HIV/AIDS prevention in Uganda: why has it worked?

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HIV/AIDS prevention

The World Health Organisation’s 2004 report Changing History describes the HIV/AIDS pandemic as “the world’s leading public health challenge” and anticipates catastrophic consequences in many developing countries. This infection, the leading cause of death among 15 to 59 year olds worldwide and the second leading cause of serious sickness and disability in the world, infects an estimated 14,000 people each day. In noticeable contrast with escalating HIV rates in many nations, a unique programme in Uganda, one of the nations worst hit by the HIV epidemic, has resulted in a profound decline in national HIV seroprevalence from reported rates as high as 30% in the early 1990s — the highest in the world at the time—to an estimated 5% in 2001. Given the proportions of the global HIV/AIDS pandemic, a public health crisis that is only in its early phases, many organisations and groups have endeavoured to explicate factors contributing to the national success of Uganda’s strategy.

In the late 1980s, when the sequelae of rising HIV rates were becoming increasingly evident, public health programmers tackling HIV/AIDS were started. The strategy of risk reduction through the promotion of barrier protection became the mainstay of most behavioural interventions. Uganda, however, “went against the current” and chose an adaptable strategy that was designed to target all segments of the population through an “ABC” approach to sexual behaviour change: delayed sexual debut for youth (A, abstinence), partner reduction for the sexually active (B, be faithful), and factual information regarding condom use for those who were infected or involved in risky lifestyles (C, condom). The recent recognition of the remarkable diminution in HIV/AIDS in Uganda at a time of escalating rates of HIV seroprevalence in neighbouring countries has led to intense debate and discussion about specific determinants accounting for the remarkable decline in this infectious illness.

Conclusions drawn from this discussion have been varied and even contradictory: some conclude that promotion of delayed sexual debut was a pivotal factor in HIV reduction, while others claim that partner reduction was the lever that changed the course of history for Uganda; some suggest that increased barrier protection is responsible for progress in the war against HIV, while others say that success is attributable to injection safety resulting from cleaner needles; and yet others deny the extent of HIV/AIDS decline, implying that reported HIV rates were inaccurate or that there is statistical misinterpretation because AIDS mortality has resulted in decreased seroprevalence.

Discussion of the Ugandan success story has recently evoked much passion, but a major loser in this imbroglio may be medical science. Any discussion of sexual behaviour inherently entails strongly held beliefs; therefore, carefully accumulated data published in the peer review literature over the past few years may be in danger of being trumped by philosophical perspectives, economic interests, and sexual ideology. The net result of apparently conflicting and mutually exclusive claims relating to the AIDS situation in Uganda is serious: confusion regarding determinants of the declining HIV seroprevalence data has the potential to paralyse forward action in the HIV/AIDS crisis. Researchers and public policy makers must resolve the current tension of conflicting information by careful analysis of evidence, critical scientific thinking, and deductive reasoning. To apply such analysis, primary principles of scientific scrutiny should be invoked.

SCIENTIFIC SCRUTINY OF CONFLICTING CLAIMS

First, application of fundamental inquiry to hypotheses, results, and conclusions is in order. Basic questions should be clarified, including: (a) what factors are unique in the Ugandan programme relative to other nations? (b) if HIV decline is attributable predominantly to condom promotion, why are surrounding countries that have higher rates of condom sales and condom use experiencing escalating rates of HIV? and, (c) if delayed sexual debut and partner reduction are not factors in success, why has Uganda’s president, many of the health officials, and various scientific papers attributed the success to these factors?

Secondly, an important element of scientific inquiry is reproducibility. For example, data from other nations instituting programmes incorporating sexual behaviour change through partner reduction show similar trends as Uganda of declining STD rates, while condomcentric programmes have not met with desired objectives in most nations.

Thirdly, it is vital to examine and understand the normal cycle of information generation, which generally moves from presentation of preliminary results at meetings and conferences through to detailed analysis, peer review, and potential publication. This is of particular concern as premature dissemination of preliminary information presented at a well publicised conference meeting has recently been used to refute high quality existing evidence about the ABC initiative.

SCIENTIFIC VALIDITY OF CONFERENCE PROCEEDINGS

In the Journal of the American Medical Association, Schwarz et al report that despite the fact that papers presented at conferences and meetings are usually just beginning the process of scientific scrutiny, “abstracts at scientific meetings receive substantial attention in the high-profile media.” Furthermore, press releases often “exaggerate the perceived importance of findings” and rarely highlight study limitations or conflicts of interest. A clear illustration is provided by conference reporting of the sequelae of hormone use. With the Women’s Health Initiative (WHI) finding that long term hormone replacement therapy (HRT) posed more risk than benefit for menopausal women, concern has mounted about potential dangers associated with oral contraceptives, agents containing significantly higher doses of oestrogen relative to HRT. At the 2004 American Society for Reproductive Medicine’s annual scientific conference, a presentation was made, based on WHI generated data, that suggested oral contraceptives users are less likely to develop cardiovascular disease. After worldwide media attention, the director of the WHI released a definitive statement through the US Department of Health and Human Services stating that the presenting group had “flaws in both the design

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and interpretation.”23 This latter correc-
tive statement, however, was not
reported extensively in the media; as a
result, many doctors and consumers
may have been left with a false percep-
tion of evidence related to hormone use.
A recent conference presentation,27
which endeavoured to interpret HIV
decline in Uganda, has also received
worldwide media coverage. This presen-
tation discussed recent data and con-
cluded that condom use and AIDS
mortality were primarily responsible
for declining HIV in Uganda, apparently
disregarding previous presented evi-
dence showing that delayed sexual
behaviour and monogamy were pivotal
factors.2 Without prior evaluation by
the scientific community, without dis-
losure of conflicts of interest, and
without reporting on study limitations,
headlines such as “Abstinence pro-
grammes do not reduce HIV prevalence
in Uganda”14 or “Condom use and
deaths explain lower HIV prevalence”29
appeared in medical journals, on
physician information web sites, and
in periodicals throughout the world,
thus obscuring the issue of HIV decline
in Uganda and potentially impairing
forward movement to tackle the
pandemic.

Review of the presented data, how-
ever, suggests that there are serious
concerns related to the scientific inter-
pretation of this abstract. For example,
the locally devised ABC programme in
Uganda was developed in 1986 and
most of the decline in HIV incidence
occurred from the late 1980s to about
1994; Waver et al’s abstract reflects data
collected from 1994 to 2003, a time
period that followed the major decline
in HIV incidence. As well, basic epide-
miological principles show that mortal-
ity is the primary means for prevalence
reduction in chronic disease including
HIV/AIDS; mortality rates do not
explain the aetiology of declining HIV
incidence between 1986 and 1994, nor
do they explain the lower HIV
seroprevalence relative to other nations
with higher rates of condom use.
Furthermore, the recent increase in
sexual risk taking behaviour (including
a decline in abstinence and increase in
multiple partners) since 1994 as well as
the increased use of condoms—as dis-
cussed in the conference presenta-
tion—coincides with the recent increase
in foreign sex education programmes that
emphasise condom use and minimise
the original ABC approach of the
Ugandan administration.25 Dr Edward
Green, a research scientist at Harvard
recently commented, “the unique
indigenous program that Uganda devel-
oped is being gradually destroyed…infec-
tion rates will start going up
again and then experts will say ABC
never worked.”28 It is evident that
scientific queries regarding this presen-
tation abstract need to be addressed
before adoption of conclusions into
policy design. Furthermore, a call for
clarity is in order as the scientific
community must remain fully cognisant
of the relative significance of various
stages of the information cycle and
responsibly transmit scientific informa-
tion to the consuming public.

At a time of exploding and spreading
rates of HIV and other STDs throughout
many areas of the world,2 what is
unique in the original Ugandan model
that allowed incidence rates of HIV to
decline so precipitously? Our analysis
of the situation in Uganda leads us to
believe that the success of this pro-
gramme can be attributed to three broad
based principles: (1) HIV/AIDS was
openly addressed; (2) sexual behaviour
change was specifically targeted; and
(3) the programme was adaptable
across population groups.

OPEN ACKNOWLEDGMENT OF
PROBLEM

Beginning in 1986, the devastating
impact of HIV/AIDS was acknowledged
at the highest level of government in
Uganda and prevention programmes
were established across governmental
ministries and non-governmental orga-
nisations. Ongoing, candid public media
campaigns ensued and “community
mobilization for a grass-roots offensive
against HIV” occurred. Information
and a call for fundamental behaviour
change was communicated by both
health workers and influential people
from a range of local community groups.
While high level political support was
fundamental, personal communication
networks in both urban and rural
settings “predominated in communicat-
ing about AIDS.”9 Furthermore, it is
these personal and community net-
works that are credited as being
critical “to bridge the motivational gap
between AIDS prevention activities and
behaviour change sufficient to affect
HIV incidence.”9 Open acknowledge-
ment of the pandemic had the following
results: in contrast with some other
nations where myths and denial has
contributed to confusion about HIV/
AIDS, Ugandans were highly likely to
monitor and education specialist for
the Ugandan administration.25 Dr David
Wilson, a senior monitoring and education specialist for
global HIV/AIDS: “As AIDS educators,
we often publicly promote approaches
that we would not countenance in our
personal lives, such as the notion that it
is acceptable for our spouses or children
to have multiple partners, provided
condoms are used.”29

TARGETING SEXUAL BEHAVIOUR
CHANGE

Recognising that most HIV infection
occurred through consensual sexual acts
and that national HIV/AIDS rates might
be affected if population level change
in risk taking behaviours was mobilised,9
the Ugandan government introduced an
ABC approach to sexual behaviour
change. This model, which provided
direct advice to specific populations on
HIV/AIDS avoidance through behaviour
change, was promoted as a “patriotic
duty.”30 Steering clear of a focus on
“value”, this approach unapologetically
recommended the promotion of health
through delayed sexual debut for ado-
dlescents and partner reduction for the
sexually active.9 Subsequent analysis of
HIV surveillance and behavioural data
confirms that these were the pivotal
factors in reducing HIV incidence in
Uganda and, furthermore, that a popu-
lation wide reduction in casual sex
“reduced the size of high-risk sexual
networks and the efficiency of HIV
transmission.”1 Targeted promotion of
sexual behaviour change in the form of
direct education about consistent con-
dom use for those already infected and
for high risk groups resulted in an
increase in condom use by both com-
mercial sex workers and those reporting
non-regular sexual partners.9

ADAPTABLE APPLICATION

A crucial factor in the ABC strategy’s
success is its broad applicability, and
thus the ability to specifically and locally
target sexual behaviour change. Rather
than applying a unilateral approach to
all populations, this strategy addresses
the needs of high risk groups through
the promotion of risk reduction in the
form of barrier protection, while at the
same time directly targeting other popu-
lation groups and promoting sexual
behaviour change in all risk avoidance.
In Uganda, for example, there is strong
evidence that pro-
grammes specifically promoting sexual
deferral for adolescents and partner
reduction for couples, changes conform-
ing to traditional and cultural beliefs,7
substantially affected HIV incidence.9
The value of an HIV/AIDS prevention
programme that can be adapted to the
needs of specific groups and the limita-
tions of an unilateral “condomcentric”
approach to sexual behaviour change is
highlighted by Dr David Wilson, a senior
monitoring and education specialist for
global HIV/AIDS: “As AIDS educators,
we often publicly promote approaches
that we would not countenance in our
personal lives, such as the notion that it
is acceptable for our spouses or children
to have multiple partners, provided
condoms are used.”29
CONCLUSION
While HIV/AIDS remains a complex epidemiological problem, which will require multifaceted initiatives aimed at issues ranging from the empowerment of women in developing nations to the needs of injecting drug users in North American cities, the Ugandan example suggests that broad based programmes focusing on sexual behaviour change can significantly affect population level HIV/AIDS rates. To do this, however, the pervasive problem of STDs must be openly tackled; direct recommendations for sexual behaviour change must include delayed sexual debut for adolescents, partner reduction, and risk reduction through barrier protection; and programmes must emphasise components of the original ABC strategy that are most appropriate for local settings and specific audiences.

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