

Integrating HIV/STI and Family Planning Services

Service Integration: An Overview of Policy Developments

During the 1990s, the rising prevalence of HIV and sexually transmitted infections (STIs) in low-income countries heightened international concern about the lack of means of control. The number of new HIV infections reached five million in 2001, of which 70% occurred in Sub-Saharan Africa, where more than 8% of adults are now infected.¹ The number of new STIs throughout the world totaled 340 million in 1999.² Because these infections contribute to the spread of HIV,³ many HIV prevention efforts focus on managing STIs in addition to providing health education and promoting condom use.⁴

At the 1994 International Conference on Population and Development (ICPD), the international community made a commitment to providing a comprehensive package of reproductive and sexual health services, including management of HIV and STIs.⁵ Particular emphasis was placed on controlling these infections through existing mainstream services—the maternal and child health and family planning services offered at most primary health care outlets in the developing world.

BACKGROUND

Advantages and Disadvantages

At first glance, HIV and STI control and women's reproductive health have much in common: Both are problems arising from sexual intercourse, and both rely on primary health care services currently used mainly by women. Within primary health care, maternal and child health and family planning services are relatively accessible in most low-income countries; thus, adding STI control appears financially and logistically rational.⁶ Integration also capitalizes on the general interest in encouraging a more informed approach to sexual intercourse and its possible consequences.⁷ Furthermore, where HIV and STI prevalence is high, family planning advice and methods should be appropriate to the disease environment and the associated sexual health risks.

The links between STIs and HIV transmission were confirmed in 1995, when a trial of STI treatment at the primary care level in Mwanza district in rural Tanzania reduced HIV incidence by 40%.⁸ This trial relied primarily on syndromic management of STIs, an approach in which etiological diagnosis using laboratory support is rejected in favor of treatment for a range of common infections that might cause a particular set of symptoms.⁹ The trial was particularly at-

tractive because of its simple message, high impact on HIV transmission and relative cost-effectiveness.¹⁰ As a result, policymakers became enthusiastic about implementing STI management programs in primary care, and "integration" became the mantra of governments and donors alike.¹¹

Almost immediately, however, potential disadvantages of integration emerged. First, some thought it less effective than the traditional, vertical programs established during the 1980s. Designed to ensure efficient delivery of drugs and training, these programs focused on high-priority areas such as family planning or immunization.¹² Second, concerns arose that syndromic management increased costs and led to overtreatment, because some patients treated for the range of conditions that might cause their symptoms would not have all those diseases.¹³ Third, there were fears that the stigma of HIV and STIs would lead to sensitivities between health providers and their clients. Finally, many acknowledged the difficulty of implementing a wide variety of new and clinically complex activities.

Furthermore, there are significant but overlooked discrepancies between the health care provided in the Tanzania trial and that found at most primary health care clinics in Sub-Saharan Africa. First, the trial included men, for whom the syndromic approach is known to be more effective than for women. Up to 75% of women with STIs have no symptoms,¹⁴ so a treatment that relies on symptom management will not meet their needs. In addition, the vaginal discharge algorithm used in the trial was not particularly sensitive or specific to infection.¹⁵ Second, the trial provided a broad package of HIV prevention activities. In addition to syndromic management of presenting STIs, the trial included intensive efforts to raise community awareness, notify partners, provide medical supervision and enhance logistics (e.g., drug delivery and facility development). By contrast, many efforts to control HIV and STIs through maternal and child health and family planning services concentrate solely on syndromic management.

History and Politics of the ICPD Process

Awareness of these disadvantages led many observers to comment on the gulf between the rhetoric and reality of integration and the particular global political and economic context in which this agenda was set.¹⁶ During the 1980s and 1990s, economists' concerns about population growth lessened, partly because fertility in many low-income coun-

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tries had fallen and partly because decisive evidence on the harmful consequences of population increases was lacking. At the same time, women's rights activists pushed for a shift in the rationale for family planning programs away from controlling fertility and toward helping women achieve personal reproductive goals safely and effectively.¹⁷ Women's health advocates also highlighted the particular vulnerability of women to STIs.¹⁸ The attempt to balance these concerns coincided with the extremely rapid spread of HIV, especially in Sub-Saharan Africa. Although maternal and child health and family planning clients are rarely core transmitters, governments found it easier to put services for these women at the forefront of HIV control than to introduce programs for men or sexually active single women. Within maternal and child health and family planning programs, however, the shifting agendas noted above also interacted with the principles of primary health care—equity, community involvement, prevention and appropriate technology.¹⁹ These concepts reappear in the ICPD Programme of Action.²⁰ Chapter 7 of this document commits signatories to involve civil society, especially women's groups, in program design and to focus on the prevention of reproductive ill health. Chapter 8 starts with a discussion of primary health care.

The policy rhetoric reflects a careful balancing act between worthy but sometimes competing objectives. Keen to achieve consensus, the international community took little account of the political, financial and managerial constraints on implementation in low-income countries. In particular, while maternal and child health and family planning programs consist of simple, cost-effective measures that have been delivered to childbearing women for many years, HIV and STI control activities are sensitive, involve other population groups and have unconfirmed efficacy and costs, especially for women.

Problems with Defining Integration

Despite these limitations, many low-income countries moved to integrate service delivery following the ICPD, although patterns of integration vary considerably.²¹ First, integration may vary by type of facility: In district hospitals, it may be possible to provide maternal and child health and family planning services at the same site as HIV and STI prevention and treatment. At rural health posts, in contrast, such comprehensive services may not be feasible, although some level of HIV and STI information, prevention or referral linkage could be incorporated into existing maternal and child health and family planning services, often delivered by a single provider. Alternatively, clinics for the two types of services may operate at the same site but on different days or at different times, with a range of staff responding to the needs of a varied clientele, including women, men and adolescents.

Second, integration may vary by administrative level, incorporating both horizontal and vertical approaches.²² For example, although a high level of integration may exist at the outlet level, maternal and child health and family plan-

ning programs and HIV and STI programs may be administered by separate, vertical systems at the policy level. Such technically specialized offices determine national policy and also satisfy the needs of international funders. In between, at the district level, the two programs are often managed through decentralized and integrated administrative systems. Hence, it is important to distinguish between functional integration (i.e., the ultimate goal of providing holistic, integrated services to clients) and administrative integration, which may be desirable but is probably not necessary to ensure functional integration.

Third, the appropriateness of an integrated HIV and STI service depends on the prevalence of disease: In high-prevalence situations, mass treatment may be the most cost-effective approach; in low-prevalence situations, however, targeting high-risk groups may be more suitable.²³ Patterns of integration therefore depend on local situations. A single blueprint is unlikely to be appropriate.

IMPLEMENTING INTEGRATED SERVICES Feasibility at the National Program Level

Like programs at the international level, those at the national level include many individuals with varied interests who influence the integration of previously separate services. Policy communities involved in reproductive health include not only the ministry of health, but also other government bodies like ministries of education and finance, donors, nongovernmental organizations (NGOs), academics and women's rights advocates.

In Thailand, for example, NGO, private-sector and academic interests were included in a formal network established by the government to implement ICPD recommendations.²⁴ Similarly, in Cambodia, the reproductive health and HIV/STI divisions of the Ministry of Health worked closely together as well as with a range of NGOs to develop policies through a series of technical meetings and working groups.²⁵ Evidence from case studies in Sub-Saharan Africa reveals a different picture, however: In general, a ministry of health develops reproductive health policy with limited external participation. Within ministries, the wide range of managers who might be interested in integration are not equally represented. This lack of consultation is to some extent the legacy of selective primary health care.²⁶ For example, in Ghana, Kenya and Zambia, separate bodies within the ministry of health are responsible for maternal and child health and HIV and STI control, while population offices outside the ministry oversee family planning policy. Vertical programs reduce opportunities for policymakers in different divisions to network. Instead, competition for limited resources encourages health managers to remain specialized and isolated. Furthermore, bureaucratic protocols hinder communication: For example, the director of the maternal and child health division often ranks higher than the person responsible for STIs within an infectious disease control division.

In much of Africa, women's groups and other NGOs are not well-represented in policy networks with interests in

reproductive health.²⁷ Religious organizations are among the most powerful nongovernmental institutions in Sub-Saharan Africa. Because churches have often opposed the reproductive health agenda, their participation in national policy has been limited to resisting certain more controversial efforts, such as sex education. Some NGOs, such as the family planning associations or the United States Agency for International Development (USAID) collaborating agencies,* integrated their own activities; however, the relationship between these NGOs and government offices is built more on their role in supplementing government services than on their participation in policy circles.

International donors are one external group that does influence policy. In Kenya in 1997–1998 and Zambia in 1997, donors contributed 74% and 50%, respectively, of public health expenditures,²⁸ and the figure for Ghana in 1998 was 40%.²⁹ Donors active in this policy arena are a diverse group, including bilateral agencies—such as USAID and the UK Department for International Development—as well as multilateral agencies—such as the United Nations Population Fund (UNFPA) and the World Bank. Although some donors make explicit statements in support of integration at the international level, their projects at the national level do not reflect this commitment. For example, in Ghana, USAID provided \$45 million for family planning and AIDS prevention in 1995. However, the project was designed to operate outside other Ministry of Health programs and did not include integrated services.³⁰ Similarly, in 1995–2000, the World Bank provided the Kenya National AIDS and STD Control Programme with \$40 million for STI management through primary health care clinics.

Despite tensions, progress toward integration is apparent, as is indicated by the names of ministry of health divisions responsible for reproductive health. In Cambodia, for example, the unit responsible for maternal and child health changed its name to the Reproductive Health Unit.³¹ New divisions rapidly published a wide range of policy documents. In Thailand, for example, soon after the HIV/AIDS committee was established in 1991, policies to integrate HIV and STI services with existing maternal and child health services emerged, focusing particularly on HIV counseling and testing.³² In Sub-Saharan Africa, the department responsible for reproductive health is usually the unit previously responsible for maternal and child health and family planning, with support from HIV and STI departments in producing protocols and guidelines for clinical management of disease.³³ This structure of responsibility suggests that reproductive health is generally seen as an extension of existing maternal and child health and family planning services rather than as a radically new paradigm. Furthermore, policy developments are often achieved through top-down, donor-funded workshops that restrict consultation to a limited national elite, sometimes supplemented by representatives from lower management tiers but rarely enabling them to comment on the feasibility of new programs.

Health Reform Context

Policy developments related to integration also took place at a time when health sector budgets were stagnant or declining and major institutional reforms were being implemented. Health sector reforms are complex, but the principal areas that affect reproductive health policy are changes in the structure and mandate of national health programs and devolution of responsibility to districts.

Reforms have also integrated all management systems, with financial and logistic aspects of different programs handled centrally and technical support alone retained in specialist program offices. To make policymaking easier, ministries of health are using new financial mechanisms known as sectorwide approaches (SWAps). Instead of funding—and controlling—a specific project, donors contribute to an overall sectoral budget (or “basket”) controlled by the ministry of health.³⁴ Planning and implementation of health services under SWAps increases the independence of the ministry of health and reduces interference by donors. However, despite substantial support among donors for this new approach, some areas of health care remain outside the SWAps, including family planning and frequently HIV and STIs. There are two reasons for this: First, certain key donors are unwilling to provide budget rather than project assistance; and, second, some donors are eager to prioritize particular areas of health care (for example, USAID focuses predominantly on family planning and on HIV and STIs) and prefer to exert influence through procedures they can more easily control. Thus, despite the increase in SWAps, some donors continue project funding, especially for priority areas like reproductive health.

Major institutional reforms also took place at lower administrative levels in many countries, especially in districts, where managers have had to make their financial and administrative systems more efficient and sustainable. When national reproductive health managers are committed to separate programs to retain donor support, tensions are created between the goals of decentralized, locally accountable, integrated health service delivery and the reality of vertical technical and financial inputs for particular reproductive health activities.³⁵ Furthermore, when national programs respond to the problem by appointing district personnel specifically to deal with family planning or HIV and STI services, other district staff tend to view these areas as outside their mandate, thereby increasing the isolation of reproductive health from mainstream health systems.

Service Delivery Issues

Despite rapid national policy developments, plans for implementation of new programs have fallen behind at provincial or district levels.³⁶ Integration of service delivery requires the following: staff trained in STI management, HIV counseling, and delivery of maternal and child health and family planning services; dissemination of new guidelines;

*These international NGOs receive the vast majority of their funds for international activities from USAID. They include, among others, the Population Council, Family Health International and Pathfinder International.

development of information and counseling materials; a complete and routinely maintained stock of drugs and commodities; physical infrastructures ensuring privacy and high quality care; and referral mechanisms for blood tests and further treatment when necessary.

Prior to most policy initiatives, a 1995 Pathfinder survey of organizations in 14 African countries demonstrated that what services did exist were concentrated in urban areas and were based mostly in clinics. Some family planning programs were already screening clients for STIs, but maternal and child health programs rarely did so. Syndromic management algorithms were not used properly, and laboratory diagnosis was still preferred although rarely available. Finally, most programs did not have policies on dual protection or other condom promotion messages.³⁷ Comparing regions, a later review found that Latin American countries had generally progressed further than Sub-Saharan Africa in integrating services, especially counseling and risk reduction. Asia, other than Thailand, provided the fewest cases of integration.³⁸

A key challenge in implementing integration is the lack of an adequate legislative framework for ensuring that services are feasible. For example, in 1998 nurses in Kenya could legally prescribe drugs to treat STIs; this information, however, had not been disseminated.³⁹ In Zambia in 1998, nurses were allowed to prescribe drugs only in the absence of a doctor.⁴⁰ In many places, STI medications do not yet appear on lists of essential drugs, which have traditionally guided primary level treatments by nurses.

Another constraint is the lack of clear technical guidelines for training staff. Although many countries have published STI management guidelines, not all include syndromic management. Dissemination of the syndromic management guidelines generally occurs in pilot project areas only, and training is patchy. Nursing and midwife colleges have also been slow to incorporate syndromic management into their main curricula. Technical guidelines for areas of integrated HIV and STI management other than syndromic management are even less well disseminated. These include condom promotion, risk assessment and partner notification.⁴¹

Integrated service delivery is further inhibited by problems in health facilities, particularly the low pay, poor morale and lack of motivation among providers, and the lack of appropriate physical infrastructure and equipment for expanding services. Many reproductive health service providers remain affiliated with the same family planning programs that have such difficulties reforming at the national level. Integrating HIV and STI services with maternal and child health and family planning services requires these cadres to undertake a whole new range of activities without concomitant improvements in salary and working conditions.

Costs and Cost-Effectiveness

Financial, technical and managerial resources are all necessary for integration. In Thailand, for example, when results from pilot integration projects became available in

1993, a careful program of expansion was planned, with gradual allocation of appropriate resources to scale up to providing services nationally.⁴² In Sub-Saharan Africa, by contrast, policy reform occurred so rapidly that adequate funds were not available for expanding services, improving commodity supplies, training staff and enhancing district management skills. Furthermore, previous systems that allocated resources separately led to both duplication (for example, in supply systems for contraceptives and STI drugs) and gaps (for example, condoms being supplied to family planning clinics but not to STI clinics).

Resource limitations are sometimes further strained by donors who insist on separate systems for implementation and monitoring of expenditures for projects they support. In Zambia, for example, STI drugs and test kits were procured by donors on behalf of the government and distributed directly to dedicated district staff.⁴³ In Ghana, STI drugs were integrated into general Ministry of Health supplies, but contraceptives were bought separately by UNFPA and USAID and remained outside this system.⁴⁴ Similarly, donor funds for particular activities may flow directly from national programs to dedicated district staff. For example, in Kenya, World Bank STI project money flowed from the National AIDS and STD Control Programme to district AIDS and STI coordinators. Inefficient government systems necessitate such vertical resource and drug flows, but they also reduce collaboration between staff of different programs.

Because reformers focus on efficiency, sustainability and cost-effectiveness, reproductive health managers have to justify their policies in these terms. STI treatment is a highly cost-effective intervention⁴⁵ and, in general, integrated delivery of HIV and STI services is also assumed to be more cost-effective than separate delivery, because the staff time involved in duplicating examinations is reduced and drug costs remain the same.⁴⁶ However, these estimates ignore the capital investment required to develop clinics to ensure privacy and client flow between services.⁴⁷ If the costs of laboratories, adequate staff training and drug supplies are included, limited health resources quickly become overstretched. The epidemiological context can also create problems: In Bangladesh, low STI prevalence compromised the sensitivity and specificity of syndromic management algorithms and increased overtreatment of clients and overspending on drugs, leading to a decrease in cost-effectiveness.⁴⁸

THE FUTURE OF INTEGRATION

Despite ambitious goals and increasing evidence that significant resource allocations are required to meet even basic reproductive health needs, funding has failed to keep up. In 1994, it was estimated that roughly \$17 billion annually would be needed to provide the services that the ICPD recommended.⁴⁹ This total represented a doubling of the amount spent on family planning in the mid-1990s. Approximately one-third was to come from donors and two-thirds from governments of developing countries. Since 1994, neither governments nor donors have met their commitments: Indeed, once adjusted for inflation, expenditures

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have fallen in some countries.

Financial reality necessitates prioritization if the worthy goals of reproductive health are ever to be met. Integrating component services is one way forward, but these programs require careful assessment of epidemiological context, managerial capacity, resource requirements and provider constraints. Although ensuring that syndromic management is available for the few women who present with symptomatic STIs is important for those individuals' reproductive health, it is unlikely to contribute significantly to HIV control. On the other hand, greater dedication to provision of condoms for both fertility and infection control and to consistent promotion of the dual protection message is crucial.⁵⁰ Furthermore, acknowledging that not only married women but also men and young, single people need both family planning services and HIV and STI services would make it possible to expand program access to those most likely both to acquire HIV and to transmit it to others.

Preventing transmission of HIV remains relatively inexpensive and cost-effective in relation to treating AIDS, which is currently receiving so much international attention. For example, meeting the global condom gap would cost an estimated \$48 million, compared with the estimate of \$10 billion to treat AIDS given by Kofi Annan at the UN Special Session on AIDS last year.⁵¹ The reproductive health community has both a duty to contribute to this effort and the wherewithal to do so. To achieve these goals, the key lessons noted in this article are: first, new paradigms like reproductive health or integrated services emerge from specific political and economic contexts at the international level; second, their application in national programs may encounter difficulties where the context is different; and, third, effective implementation requires careful consideration of local interests and capacity as well as the epidemiological and health service context.

REFERENCES

1. Joint United Nations Programme on AIDS (UNAIDS), *AIDS Epidemic Update—December 2001*, Geneva: UNAIDS, 2001.
2. World Health Organization (WHO), *Global Prevalence and Incidence of Selected Curable Sexually Transmitted Infections: Overview and Estimates*, Geneva: WHO, 2001.
3. Cohen MS, Sexually transmitted diseases enhance HIV transmission: no longer a hypothesis, *Lancet*, 1998, 351(Suppl. 3):5-7.
4. Grosskurth H et al., Impact of improved treatment of sexually transmitted diseases on HIV infection in rural Tanzania: randomised control trial, *Lancet*, 1995, 346(8974):530-536; and Dallabetta GA and Diomi MC, Treating sexually transmitted diseases to control HIV transmission, *Current Opinion in Infectious Diseases*, 1997, 10:22-25.
5. United Nations (UN), *Population and Development, Programme of Action Adopted at the International Conference on Population and Development, Cairo, Sept. 5-13, 1994*, Vol. 1, New York: Department for Economic and Social Information and Policy Analysis, UN, 1995.
6. Mayhew S, Integrating MCH/FP and STD/HIV services: current debates and future directions, *Health Policy and Planning*, 1996, 11(4): 339-353.
7. Dixon-Mueller R and Wasserheit J, eds., *Reproductive Tract Infections in Women in the Third World*, New York: International Women's Health Coalition, 1991.
8. Cohen MS, 1998, op. cit. (see reference 3); and Hayes R, Grosskurth

H and ka-Gina G, Impact of improved treatment of sexually transmitted diseases on HIV infection, author's reply to the editor, *Lancet*, 1995, 346(8983):1159-1160.

9. Grosskurth H et al., 1995, op. cit. (see reference 4).

10. Gilson L et al., Cost-effectiveness of improved treatment services for sexually transmitted diseases in preventing HIV-1 infection in Mwanza Region, Tanzania, *Lancet*, 1997, 350(9094):1805-1809; and Philpott A, Observations of the research policy interface: the Mwanza story, unpublished master's thesis, London: London School of Hygiene and Tropical Medicine, 1999.

11. U.S. Agency for International Development (USAID), *Setting the African Agenda: Final Report on a Workshop on Integration of HIV/AIDS with MCH/FP in Nairobi*, Nairobi, Kenya: USAID Regional Office for Eastern and Southern Africa, 1995.

12. Lush L et al., Defining integrated reproductive health: myth and ideology, *Bulletin of the World Health Organisation*, 1999, 77(9):771-777.

13. Dallabetta GA, Gerbase AC and Holmes KK, Problems, solutions and challenges in syndromic management of sexually transmitted diseases, *Sexually Transmitted Infections*, 1998, 74(Suppl. 1):S1-S11; Potts M, closing address, Setting the African Agenda: Regional Workshop on Integrating HIV/STI and Family Planning Services, Nairobi, Kenya, Sept. 1995; and Hawkes S, Why include men? Establishing sexual health clinics for men in rural Bangladesh, *Health Policy and Planning*, 1998, 13(2):121-130.

14. Holmes KK and Ryan CA, STD case management, in: Holmes KK et al., eds., *Sexually Transmitted Diseases*, London: McGraw-Hill, 1999; and Gerbase AC, Rowley JT and Mertens TE, Global epidemiology of sexually transmitted disease, *Lancet*, 1998, 351(Suppl. 3):2-4.

15. Dallabetta GA, Gerbase AC and Holmes KK, 1998, op. cit. (see reference 13).

16. Lush L et al., 1999, op. cit. (see reference 12); Sen G, Women's empowerment and human rights: the challenge to policy, in: Graham-Smith F, ed., *Population—The Complex Reality*, London: Royal Society, 1994, pp. 363-372; Hardee K and Yount KM, *From Rhetoric to Reality: Delivering Reproductive Health Promises Through Integrated Services*, Research Triangle Park, NC, USA: Family Health International, 1995; Garcia-Moreno C and Turmen T, International perspectives on women's reproductive health, *Science*, 1995, 269(5225):790-792; and Basu AM, ICPD: what about men's rights and women's responsibilities? *Health Transition Review*, 1996, 6(2):225-227.

17. McIntosh CA and Finkle JL, The Cairo conference on population and development: a new paradigm? *Population and Development Review*, 1995, 21(2):223-260.

18. Germain A et al., eds., *Reproductive Tract Infections: Global Impact and Priorities for Women's Reproductive Health*, London: Plenum Press, 1992.

19. Walt G and Vaughan P, Primary health care approach: how did it evolve? *Tropical Doctor*, 1982, 12(4, Pt 1):145-157.

20. United Nations Population Fund (UNFPA), *Programme Priorities and Future Directions of UNFPA in the Light of the International Conference on Population and Development (Report of the Executive Director)*, New York: UNFPA, 1995; and Lane SD, From population control to reproductive health: an emerging policy agenda, *Social Science and Medicine*, 1994, 39(9):1303-1314.

21. Bastos dos Santos R, Reproductive tract infections in Mozambique: a case study of integrated services, in: Germain A, ed., *Reproductive Tract Infections*, New York: Plenum Press, 1992; Finger WR and Barnet B, Regional perspectives, *Network*, 1994, 14(4):22-25; Grosskurth H et al., STD research in Africa [news], *Lancet*, 1993, 342(8884):1415-1416; and Lande R, Sexual and reproductive health: what are the possibilities? *Planned Parenthood Challenges*, 1993, 2:19-21.

22. Potts M, 1995, op. cit. (see reference 13); and Pachauri S, Relationship between AIDS and FP programmes: a rationale for developing integrated reproductive health services, *Health Transition Review*, 1994, 4(Suppl.): 321-348.

23. Pachauri S, 1994, op. cit. (see reference 22); De Lay P, Adding STD services needs careful evaluation, *Network*, 1994, 14(4):8-10; and Meda N, Sexually transmitted diseases and human immunodeficiency virus

- infection among women with genital infections in Burkina Faso, *International Journal of STD & AIDS*, 1995, 6(4):273-277.
24. Tahir S and Auamkul N, *Moving Towards Comprehensive Reproductive Health Services: The Government of Thailand Leads the Way*, Kuala Lumpur, Malaysia: International Council on Management of Population Programmes, 1998.
25. Goodburn EA and Long C, Mainstreaming HIV/AIDS/STD services: the reproductive health program in Cambodia, unpublished manuscript, Manila, Philippines, 1997.
26. Lush L et al., The role of MCH and family planning services in HIV/STD control: is 'integration' the answer? *African Journal of Reproductive Health*, 2001, 5(3):29-46.
27. Mutungwa CF and Nkwemu KC, *Barriers and Opportunities for Integration of STD/HIV and MCH/FP Service in Zambia*, Lusaka: Planned Parenthood Association of Zambia, 1998; Njeru E and Njoka J, *Barriers and Opportunities for Integrating HIV/STD and MCH/FP Services in Kenya*, Nairobi: Sociology Department, University of Nairobi, 1998; and Annan J and Dzikunu H, *A Study of Barriers and Opportunities for Integration of Reproductive Health Services in Ghana*, Accra: JSA Consultants Ltd., 1998.
28. Mutungwa CF and Nkwemu KC, 1998, op. cit. (see reference 27); and Njeru E and Njoka J, 1998, op. cit. (see reference 27).
29. Annan J and Dzikunu H, 1998, op. cit. (see reference 27).
30. Mayhew S et al., Implementing the integration of component services for reproductive health, *Studies in Family Planning*, 2000, 31(2):151-162.
31. Goodburn EA and Long C, 1997, op. cit. (see reference 25).
32. Tahir S and Auamkul N, 1998, op. cit. (see reference 24).
33. Mutungwa CF and Nkwemu KC, 1998, op. cit. (see reference 27); Njeru E and Njoka J, 1998, op. cit. (see reference 27); and Annan J and Dzikunu H, 1998, op. cit. (see reference 27).
34. Cassels A and Janovsky K, Better health in developing countries: are sector-wide approaches the way of the future? *Lancet*, 1998, 352(9142):1777-1779.
35. Mayhew S et al., Donor involvement in reproductive health: saying one thing and doing another? *International Journal of Health Services* (forthcoming).
36. Mutungwa CF and Nkwemu KC, 1998, op. cit. (see reference 27); Njeru E and Njoka J, 1998, op. cit. (see reference 27); and Annan J and Dzikunu H, 1998, op. cit. (see reference 27).
37. Kisubi W, Inventory of integration activities in Sub-Saharan Africa, paper presented at Setting the African Agenda: Regional Workshop on Integrating HIV/STI and Family Planning Services, Nairobi, Kenya, 1995.
38. Dehne K and Snow R, *Integrating STD Management into Family Planning Services: What Are the Benefits?* Heidelberg, Germany: Department of Tropical Hygiene and Public Health, University of Heidelberg, 1999.
39. Njeru E and Njoka J, 1998, op. cit. (see reference 27).
40. Mutungwa CF and Nkwemu KC, 1998, op. cit. (see reference 27).
41. Mayhew S et al., 2000, op. cit. (see reference 30).
42. Cassels A and Janovsky K, 1998, op. cit. (see reference 34).
43. Mutungwa CF and Nkwemu KC, 1998, op. cit. (see reference 27); and Njeru E and Njoka J, 1998, op. cit. (see reference 27).
44. Annan J and Dzikunu H, 1998, op. cit. (see reference 27).
45. World Bank, *World Development Report: Investing in Health*, Oxford: Oxford University Press, 1993; and Aitken I and Reichenbach L, Reproductive and sexual health services: expanding access and enhancing quality, in: Sen G, Germain A and Chen LC, eds., *Population Policies Reconsidered: Health, Empowerment and Rights*, Boston, MA, USA: Harvard School of Public Health, 1994.
46. Lule E, Sturgis R and Ladha S, Advantages and disadvantages of integrating STD/HIV services into existing MCH/FP programs in Sub-Saharan Africa, paper presented at the annual meeting of the Population Association of America, Chicago, IL, USA, Apr. 2-4, 1998.
47. Ladha S et al., Cost efficiency and program effectiveness associated with providing integrated STD/HIV/MCH/FP services, paper presented at the annual meeting of the American Public Health Association, New York, Nov. 17-21, 1996.
48. Hawkes S, et al., Reproductive-tract infections in women in low-income, low-prevalence situations: assessment of syndromic management in Matlab, Bangladesh, *Lancet*, 1999, 354(9192):1776-1781.
49. Potts M et al., Paying for reproductive health care: what is needed, and what is available? *International Family Planning Perspectives*, 1999, 25(Suppl.):S10-S16.
50. Shelton JD, Prevention first: a three-pronged strategy to integrate family planning program efforts against HIV and sexually transmitted infections, *International Family Planning Perspectives*, 1999, 25(3): 147-152.
51. Shelton JD and Johnston B, Condom gap in Africa: evidence from donor agencies and key informants, *British Medical Journal*, 2001, 323(7305):139.

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