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SCHOOL of PUBLIC HEALTH

Department of Population, Family and Reproductive Health
Bill and Melinda Gates Institute for Population and Reproductive Health

September 23, 2008

Ann Mette Kjaerby
Parliamentary and Policy Advisor
All-Party Parliamentary Group on Population,
Development and Reproductive Health
Room 563 Portcullis House
House of Commons, Westminster SW1A2LW
United Kingdom

Sent via kjaerbym@parliament.uk

Dear Ms. Kjaerby:

I am responding to the July 28 letter request from Hon. Chris McCafferty and Baroness Tonge to submit written evidence regarding maternal morbidity in relation to unwanted pregnancies, unsafe abortions, obstetric fistula and HIV linkages.

The Gates Institute has conducted and sponsored research on these issues in collaboration with developing country scientists. We have selected the most relevant periodical articles to summarize in the attached and share with the APP Group. Electronic copies of the original journal articles are also attached.

Our Institute is funded by the Bill and Melinda Gates Foundation and engages Johns Hopkins School of Public Health faculty and students to collaborate with their peers from university postgraduate programs in Egypt, Ethiopia, Ghana, India, Malawi, Nigeria, Pakistan and Uganda and build the scientific evidence for the rationale and means of improving reproductive health and population welfare outcomes. The articles summarized here represent a part of the research efforts of these faculty and students. We will be happy to provide more information and details if required.

We wish the All Party Parliamentary Group on Population, Development and Reproductive Health every success on this important discovery effort.

Sincerely,

Amy Ong Tsui

Amy Ong Tsui (atsui@jhsph.edu)
Director and Professor

cc: Duff Gillespie, Robert Blum, Sabrina Karklins, Natalie Culbertson

Protecting Health, Saving Lives—*Millions at a Time*

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As a preface to the table matter that follows, a "sound-bite" description of the article's relevance is given below.

Number	Relevance for Maternal Morbidity Hearings
Pre-conceptional health	
1	Across 41 developing countries, high fertility and low contraceptive use are disproportionately present among the poorer relative to wealthier households.
2	Based on re-interviewing Indian women, unwanted childbearing measured at baseline may have been underestimated.
3	Contraceptive discontinuation and failure (accidental pregnancies) may have contributed to the widespread reliance on induced abortion in Romania, 1994-99.
4	A comparison of three methods for calculating births averted arrives at an estimate of 230 million births averted each year in the world through the practice of contraception, 1.75 times more than actually occurred.
Healthy pregnancy and childbearing	
5	Political priority for safe motherhood emerged in Honduras in part due to cooperation between international donors and national health officials.
6	A literature review finds surgical repair of obstetric fistula improves the physical and mental health of affected women.
7	In Nigeria, Tanzania and Niger, between 11-13% of estimated fistula cases could be prevented if the risks of young maternal age at first birth were eliminated.
8	Even in settings with strong traditional beliefs, rural Ghanaian community members perceive access to obstetric care as a barrier to healthy childbearing.
9	A three-tiered organized of maternity care workers, including first-line backpack workers, expanded key reproductive health services to displaced populations in eastern Burma.
10	Unregulated use of oxytocin to accelerate labor is found to be higher among well educated and high socioeconomic status women in rural India, as well as among those delivered by traditional birth attendants.
11	In urban Nepal, greater women's empowerment is related to a lower likelihood of husbands accompanying their wives to antenatal care.
12	Training traditional birth attendants to administer misoprostol to prevent postpartum hemorrhage can both save money and improve the health of mothers in low-resource settings.
13	Accessible health services can reduce economic inequality in maternity care in rural Bangladesh.

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Number	Relevance for Maternal Morbidity Hearings
Linkages to sexual health	
14	Integrating voluntary HIV testing centers in reproductive health clinics in Ethiopia attracted additional young, single individuals, in addition standard MCH clients, for screening.
15	After learning HIV test results, HIV-infected women in urban Malawi were less likely to desire a future pregnancy and more likely to use contraception, but still as likely as women wanting children to be pregnant at 12 months.
16	The risk of HIV acquisition rises during pregnancy, likely the result of hormonal changes affecting the genital tract mucosa or immune responses.
17	HIV-infected mothers can administer nevirapine (anti-retroviral medication) to themselves and their newborns and can achieve low rates of perinatal HIV infection.
18	The use of hormonal contraception is not associated with HIV acquisition in rural Uganda, after adjusting for behavioral confounding.

Additional material is being couriered under separate cover:

1. A copy of the *International Journal of Obstetrics and Gynecology* supplement on "Prevention and Treatment of Obstetric Fistula: Identifying Research Needs and Public Health Priorities" (2007)

2. A copy of the DVD, "The Silence Within: A Film on Unintended Pregnancies and Induced Abortion in Pakistan", directed and produced by Feriyal Ali Gauhur, 2005 (about 40 minutes in length)

Both of these were supported with funding from the Gates Institute.

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Summary of findings from selected articles related to maternal morbidity in developing countries: Research sponsored by the Gates Institute

Number/Article title/citation	Author(s)	Findings
Pre-conceptional health		
1) Unwanted fertility among the poor: an inequity? Bulletin of the World Health Organization 2007;85:100-107.	Duff Gillespie, Saifuddin Ahmed, Amy Tsui and Scott Radloff	**Objective** To determine if higher fertility and lower contraceptive use among the poorer segments of society should be considered an inequality, reflecting a higher desire for large families among the poor, or an inequity, a product of the poor being prevented from achieving their desired fertility to the same degree as wealthier segments of society. **Methods** Using the most recent Demographic and Health Surveys from 41 countries, we analysed the differences in fertility in light of modern contraceptive use, unwanted fertility (defined as actual fertility in excess of desired fertility) and the availability of family planning services found among poorer and wealthier segments of society. The asset index in each survey was used to construct wealth quintiles and the concentration index (CI) of income inequality was found in health variables. **Findings** The relationship between the CI found in the total fertility rate and the use of contraceptives was linear, R-square of 0.289. Unwanted births in the poorest quintile were more than twice that found in the wealthiest quintile, respectively 1.2 and 0.5, although there was wide variation among the 41 countries. The CI in our measure of family planning availability (radio messages, knowledge of services and contact with field workers) was largely positively associated with the CI in modern contraceptive prevalence, respectively R-squares of 0.392, 0.692 and 0.526. **Conclusion** In many countries the higher fertility and In many countries the higher fertility and lower contraceptive use levels found among poorer relative to wealthier populations should be considered an inequity.

Number/Article title/citation	Author(s)	Findings
2) Do current measurement approaches underestimate levels of unwanted childbearing? Evidence from rural India Population Studies, Vol. 60, No. 3, 2006, pp. 243-256	Michael A. Koenig, Rajib Acharya, Sagri Singh and Tarun K. Roy	The validity of estimates of unintended childbearing has often been questioned, especially given their almost exclusive reliance on responses to survey questions that ask women to recall their intentions about past pregnancies. An opportunity to compare prospective and retrospective descriptions of intendedness was provided by a follow-up survey in four Indian states in 2002_2003 of rural woman originally interviewed in the 1998_99 National Family Health Survey-2. The results demonstrate a pronounced tendency for births prospectively classified as unwanted to be retrospectively described as having been wanted or mistimed. The main reason seems to be either that mothers adapt to the reality of a new birth or are reluctant to describe an existing child as having initially been unwanted. Our findings suggest that retrospective accounts of the wantedness of a birth, such as those obtained by current Demographic and Health Surveys, may lead to significant underestimates of true levels of unwanted childbearing.
3) Contraceptive Discontinuation and Failure and Subsequent Abortion in Romania: 1994–99 Studies in Family Planning 2007; 38[1]: 23–34	Andreea A. Creanga, Rajib Acharya, Saifuddin Ahmed, and Amy O. Tsui	This study examines the levels and correlates of contraceptive failure and discontinuation in Romania, together with the consequences of contraceptive method failure in terms of induced abortion. Of special interest are women who rely on the traditional method of withdrawal and the proportion of withdrawal failures resulting in abortion. The analysis is based on multiyear calendar data concerning women's contraceptive use and monthly reproductive behaviors collected in the 1999 Romanian Reproductive Health Survey. Weibull regression models are estimated to analyze the determinants of discontinuation and failure for all methods combined and for withdrawal. Overall, 19 and 28 percent of women became pregnant within the first year of using any contraceptive method and of practicing withdrawal, respectively. About 57 and 59 percent of failures from use of all methods and from withdrawal ended in abortion, accounting for 30 percent and 22 percent, respectively, of all abortions reported between 1994 and 1999. These findings suggest that high rates of contraceptive discontinuation and failure contributed significantly to the widespread reliance on induced abortion among Romanian women during this period.

Number/Article title/citation	Author(s)	Findings
4) Three methods of estimating births averted nationally by contraception Population Studies, Vol. 62, No. 2, 2008, pp. 191-210	Li Liu, Stan Becker, Amy Tsui and Saifuddin Ahmed	This paper compares the performance of three methods applicable to national-level demographic data of estimating births averted as a consequence of contraceptive practice. Two are based on the relationship between the general fertility rate (GFR) or total fertility (TFR) and contraceptive prevalence, while the third uses Bongaarts' proximate determinants (PD) model. Estimates of the number of births averted and the percentage by which the number would have increased in the absence of contraception are consistent between the GFR-based and TFR-based methods, but in general lower than the estimates generated by the PD-based method, except for a few high-contraceptive-prevalence countries. For 156 countries and areas around the world the estimated number of births that would have occurred in a recent year in the absence of contraception*the average of the estimates of the three methods*is approximately 230 million, which is more than the estimated 129 million births that actually occurred.

Healthy Pregnancy and Health Childbearing

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Number/Article title/citation	Author(s)	Findings
5) The emergence of political priority for safe motherhood in Honduras Health Policy and Planning 2004; 19(6): 380–390	Jeremy Shiffman, Cynthia Stanton, and Patricia Salazar	Each year an estimated 500 000 to 600 000 women die due to complications from childbirth, making this one of the leading causes of death globally for women in their reproductive years. In 1987 a global initiative was launched to address the problem, but few developing countries since then have experienced a documented significant decline in maternal mortality levels. Honduras represents an exception. Between 1990 and 1997 the country's maternal mortality ratio – the number of deaths due to complications during pregnancy, childbirth and the postpartum period per 100 000 live births – declined 40% from 182 to 108, one of the largest reductions ever documented in such a short time span in the developing world. This paper draws on three political science literatures – constructivist international relations theory, policy transfer and agenda-setting – to explain how political priority for safe motherhood emerged in Honduras, a factor that underpinned the decline. Central to the explanation is the unusually cooperative relationship that developed between international donors and national health officials, resulting in effective transfer of policy and institutionalization of the cause within the domestic political system. The paper draws out implications of the case for understanding the political dynamics of health priority generation in developing countries.

Number/Article title/citation	Author(s)	Findings
6) Social and economic consequences of obstetric fistula: Life changed forever? International Journal of Gynecology and Obstetrics (2007) 99, S10–S15	S. Ahmed and S. Holtz	**Objectives**: To summarize the social, economic, emotional, and psychological consequences incurred by women with obstetric fistula; present the results of a meta-analysis for 2 major consequences, divorce/separation and perinatal loss; and report on improvements in health and self-esteem and on the possibility of social reintegration following successful fistula repair. **Methods**: We conducted a review of the literature published between 1985 and 2005 on fistula in developing countries.We then performed a meta-analysis for 2 of the major consequences of having a fistula, divorce/separation and perinatal child loss. **Results**: Studies suggest that surgical treatment usually closes the fistula and improves the physical and mental health of affected women. **Conclusion**: With additional social support and counseling, women may be able to successfully reintegrate socially following fistula repair.
7) The role of delayed childbearing in the prevention of obstetric fistulas International Journal of Gynecology and Obstetrics (2007) 99, S98–S107	A.O. Tsui, A.A. Creanga, S. Ahmed	**Objective**: To examine the role of delayed childbearing in the prevention of obstetric fistulas (OFs). **Methods**: Data on 4798 deliveries in Niger (1995–1998), 3552 in Nigeria (1996–1999), and 6789 in Tanzania (1991–1996) were analyzed with logistic regression models. **Results**: Young maternal age and primiparous status were identified as correlates of prolonged/ obstructed labor. The annual incidence of OFs in Nigeria was found to be 2.11 per 1000 births, with 9817 cases developing each year, 28% in women and girls younger than 20 years. The predicted proportion of women experiencing prolonged/obstructed labor would be reduced by 11.2% in Niger, 11.4% in Nigeria, and 13.1% in Tanzania if the risks associated with young maternal age at first delivery and primiparity were eliminated. **Conclusions**: Community programs to educate young, newly married women about delaying childbearing until they reach physical maturity should be implemented in countries with a high incidence of OFs.

8) Use of Health Professionals for Obstetric Care in Northern Ghana Studies in Family Planning 2005; 36[1]: 45–56)	Samuel Mills and Jane T. Bertrand	This study explores the role of access versus traditional beliefs in the decision to seek obstetric care from health professionals. Eighteen purposively sampled homogenous groups in Kassena-Nankana District of northern Ghana participated in focus-group discussions about traditional beliefs, barriers to the use of health professionals, and ways to improve obstetric care. All the groups were knowledgeable about the life-threatening signs and symptoms of complications of pregnancy and labor. Decisions about place of delivery generally were made after the onset of labor. Accessibility factors (cost, distance, transport, availability of health facilities, and nurses' attitudes) were major barriers, whereas traditional beliefs were reported as less significant. Informants made pertinent recommendations on how to improve obstetric services in the district. These findings demonstrate that even in this district, where African traditional religion is practiced by a third of the population, compared with a national average of 4 percent, lack of access was perceived as the main barrier to seeking professional obstetric care.

9) The MOM Project: Delivering Maternal Health Services among Internally Displaced Populations in Eastern Burma Reproductive Health Matters 2008;16(31):44–56	Luke C Mullany, Catherine Lee, Palae Paw, Eh Kalu, Shwe Oo, Cynthia Maung, Heather Kuiper, Nicole Mansenior, Chris Beyrer, Thomas J Lee	Alternative strategies to increase access to reproductive health services among internally displaced populations are urgently needed. In eastern Burma, continuing conflict and lack of functioning health systems render the emphasis on facility-based delivery with skilled attendants unfeasible. Along the Thailand–Burma border, local organisations have implemented an innovative pilot, the Mobile Obstetric Maternal Health Workers (MOM) Project, establishing a three-tiered collaborative network of community-based reproductive health workers. Health workers from local organisations received practical training in basic emergency obstetric care plus blood transfusion, antenatal care and family planning at a central facility. After returning to their target communities inside Burma, these first-tier maternal health workers trained a second tier of local health workers and a third tier of traditional birth attendants (TBAs) to provide a limited subset of these interventions, depending on their level of training. In this ongoing project, close communication between health workers and TBAs promotes acceptance and coverage of maternity services throughout the community. We describe the rationale, design and implementation of the project and a parallel monitoring plan for evaluation of the project. This innovative obstetric health care delivery strategy may serve as a model for the delivery of other essential health services in this population and for increasing access to care in other conflict settings.
10) Intrapartum oxytocin use for labor acceleration in rural India International Journal of Gynecology and Obstetrics, 2005 90, 251—257	M. Sharan, D. Strobino, S. Ahmed	**Objective**: To examine factors associated with the use of oxytocin for acceleration of labor in women delivered at home in rural India. **Method**: Quantitative data were collected from 527 women who were delivered at home and qualitative interviews were carried out with 21 mothers and 9 birth attendants. **Results**: Oxytocin use was associated with higher education and socioeconomic status, primigravidity, and delivery by a traditional birth attendant. **Conclusion**: Labor acceleration with oxytocin occurs indiscriminately In India. Oxytocin use should be regulated, and training for birth attendants should be provided as well as health education for pregnant women.

11) Can women's autonomy impede male involvement in pregnancy health in Katmandu, Nepal? Social Science and Medicine 61 (2005) 1993–2006	Britta C. Mullany, Michelle J. Hindin, Stan Becker	Women's empowerment programs focus primarily on increasing the decision-making power of women, while male involvement/couple-friendly programs emphasize communication and negotiation within couples in making decisions. In-depth-interviews and focus group discussions were conducted to investigate patterns of household decision-making and the context of male involvement behaviors in Katmandu, Nepal. A questionnaire focusing on household decision making and husbands' roles during pregnancy was administered to 592 pregnant women receiving antenatal services at a large maternity hospital. Multivariate regression techniques were used to compare male involvement behaviors across varying levels of women's autonomy, represented by different decision-making patterns. Higher women's autonomy, as measured by her sole final decision-making power, was associated with significantly lower male involvement in pregnancy health. After adjustment for other covariates, each additional decision in which a woman had final say was associated with a significantly lower likelihood of her husband accompanying her to antenatal care (OR = 0.70, $p<0:01$). Conversely, joint decision-making between the husband and wife was associated with significantly higher levels of male involvement in pregnancy health. For each additional decision made jointly with husbands, women were more likely to discuss health with their husbands (OR = 1.47, $p<0:001$), to make birth preparations (OR = 1.19, $p<0:05$), and to experience a high level of male involvement (OR = 1.29, $p<0:05$). The positive associations between joint decision-making and male involvement imply that couple communication and shared negotiation strategies can improve health practices. These results indicate that programs intended to increase women's empowerment and/or women's health must consider the dynamics and ramifications of including or excluding males in their efforts. Involving husbands and encouraging couples' joint decision-making in reproductive and family health may provide an important strategy in achieving both women's empowerment and women's health goals.

12) Cost-effectiveness of misoprostol to control postpartum hemorrhage in low-resource settings International Journal of Gynecology and Obstetrics (2007) 97, 52–56	S.E.K. Bradley, N. Prata, N. Young-Lin, and D.M. Bishai	**Objective**: To test the cost-effectiveness of training traditional birth attendants (TBAs) to recognize postpartum hemorrhage (PPH) and administer a rectal dose of misoprostol in areas with low access to modern delivery facilities. **Method**: A cost-effectiveness analysis, modeling two hypothetical cohorts of 10,000 women each giving birth with TBAs: one under standard treatment (TBA referral to hospital after blood loss ≥500 ml), and one attended by TBAs trained to recognize PPH and to administer 1000 µg of misoprostol at blood loss ≥500 ml. **Result**: The misoprostol strategy could prevent 1647 cases of severe PPH (range: 810–2920) and save $115,335 in costs of referral, IV therapy and transfusions (range: $13,991–$1,563,593) per 10,000 births. By preventing severe disease and saving money, it dominates the standard approach. **Conclusion**: Training TBAs to administer misoprostol to treat PPH has the potential to both save money and improve the health of mothers in low-resource settings.
13) Does Service Accessibility Reduce Socioeconomic Differentials in Maternity Care Seeking? Evidence from Rural Bangladesh J Biosocial Science, 2008, 40, 19–33	M. Hafizur Rahman, W. Henry Mosley, Saifuddin Ahmed, Halida Akhter	Maternal mortality is a serious public health concern in Bangladesh. However, most deaths could be prevented through proper and timely care seeking and adequate management. Unfortunately, fewer than half of pregnant women in Bangladesh seek antenatal care, and only one in eight receive delivery care from medically trained providers. The specific objectives of this research are to examine the socioeconomic differentials of maternity care seeking, and to determine whether accessibility of health services reduces the socioeconomic differentials in maternity care seeking. A multi-level logistic regression method is employed to analyse longitudinal data collected from a sample of 1019 women from all over Bangladesh. The study finds significant socioeconomic disparities in both antenatal and delivery care seeking. Service accessibility, however, significantly reduces the socioeconomic differentials in delivery care seeking. Services need to be made accessible to reduce the inequality in maternity care seeking between rich and poor, empowered and non-empowered.

Linkages to sexual health

14) HIV and family planning service integration and voluntary HIV counselling and testing client composition in Ethiopia

AIDS Care, January 2008; 20(1): 61-71

H. Bradley, A. Bedada, A. Tsui, H Brahmbhatt, D. Gillespie and A. Kidanu

Integrating voluntary HIV counseling and testing (VCT) with family planning and other reproductive health services may be one effective strategy for expanding VCT service delivery in resource poor settings. Using 30,257 VCT client records with linked facility characteristics from Ethiopian non-governmental, non-profit, reproductive health clinics, we constructed multi-level logistic regression models to examine associations between HIV and family planning service integration modality and three outcomes: VCT client composition, client-initiated HIV testing and client HIV status. Associations between facility HIV and family planning integration level and the likelihood of VCT clients being atypical family planning client types, versus older (at least 25 years old), ever-married women were assessed. Relative to facilities co-locating services in the same compound, those offering family planning and HIV services in the same rooms were 2-13 times more likely to serve atypical family planning client-types than older, ever-married women. Facilities where counselors jointly offered HIV and family planning services and served many repeat family planning clients were significantly less likely to serve single clients relative to older, married women. Younger, single men and older, married women were most likely to self-initiate HIV testing (78.2 and 80.6% respectively), while the highest HIV prevalence was seen among older, married men and women (20.5 and 34.2% respectively). Compared with facilities offering co-located services, those integrating services at room- and counselor-levels were 1.9 to 7.2 times more likely to serve clients initiating HIV testing. These health facilities attract both standard maternal and child health (MCH) clients, who are at high risk for HIV in these data, and young, single people to VCT. This analysis suggests that client types may be differentially attracted to these facilities depending on service integration modality and other facility-level characteristics.

15) The Year-Long Effect of HIV-Positive Test Results on Pregnancy Intentions, Contraceptive Use, and Pregnancy Incidence Among Malawian Women J Acquir Immune Defic Syndr 2008;47:477–483	Irving F. Hoffman, Francis E. A. Martinson, Kimberly A. Powers, David A. Chilongozi, Emmie D. Msiska, Emma I. Kachipapa, Chimwemwe D. Mphande, Mina C. Hosseinipour, Harriet C. Chanza, Rob Stephenson, and Amy O. Tsui	**Objectives**: To estimate the effect of receiving HIV-positive test results on intentions to have future children and on contraceptive use and to assess the association between pregnancy intentions and pregnancy incidence among HIV-positive women in Malawi. **Methods**: Women of unknown HIV status completed a questionnaire about pregnancy intentions and contraceptive use and then received HIV voluntary counseling and testing (VCT). Women who were HIV-positive and not pregnant were enrolled and followed for1year while receiving HIV care and access to family planning (FP) services. **Results**: Before receiving their HIV test results, 33% of women reported a desire to have future children; this declined to 15% 1 week later (P<0.0001) and remained constant throughout follow-up. Contraceptive use increased from 38% before HIV testing to 52% 1 week later (P<0.0001) and then decreased to 46% by 12 months. The pregnancy incidence among women not reporting a desire to have future children after VCT was less than half of the incidence among women reporting this desire. **Conclusions**: With knowledge of their HIV-positive status, women were less likely to desire future pregnancies. Pregnancy incidence was lower among women not desiring future children. Integration of VCT, FP, and HIV care could prevent mother-to-child HIV transmission.

16) Increased risk of incident HIV during pregnancy in Rakai, Uganda: a prospective study Lancet 2005; 366: 1182–88	Ronald H Gray, Xianbin Li, Godfrey Kigozi, David Serwadda, Heena Brahmbhatt, Fred Wabwire-Mangen, Fred Nalugoda, Mohamed Kiddugavu, Nelson Sewankambo, Thomas C Quinn, Steven J Reynolds, Maria J Wawer	**Background** HIV acquisition is significantly higher during pregnancy than in the postpartum period. We did a prospective study to estimate HIV incidence rates during pregnancy and lactation. **Methods** We assessed 2188 HIV-negative sexually active women with 2625 exposure intervals during pregnancy and 2887 intervals during breastfeeding, and 8473 non-pregnant and non-lactating women with 24 258 exposure intervals. Outcomes were HIV incidence rates per 100 person years and incidence rate ratios estimated by Poisson multivariate regression, with the non-pregnant or non-lactating women as the reference group. We also assessed the husbands of the married women to study male risk behaviours. **Findings** HIV incidence rates were 2·3 per 100 person years during pregnancy, 1·3 per 100 person years during breastfeeding, and 1·1 per 100 person years in the non-pregnant and non-lactating women. The adjusted incidence rate ratios were 2·16 (95% CI 1·39–3·37) during pregnancy and 1·16 (0·82–1·63) during breastfeeding. Pregnant women and their male partners reported significantly fewer external sexual partners than did the other groups. In married pregnant women who had a sexual relationship with their male spouses, the HIV incidence rate ratio was 1·36 (0·63–2·93). In married pregnant women in HIV-discordant relationships (ie, with HIV-positive men) the incidence rate ratio was 1·76 (0·62–4·03). **Interpretation** The risk of HIV acquisition rises during pregnancy. This change is unlikely to be due to sexual risk behaviours, but might be attributable to hormonal changes affecting the genital tract mucosa or immune responses. HIV prevention efforts are needed during pregnancy to protect mothers and their infants.

17) Maternal Self-Medication and Provision of Nevirapine to Newborns by Women in Rakai, Uganda J Acquir Immune Defic Syndr 2005;39:121–124	Joseph Kagaayi, Michele L. Dreyfuss, Godfrey Kigozi, Michael Z. Chen, Fred Wabwire-Mangen, David Serwadda, Maria J. Wawer, Nelson K. Sewankambo, Fred Nalugoda, Noah Kiwanuka, Meddie Kiddugavu, and Ronald H. Gray	To assess the effectiveness of maternal self-administration of nevirapine for prevention of mother-to-child transmission (MTCT) of HIV, we conducted a program to provide maternal and newborn doses of nevirapine to pregnant women in rural Uganda. Women provided blood for HIV testing and were offered voluntary counseling and testing (VCT) during annual community HIV surveys. HIV-positive women who accepted VCT were offered nevirapine tablets and syrup. Blood samples were collected postpartum from women and their babies. Infants were tested for HIV by polymerase chain reaction (PCR), and a subsample of maternal and infant blood was assayed for nevirapine. Among the 981 women tested for HIV, 900 (91.7%) accepted VCT, of whom 105 (11.7%) were HIV-positive. Ninety-three women accepted nevirapine, of whom 81 (87.1%) were followed postpartum; 75 (92.6%) reported receipt of the drug, and 69 reported taking the tablets (85.2%). There were 81 liveborn babies (3 sets of twins), and 67 (84.8%) received the syrup. In a subsample of 25 mothers reporting receipt of the drug, nevirapine was detected in 22 (88.0%) and 24 (96.0%) babies tested. PCR of 67 infant blood samples identified 5 HIV-positive (MTCT rate = 7.5%, 95% confidence interval [CI]: 0.3%–16.6%). Mothers can administer nevirapine to themselves and their newborns and can achieve low rates of perinatal HIV infection.

18) Hormonal contraceptive use and HIV-1 infection in a population-based cohort in Rakai, Uganda AIDS 2003, 17:233–240	Mohammed Kiddugavu, Fred Makumbi, Maria J. Wawer, David Serwadda, Nelson K. Sewankambo, FredWabwire-Mangen, Tom Lutalo, Mary Meehan, Xianbin Li, Ronald H. Gray and Rakai Project Study Group	**Background**: Hormonal contraceptives have been associated with increased risk of HIV acquisition. **Methods**: The association between hormonal contraception use and HIV acquisition was assessed in a rural community-based cohort in Rakai District, Uganda. A group of 5117 sexually active HIV-negative women were surveyed at 10 month intervals between 1994 and 1999. Information on demographic and sociobehavioral characteristics, use of hormonal contraception (pill and injectable methods), condoms and the number of sexual partners was obtained by home-based interview. HIV incidence rate ratios (IRR) and 95% confidence intervals (CI) associated with hormonal contraception were estimated by multivariate Poisson regression after adjustment for age, condom use, number of sexual partners, marital status, education and history of genital ulcer disease. **Results**: At one or more interviews, 16.6% of women reported use of hormonal contraceptives and 23.0% reported condom use. HIV incidence was 2.3/100 person years in hormonal contraceptive users compared with 1.5/100 person-years in non-hormonal contraceptive users (unadjusted IRR, 1.56; 95% CI, 1.00–2.33). After multivariate adjustment, the IRR associated with hormonal contraceptives was reduced to 0.94 (95% CI, 0.53–1.64). The adjusted IRR was 1.12 (95% CI, 0.48–2.56) with oral contraceptive use and 0.84 (95%CI, 0.41–1.72) with injectable methods. **Conclusion**: Use of hormonal contraception is not associated with HIV acquisition after adjustment for behavioral confounding.