

**-- FOR DISCUSSION ONLY --  
DRAFT DATE: JULY 26, 2006**

Milwaukee Alliance for Sexual Health (MASH)  
Author: Adam D. Marks  
Staff Mentor: Seth Foldy, MD, MPH

**Issue Paper Topic:** Emergency Departments and Adolescent Reproductive Health

**Problem Description**

The rates of STDs and unintended pregnancies in Milwaukee county are among some of the highest in the state of Wisconsin. As such, the emergency departments (EDs) of the city of Milwaukee represent an important health care resource for adolescents seeking reproductive health care services. However, studies have shown that EDs are not designed or equipped to provide the type of primary care-style screening, treatment, or follow-up for reproductive health issues that is recommended.

**Issue Paper Summary**

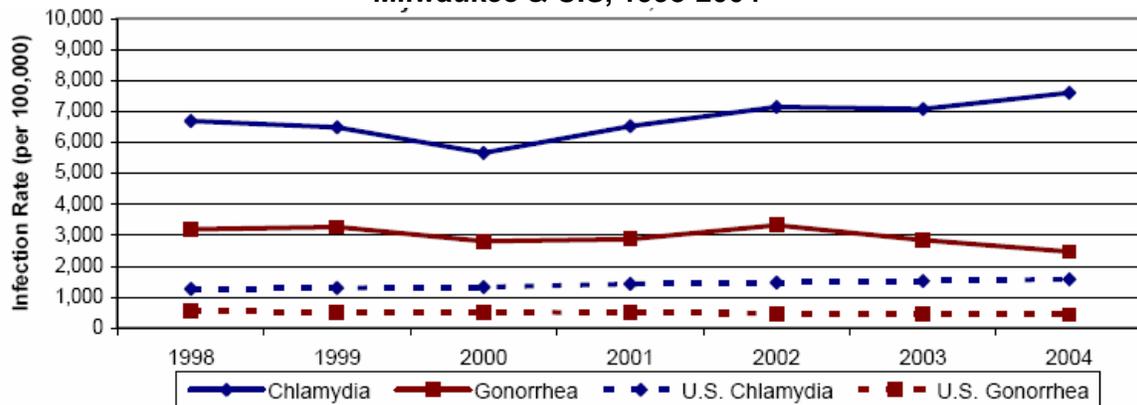
Emergency departments remain an important source of health care for low-income adolescents, and a substantial portion of adolescents use EDs as their primary source of health care. However, numerous studies have shown that EDs are not equipped to provide optimal reproductive health care for adolescents, and often fall short of recommended treatment and follow-up for STDs. This paper examines some of the research done concerning EDs and adolescents with STDs, identifies barriers and gaps, and makes recommendations for how EDs can help address the unmet reproductive health care needs of adolescents in Milwaukee.

**Background**

*Adolescent STDs*

In addition to high rates of unintended adolescent pregnancies, STD rates for diseases such as Chlamydia, gonorrhea, and syphilis in Milwaukee are extremely elevated. When compared to other cities, Milwaukee was among the worst ranked for Chlamydia and gonorrhea incidence. Among adolescents, the 2004 infection rate of Chlamydia in 15-19-year-olds was 7,600/100,000, 5 times that of the national average. The infection rate of Gonorrhea in the same age group was 2,467/100,000, which is 6 times the national average (Figure 1).

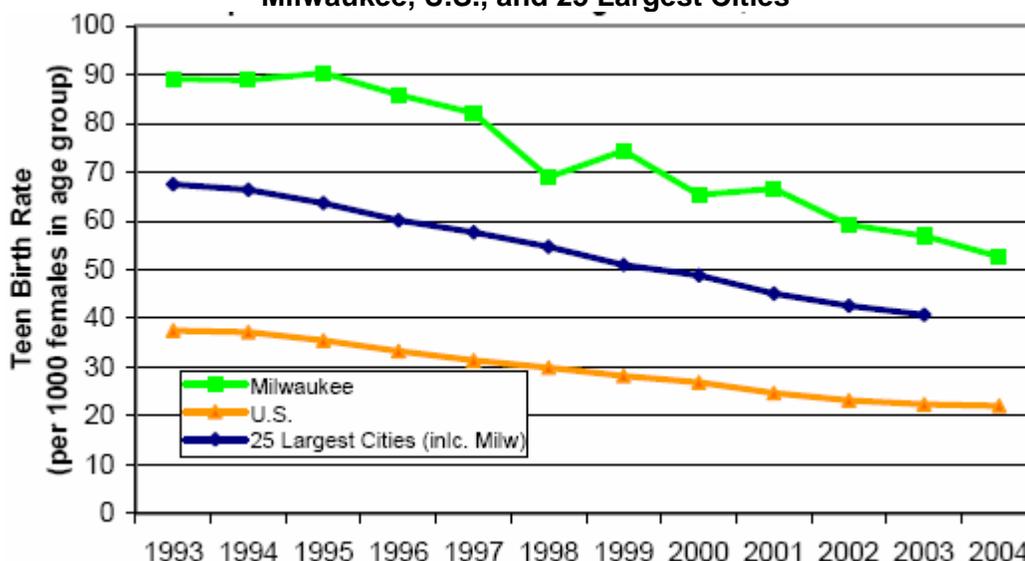
**Figure 1: Chlamydia and Gonorrhea Infection Rates in 15-19 year olds, City of Milwaukee & U.S, 1998-2004<sup>1</sup>**



### Teen Pregnancy

In 2004, the teen birth rate for Milwaukee was 52.67 per 1000 15-17 year old girls, more than double the national average. Milwaukee has the 2<sup>nd</sup> highest percentage of total births to adolescent mothers among the 50 largest cities in the United States. While rates have decreased in Milwaukee and the nation as a whole, the teen birth rate in Milwaukee continues to be extremely elevated compared to the national average (Figure 2). This rate is particularly elevated among African American and Hispanic adolescents in Milwaukee.

**Figure 2: Teen Birth Rates (15-17 yr olds)- Comparison of trends for Milwaukee, U.S., and 25 Largest Cities<sup>1</sup>**



A number of studies have linked teen pregnancy with a variety of negative outcomes. In *Kids Having Kids*, a special report commissioned by the Robin Hood Foundation, they found that boys born to teen moms are 2.7 times more likely to become incarcerated; girls born to teen mothers are 83% more likely to become teen mothers themselves; and that children born to teen mothers are twice as likely to be abused or neglected (United Way of Milwaukee Report, 2006).

### Emergency Department's Role

Given the high poverty and low insurance rates in many of areas with the worst teen pregnancy and STD rates, emergency rooms in Milwaukee often take the role of primary care clinics. Adolescents in particular, who have worse access to health care than most other age groups, are more likely to list EDs as their primary source of health care (Wilson, 2000). In the state of Wisconsin, a 2003 report on ED utilization revealed that adolescents had the highest rate of ED visits (BHI 2003 report). In a nation-wide survey, 1.2 million visits to the ER were made by adolescents seeking treatment of STDs in a seven year period, of which 92% were female (Beckman, 2004). All these studies indicate that EDs serve as an important part of health care for adolescents, and remain major source of reproductive health care, for female adolescents in particular.

Several studies have been done characterizing adolescents who use emergency departments as their primary source of health care. One of the largest studies found that "adolescents who use the emergency department as their usual source of care are often

**-- FOR DISCUSSION ONLY --**  
**DRAFT DATE: JULY 26, 2006**

from vulnerable populations...and are likely to miss needed follow-up care” (Wilson et al, 2000). Furthermore, the study found that adolescents who used the emergency department as their primary source of care were more likely to be male, African American, and have fewer financial resources.

Emergency departments, then, are more likely to see high-risk adolescents from vulnerable populations. Although relatively healthy, adolescents are more likely to participate in risky behaviors that can have serious health consequences, such as drug or alcohol abuse, or risky sexual behaviors. For this reason, screening for risky behavior, education and preventive care is of paramount importance when adolescents seek care (Ziv, 1999).

However, most emergency rooms do not provide adolescents with preventive screening, treatment, or counseling; nor do they allow for proper follow-up or partner notification needed for STD management. One study showed that only 24% of female ED patients with a positive chlamydia culture were properly treated during their initial ED visit (Chan et al, 1996). Other studies have revealed that critical aspects of STD management, including partner notification, follow-up visits, and reporting of STDs to local health departments are frequently overlooked (Yealy et al, 1997).

There are several aspects of emergency departments that make them attractive options for care. Emergency departments are often open 24 hours a day, even on weekends and holidays, while the majority of other clinics are only open during business hours. Furthermore, no appointment is necessary as all patients are by definition “walk-ins.” In a study examining adolescents and young adults seeking STD services in the ED, when asked why they weren’t seeking care at an STD clinic, inconvenient location and “clinics were closed” were some of the most common reasons listed (Supriya, et al, 2000). Another attractive aspect of ED care is that patients are seen and treated regardless of ability to pay, serving as a public clinic for many patients. These characteristics make the ED an attractive site for care for many low-income individuals, and mean that EDs are a potential source for reproductive health interventions for such populations.

Another aspect of EDs that warrants attention is their placement in the frontline of treating victims of sexual assault. The incidence of rape in the US peaks among young women ages 16 to 19, and high school surveys reveal that as many as 20% adolescent females have at least one episode of forced sexual contact (Poirier, 2002). A number of studies have indicated that EDs see the vast majority of reported sexual assaults (Amey AL et al 2002; Riggs, 2000; AAP 1994 report). As such, EDs play a critical role in the treatment of physical, social, and emotional ramifications that can follow sexual assault. Furthermore, because rates of follow-up visits following sexual assault can be as low as 30%, the initial ED visit may be the only opportunity to provide treatment and counseling (Rovi et al, 2002)

A variety of studies have been performed to ascertain the risk of STDs and pregnancy following a sexual assault. A recent review of the literature concerning sexual assault in adolescents identified adolescents as being at particularly high risk for contracting an STD from sexual assault (4.3-26.3%) (Azikiwe et al, 2005). Given that the risk for contracting an STD as a result of a sexual assault is influenced by regional variations in the prevalence of STDs, the risk is likely higher for adolescents in Milwaukee. A 1996 study estimated the risk of pregnancy following rape to be 4.7%, while other papers have

**-- FOR DISCUSSION ONLY --**  
**DRAFT DATE: JULY 26, 2006**

reported higher rates among adolescents (Holmes et al 1996; Poirier 2002; Kellogg, 2005; Riggs et al, 2000).

Given the relatively high risk of STD and unintended pregnancy following sexual assault, several groups have released guidelines to optimize the treatment of sexual assault victims in the ED. In 2002, the CDC released guidelines for the identification, prophylaxis, and treatment of STDs in adolescents following sexual assault. These guidelines recommend screening for HIV, hepatitis B, syphilis, gonorrhea, Chlamydia, and trichomonas. It is also recommended that empiric antimicrobial regimens for chlamydia, gonorrhea, trichomonas and bacterial vaginosis be initiated for the patient. More recently, post-exposure therapy for HIV with antiretroviral agents has been recommended in certain circumstances.

[http://www.guideline.gov/summary/summary.aspx?doc\\_id=3246#s23](http://www.guideline.gov/summary/summary.aspx?doc_id=3246#s23)

Recently, guidelines such as those set forth by the US Justice Department, Office on Violence Against Women have been criticized for not recommending that emergency contraception (EC) be offered to victims of sexual assault. Several other organizations have made statements recommending that EC should be offered to sexual assault victims after a pregnancy test determines that no pre-existing pregnancy is in progress. When taken within 72 hours, EC can reduce the risk of pregnancy by 89% (Lewis-O'Conner, 2005). As the primary source of immediate care following incidents of sexual assault, EDs should be aware of the importance of EC in reducing the risk of unwanted pregnancy following a sexual assault. A recent survey of ED physicians revealed that most were willing to offer EC following sexual assault, more than they would after consensual sex (Keshavarz, et al 2002).

Studies examining EDs compliance with STD and EC guidelines have found varied results. One study of academic EDs found that 86% provided EC counseling, while another found that EC was provided to only 20% of eligible patients (Keshavarz et al , 2002; Azikiwe et al 2005). A similar study found that full compliance with CDC STD prophylaxis recommendations was rare (15%) when sexual assault victims were seen in the ED (Rovi, 2002). Because EDs may be the only opportunity to provide STD, HIV or pregnancy prophylaxis given the low rate of follow-up, better compliance with national guidelines are essential for the appropriate treatment of sexual assault victims.

In Milwaukee, the high poverty rates have caused a great deal of financial headaches for EDs, who often list high annual financial losses. Most recently, in June 2006 St. Michael's Hospital announced that it was closing its emergency room and other departments, due to financial constraints. In 2005, St. Michael's reported losses totaling \$22.9 million. This closure has shifted the burden of ED patients to other hospitals, many of whom are already having difficulty maintaining services (Daykin, 2006). This example highlights the concerns of many medical analysts, who for the past 10 years have been warning of the increasing burden being placed on EDs who are serving more and more as primary care centers ([www.wha.org](http://www.wha.org)). For this reason, many programs have focused on how to shift primary care cases to local public clinics. Programs such as advertisement campaigns to raise awareness of public clinics, extension of clinic hours, and expansions of Medicaid programs have been shown to decrease ED utilization for non-urgent cases (Peterson, 1998; Piehl 2000).

**-- FOR DISCUSSION ONLY --  
DRAFT DATE: JULY 26, 2006**

**Table 1: Emergency Departments in the City of Milwaukee**

<b>Hospital</b>	<b>Zip Code</b>	<b>Address</b>
Children's Hospital of Wisconsin ED/TC	53226	9000 West Wisconsin Ave
Aura Sinai Medical Center	53233	945 North 12 <sup>th</sup> Street
Columbia St. Mary's	53211	2323 North Lake Drive
Froedtert Memorial Lutheran Hospital	53226	9200 West Wisconsin Ave
St Francis Hospital Inc	53215	3237 South 16 <sup>th</sup> Street
St Lukes Medical Center Inc	53215	West Oklahoma Avenue
Columbia Hospital Inc	53211	2025 East Newport Avenue
St Joseph Regional Medical Center	53210	5000 West Chambers Street

**Barriers and Gaps**

Emergency departments are not designed nor equipped to provide comprehensive reproductive or preventive health services to adolescents. Barriers to providing such care include:

- ER staff untrained in adolescent health, and are not in tune with the unique health needs of adolescents
- ER is not designed for primary care role
- ER staff are often under severe time constraints and thus cannot devote the time needed to screen for risky sexual behaviors, nor can they educate teen patients regarding reproductive health
- Patients who use ER as their usual source of care are more likely to have mental health or substance abuse issues, making treatment more difficult
- Low follow-up rates, due to both patient and ED factors, make comprehensive treatment difficult
- Poor compliance with national STD screening recommendations for sexual assault victims
- Inability to refer patients to appropriate clinic perpetuates reliance on ED for primary health care needs. Emergency departments seek to reduce care to unreimbursed populations and those not requiring critical care services, and thus have little incentive to improve reproductive services

**Community Strengths and Opportunities**

The MASH area of focus includes communities with many strengths that can be utilized to aid in the problem of EDs and reproductive health. These include:

- Keenen Health Center
- Milwaukee Adolescent Health Program

**-- FOR DISCUSSION ONLY --**  
**DRAFT DATE: JULY 26, 2006**

- Planned Parenthood of Wisconsin, with 4 clinics within MASH area boundaries
- Brighter Futures Initiative
- Milwaukee Teen Pregnancy Prevention Network
- Health Care Education & Training Inc. (HCET)
- Sexual Abuse Treatment Center (Aurora Sinai)
- Childrens Protection Center (Childrens Hospital of Wisconsin)
- Milwaukee Commission on Domestic Violence and Sexual Assault
- Milwaukee Emergency Department Care Coordination Taskforce of Wisconsin Hospital Assn.

There are opportunities for these groups to work together to minimize the gaps in care that EDs in Milwaukee have been traditionally filling.

### **Recommendations**

The problem can be understood as having two components. First, EDs are not doing a good job in meeting the reproductive health care needs of the adolescents seeking care at their facilities. There is little counseling, little follow-up, and little adherence to treatment standards. Second, EDs are not designed to fill the primary care needs of adolescents, and by doing so are decreasing their ability to treat true medical emergencies. Finally, they receive few if any incentives to improve care in this area, desiring instead to reduce levels of non-critical and non-reimbursed care.

Some research has been done involving the cost-effectiveness of STD screening in EDs. Specifically, the advent of a urine ligase chain reaction screening provides an easy, non-invasive way to test for gonorrhea and Chlamydia that does not require a pelvic exam. This exam can easily be integrated into routine ED care, and several studies have found it to be cost effective in areas with high rates of STDs (Aledort et al, 2005). Other studies have shown that the majority of adolescent patients seen in EDs find such screening acceptable (Monroe, 2003). This may provide EDs with a fast and simple opportunity to allow for STD screening among at-risk youth, a role more suited to the current state of EDs.

#### *Recommendation:*

Convene a consensus panel of emergency physicians and reproductive health advocates and experts to establish community-wide protocols for common reproductive health problems presenting to emergency departments. Such community-based standards could

- reduce concerns by any one ED is providing a higher level of care than other EDs and thus inviting higher traffic and placing institution at an economic disadvantage
- reduce ED concerns about providing sub-standard levels of care and inviting liability, by helping define the community standard of care
- improve the consistency of care resulting in better outcomes (including fewer repeat visits)
- improve the efficiency of care by identification of cost-effective, evidence-based care that minimizes unnecessary resource utilization
- improve the linkage for initial or follow-up care with existing outpatient resources

The second problem is more complex and demands a broader consideration of possible solutions. EDs are not suited to provide the kind of reproductive health care that

**-- FOR DISCUSSION ONLY --  
DRAFT DATE: JULY 26, 2006**

adolescents require, and the solution could involve shifting the burden to other clinical venues. As mentioned before, there are several aspects of EDs that make them attractive as sources of care, including their 24-hour service, relative ease of access, and free services. Part of this burden could be shifted to other clinics by working together to try and extend clinic hours, and develop transportation programs to aid in access. Furthermore, advertising such clinics to adolescents may increase usage by alerting teens to the existence of clinics specifically aimed at reproductive health concerns.

*Recommendation:*

Further consideration should be given to the following possible solutions:

- Advertising within ED concerning public clinics and other sources of health care for low-income adolescents, including STD clinics
- Collaborating with clinics that serve low-income population to allow for easy referral of patients
- Assess the opportunity to create 24/7 urgent-care options for good reproductive care outside the emergency department
- Improving follow-up of ED care in the community to reduce the need for return visits

**References**

1. Fillmore , Capri-Mara et al “Just the Facts: Teen Risky Sexual Behavior in Milwaukee” City of Milwaukee Health Department, accessed June 2006 at (<http://www.city.milwaukee.gov/DISPLAY/router.asp?docid=16576>)
2. Aledort, Julie E et al “The Cost-Effectiveness of Gonorrhea Screening in Urban Emergency Departments” *Sexually Transmitted Diseases*, July 2005 v. 32 (7): pp 425-436
3. Monroe, Kathy W et al “Acceptability of Urine Screening for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* in Adolescents at an Urban Emergency” *Sexually Transmitted Diseases*, November 2003 v. 30(11): pp 850-853
4. Todd, Catherine S et al “Emergency Department Screening for Asymptomatic Sexually Transmitted Infections” *American Journal of Public Health*, March 2001 v. 91 (3): pp. 461-464
5. Mehta, Supriya D et al “Cost-Effectiveness of Five Strategies for Gonorrhea and Chlamydia Control Among Female and Male Emergency Department Patients” *Sexually Transmitted Diseases*, February 2002 v 92 (2): pp 83-91
6. Wilson, Karen M et al “Adolescents Who Use the Emergency Department as Their Usual Source of Care” *Archives of Pediatric and Adolescent Medicine*, April 2000 v 154: pp. 361-365
7. Embling, Michelle L et al “Opportunistic Urine Ligase Chain Reaction Screening for Sexually Transmitted Diseases in Adolescents Seeking Care in an Urban Emergency Department” *Annals of Emergency Medicine*, July 2000 v. 36(1): pp 28-32

**-- FOR DISCUSSION ONLY --**  
**DRAFT DATE: JULY 26, 2006**

8. Mehta, Supriya D et al "Ambulatory STD Management in an Inner-City Emergency Department: Descriptive Epidemiology, Care Utilization Patterns, and Patient Perceptions of Local Public STD Clinics" *Sexually Transmitted Diseases*, March 2000 v. 27(3): pp 154-158
9. "If Truth be Told: Teen Pregnancy, Public Health, and the Cycle of Poverty" *United Way of Greater Milwaukee 2006 Report on Teen Pregnancy Prevention*, 2006 ([www.unitedwaymilwaukee.org](http://www.unitedwaymilwaukee.org))
10. Ziv, Amitai et al "Utilization of Physician Offices by Adolescents in the United States" *Pediatrics* July 1999 v. 104 (1): pp. 35-42
11. Daykin, Tom "St Michael's Hospital to Close" *Milwaukee Journal Sentinel* May 8<sup>th</sup>, 2006. Accessed in June 2006 at (<http://www.jsonline.com/>)
12. Beckman, William R et al "Emergency Department Management of Sexually Transmitted Infections in US Adolescents: Results from the National Hospital Ambulatory Medical Care Survey" *Annals of Emergency Medicine*, March 2004 v. 43 (3): pp. 333-338
13. "Emergency Department Visits, Wisconsin Hospitals 2002 Report" July, 2003, Bureau of Health Information, DHFS. Accessed June 2006 at (<http://www.dhfs.state.wi.us/provider/hospitals.htm>)
14. Monroe, Kathy et al "Acceptability of Urine Screening for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* in Adolescents at an Urban Emergency Department" *Sexually Transmitted Diseases* Nov 2003 v. 30 (11): pp. 850-853
15. Supriya, Mehta D et al "Cost-Effectiveness of Five Strategies for Gonorrhea and Chlamydia Control Among Female and Male Emergency Department Patients" *Sexually Transmitted Diseases* Feb 2002 v. 29(2): pp. 83-91
16. Amey, AL et al "Measuring the Quality of Medical Care for Women who Experience Sexual Assault with Data from the National Hospital Ambulatory Medical Care Survey" *Annals of Emergency Medicine* June 2002 v. 39 (6): pp. 631-638
17. Riggs N et al "Analysis of 1,076 Cases of Sexual Assault" *Annals of Emergency Medicine* April 2000 v 35(4): pp. 358-362
18. American Academy of Pediatrics Committee on Adolescence, "Sexual Assault and the Adolescent" *Pediatrics* 1994; v 94(2): 162-170
19. Lewis-O'Conner, Annie et al "Limitations of the National Protocol for Sexual Assault Medical Forensic Examinations" *Journal of Emergency Nursing*, June 2005 v. 31 (3): pp 267-270
20. Azikiwe, Nneka et al "Management of Rape Victims (Regarding STD Treatment and Pregnancy Prevention): Do Academic Emergency Departments Practice what they Preach?" *Journal of Adolescent Health* Fall, 2005 v. 36: pp. 446-448

**-- FOR DISCUSSION ONLY --**  
**DRAFT DATE: JULY 26, 2006**

21. Rovi, Sue et al "Prophylaxis Provided to Sexual Assault Victims Seen at US Emergency Departments" *Journal of the American Medical Women's Association* 2002 v. 57 (4): 204-207
22. Keshavarz R et al "Emergency Contraception Provision: A Survey of Emergency Department Practitioners" *Academic Emergency Medicine* January 2002 v 9 (1): 69-74