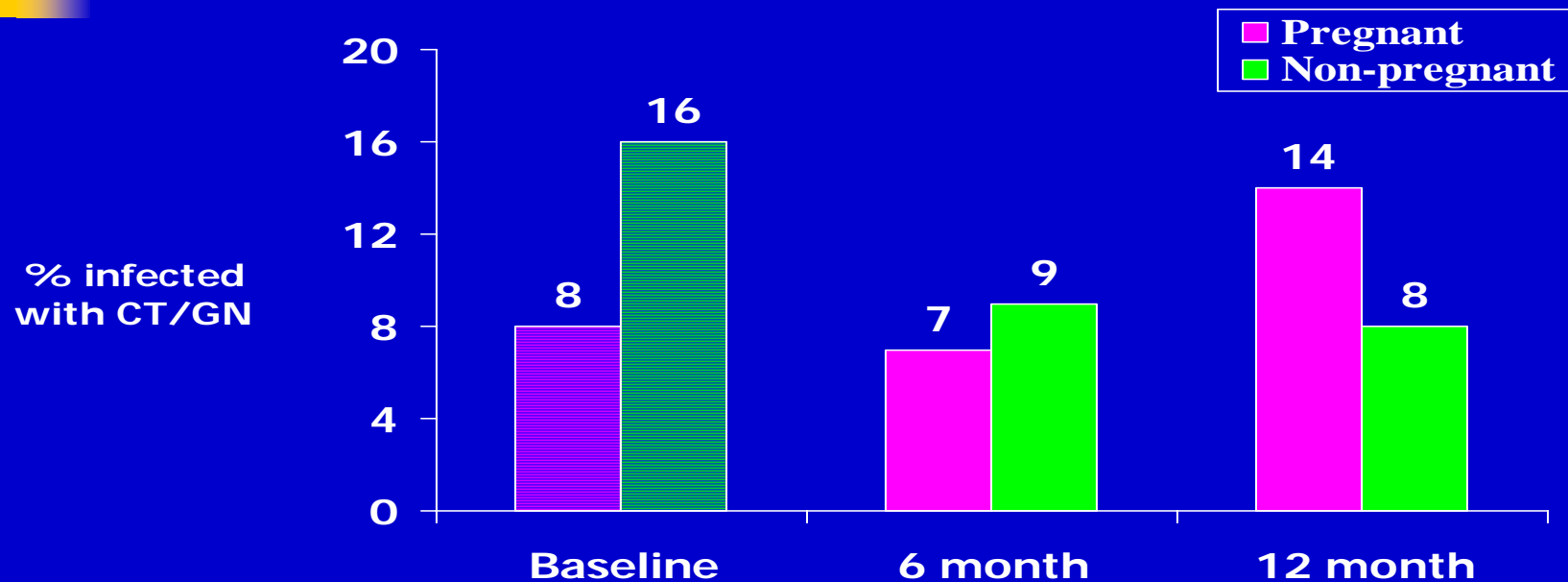
(Niccolai et al., AJOG, 2003;188:63-70)



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STD's at Study Baseline, 6 and 12-Month Follow-Up, by Pregnancy Status



- Group (preg/non-preg) x Time (BL/6/12) interaction, $p=.005$.
- CT/NG incidence 1.94 times higher (CI=.97, 3.89, $p=.06$) 12 months postpartum compared to non-pregnant teens, controlling for baseline STD.

(Ickovics et al., STI, in press)



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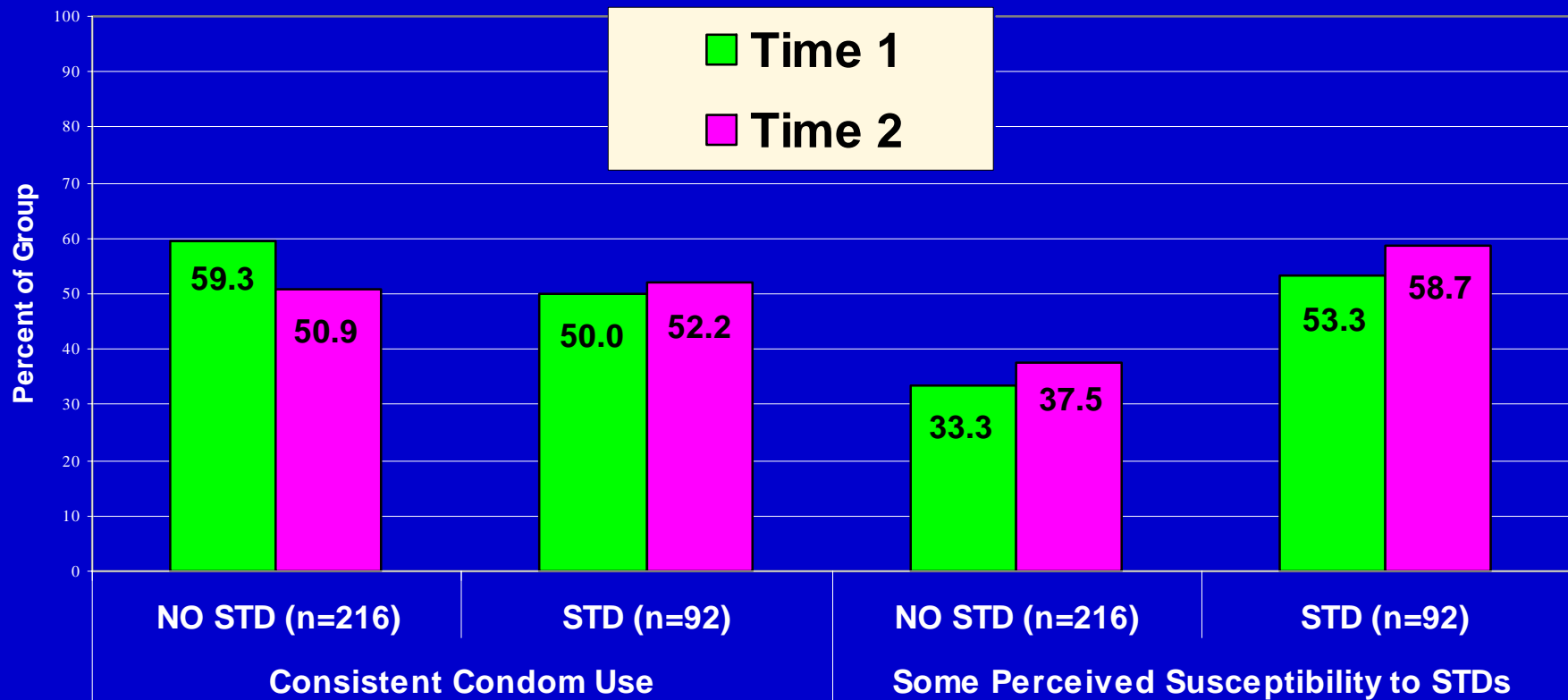


Window of Opportunity for Behavior Change?

INCIDENT STD AND/OR PREGNANCY

- Health Belief Model and other theories suggest that adverse health events increase susceptibility to risk and motivate behavior change (i.e., “wake up call”)
- Engaged in reproductive health services that (should) promote sexual risk reduction

Incident STD: No Change in Condom Use and Perceived Susceptibility



NS change within and between groups ($p > .05$)
(Kershaw et al., under review)



Pregnancy: Contraceptive and Condom Use, Pre- to Post-Partum

■ HORMONAL CONTRACEPTION

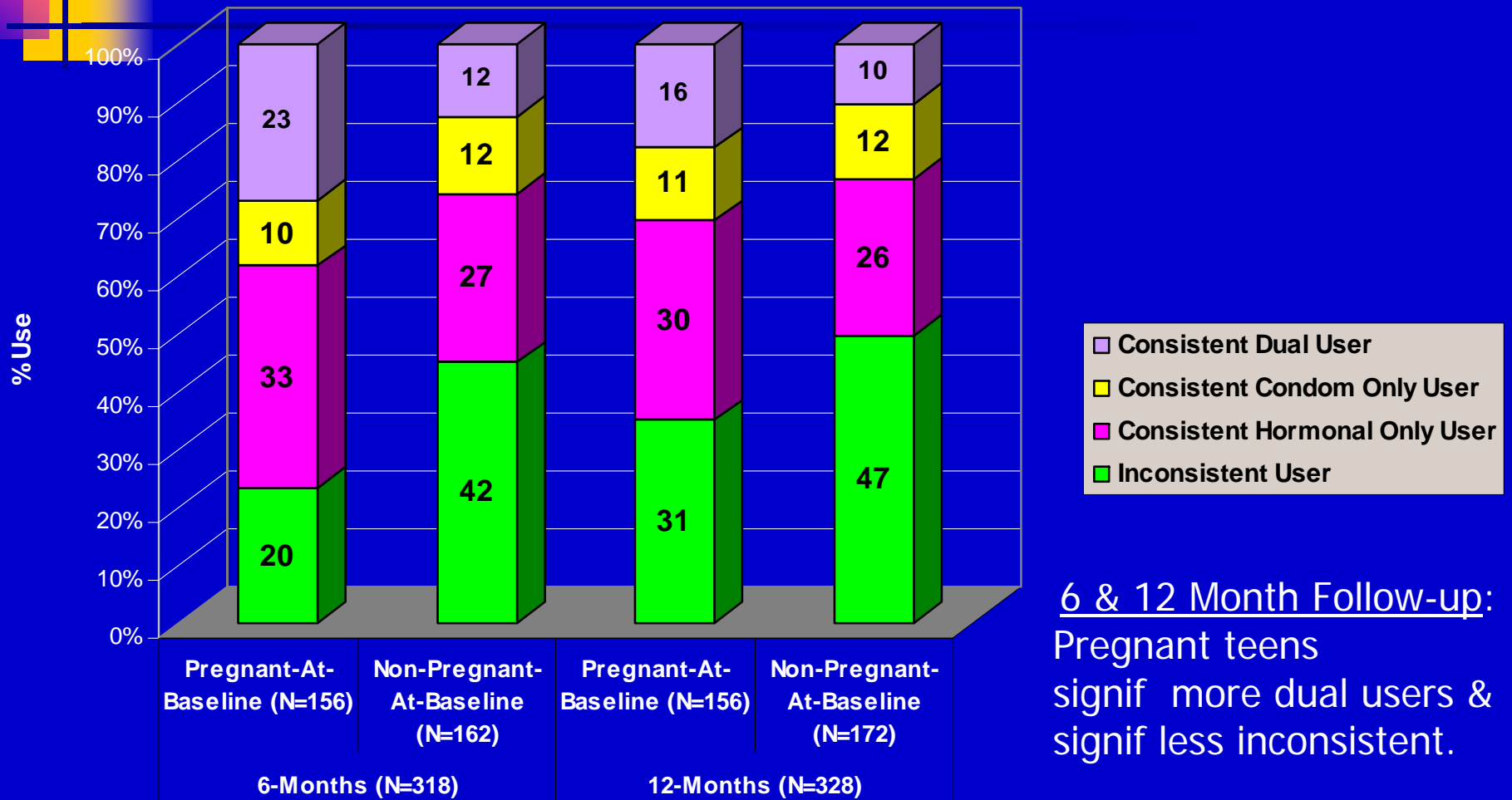
- Pregnant teens: significantly less likely in year prior to pregnancy, increase 6 months post-partum, with decline 12 months post-partum (17%, 87%, 70%)
- Non-Pregnant teens: no change over time (52-59%)

■ CONDOM USE

- No difference across time by pregnancy status (62-82%)

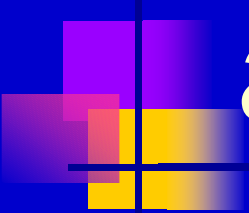
(Kershaw et al., J Adol Health, in press)

Pregnancy: Contraceptive Patterns by Pregnancy Status, 6 and 12-Month Follow-Up



6 & 12 Month Follow-up:
 Pregnant teens
 signif more dual users &
 signif less inconsistent.

(Kershaw et al., in press)



SUMMARY: Pregnant and Post-Partum Teens

- Do not perceive risk for HIV, other STDs and repeat pregnancy
- Are sexually active and nearly 5x less likely to use condoms during pregnancy
- Have high STD incidence, especially 12 months post-partum
- Pregnancy -- though not STD diagnosis -- appears to be a “window of opportunity” for intervention



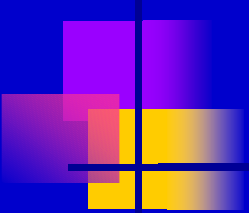
Clinical Implications

- Repeat STD screening for high-risk adolescents during and after pregnancy
- Capitalize on behavioral changes during pregnancy and early post-partum
 - Initiation versus maintenance
- Prenatal care often first time teens address sexual health, and many involved in routine care during/after pregnancy
- Community mobilization for perinatal partnership to enhance adolescents' reproductive health:
 - Clinics, churches, schools, health departments...



Take-Home Message

- Must consider integration of reproductive health services “from before to beyond” pregnancy.



centering pregnancy program

"Groups are the best way to get prenatal care!"



embarazo enfocado

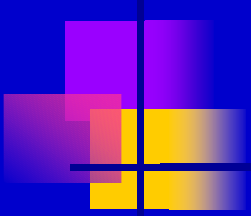
"Los grupos son la mejor manera de conseguir cuidado prenatal."



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- **Thanks to the CWHP Team:**
 - Project Manager: Jessica Lewis
 - Post-Doc Fellows: Trace Kershaw, Linda Niccolai, Stephanie Milan, Kimberly Zeller
 - Pre-Doc Fellow: Christina Meade
 - Interviewers and Research Assistants: Tamika Brabham, Greta Builter, Heather Cunha, Allison Daniels, Andrea Feeback, Sarah Hammond, Brynn Hare, Janet Liciaga, Zohar Massey, Aleta Tierney.





Aim 1: Design

- Participants included if 2 valid adjacent interviews and not pregnant at either
 - Time 1, Time 2
 - N=308: 92 Incident STD, 216 No Incident STD
- Recorded as having “incident STD” if:
 - (1) self-reported an STD dx after the Time 1 interview and at least 30 days prior to the Time 2 interview OR
 - (2) tested positive for chlamydia or gonorrhea at the Time 1 interview with LCR testing

Aim 1: Data Analyses

IVS:

- Incident STD Status: STD vs. No STD
- Time: Time 1, Time 2
- Covariates
 - Age, history of pregnancy
- Dependent Variables:
 - Condom Use (% of condom use, consistent condom use)
 - Perceived Susceptibility to STDs
 - Attitudes toward using condoms
- Analysis:
 - General Estimating Equations (GEE)

Repeated Measures General Linear Models



Aim 2: Data Analyses

IVS:

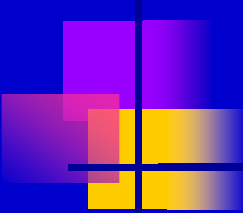
- Pregnancy Status at Baseline: Pregnant vs. Non-Pregnant
- Time: Baseline, 6 Month Follow-Up, 12-Month Follow-Up

■ DVS:

- Hormonal contraception use
- Condoms use
- Contraceptive pattern (Dual use, hormonal only, condom only, inconsistent use)

■ Data Analysis

- General Estimating Equations (GEE)
- Multinomial Logistic Regression



Limitations & Strengths

- Limitations:

- Clinic-based convenience sample
- Sample size
- STD prevalence underestimated

- Strengths:

- Prospective, longitudinal assessments
- Diverse, high-risk cohort
- Comparison group of non-pregnant teens
- Behavioral reports plus highly sensitive/specific nucleic acid amplification technique for STD tests



CENTERING PREGNANCY PROGRAM

N=1120 pregnant
14-25 years old,
New Haven and Atlanta

RCT:
Individual vs. Group vs.
Enhanced group prenatal care

Outcomes:
Behavioral risk
CT/NG incidence
Repeat pregnancy
Perinatal outcomes