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GUEST EDITORIAL

Achieving and Advancing the Goals of the National HIV/AIDS Strategy for the United States

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In July 2010, President Barack Obama released the National HIV/AIDS Strategy for the United States (NHAS) [1]. The NHAS contains ambitious but achievable goals to be obtained by 2015 in four areas: (a) reductions in HIV incidence and transmission rate, and improvements in awareness of HIV seropositivity; (b) better linkage to and retention in HIV care, treatment and housing services; (c) reductions in HIV-related health disparities among gay men and Black and Latino communities; and (d) improved service coordination at all governmental levels [1]. The vision of the NHAS was generally applauded by those working in HIV service delivery, research and advocacy, and has been central to the reinvigoration and refocusing of governmental and private sector HIV programs.

However, the NHAS did not contain estimates of the costs necessary to scale up the recommended HIV prevention, care and housing services. Rather, researchers developed estimates of the cost of implementation and cost-effectiveness of such investments [2]. Since 2010 there have been marginal increases in federal support of HIV services in some agencies and some regions of the US (primarily in HIV care services in urban areas), but these increases are well below what has been estimated in the literature as necessary to achieve a full-scale implementation of the NHAS [2, 3].

Further, measures of key metrics necessary to monitor the success of NHAS implementation are three to four years behind the current calendar year [4], making real-time adjustments difficult. Researchers have attempted to overcome this limitation by using mathematical modelling techniques to project forward in time from the best available past data; these modeling exercises have suggested that without further substantial expansion of HIV prevention and care services, attainment of the 2015 NHAS goals is doubtful [2, 3].

The most recently available US statistics suggest that as of 2010 there are 1.14 million people living with HIV (PLWH) and roughly 47,500 estimated new HIV infections per year, the rate of HIV transmission per year per 100 PLWH is 4.15, and 84.2 % of PLWH have been diagnosed [4]. Among PLWH who are diagnosed, 79.8 % were linked to care within three months (2011 data), 50.9 % were retained in care (2010 data), and 43.4 % have achieved viral suppression (at most recent viral load test in 2010) [4]. In other words, only about 37 % of all PLWH in the US have suppressed viral load ($.842 \times .434$). Health disparities are very evident with the disease disproportionately impacting Black and Latino men and women, and the epidemic appears to be expanding among gay men generally, and among young Black gay men in particular due to a number of epidemiologic and social factors [3–7].

Given this current state of epidemiologic affairs and that the end of the NHAS in 2015 is nearly upon us, I wish to highlight for discussion several issues which I believe need the most urgent attention so as to make one last attempt to achieve the 2015 NHAS goals, substantially modify the course of the epidemic, and set the stage for a strategic planning discussion that extends through 2016 and beyond.

First, while we must serve all communities affected by HIV, the epidemic among young Black gay men is clearly expanding and must be met with a comprehensive service delivery response that is proportional to the severity of this health disparity. While most federal agencies involved in HIV programming could highlight some program(s) they

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have underway to serve Black gay men, the epidemiologic data suggest that the response to date, however well intentioned, is simply insufficient and must be urgently expanded.

Second, it was recently reported that from 2002 through 2011, HIV diagnoses in the US decreased by 33.2 % overall but increased 132.5 % among gay men 13–24 years old [5]. It is not immediately clear if the overall decrease indicates a drop in HIV incidence as well, or suggests a "ceiling effect" in that we are reaching a relatively higher proportion of PLWH who have received a diagnosis. It is interesting to note that if we divide the number of new HIV diagnoses in a given year by the number of undiagnosed persons living with HIV in the prior year, the resulting percentage is relatively flat in the US from 2008 to 2011 (varying slightly between 25.4 and 23.3 % during that time period). If this percentage is roughly constant, it would suggest that we must develop new clinical and community-based strategies for further improving the effectiveness of testing services to reach the remaining undiagnosed PLWH.

Third, as noted above, there are large gaps in care provision for diagnosed PLWH. Remarkably, there are relatively few evidence-based interventions in the literature for improving linkage to and retention in HIV care [6]; indeed, further, rapid development of such interventions is an urgent area of necessary research and with requisite translational science needed to quickly follow. In addition, it is clear that we need to scale up HIV care provision in the US, and for persons linked to care, improve the success rate even further so nearly all can achieve viral suppression. This will entail addressing some of the key social determinants of living with HIV but being out of care (such as unstable housing and multi-generational poverty), and providing a special focus on geographic areas most heavily and disproportionately impacted by HIV (in particular, the southern US).

Fourth, it is useful to remind ourselves that HIV is transmitted in serodiscordant partnerships in which there is both unsuppressed viral load and some transmission-relevant risk behavior present [2, 3, 6]. This suggests that there are both behavioral and biomedical approaches that can be useful in disrupting HIV transmission; this combination prevention approach is what was recently recommended by an International Antiviral Society-USA Panel focused on HIV prevention in clinical settings [6]. Too often we focus on behavioral or biomedical approaches without embracing their synergy [6].

Fifth, it is time to reeducate the general public about HIV. Especially concerning is that it was recently reported by the MAC AIDS Fund that 33 % of 1 039 adolescents surveyed do not know that HIV is a sexually transmitted disease [8]. We can no longer take for granted there is a solid core of HIV knowledge in the general populations.

Sixth, we must complete the job of removing the last vestiges of antiquated laws that criminalize HIV transmission in a discriminatory manner. CDC reports that as of 2011, 33 states had enacted laws that focused on PLWH and 25 of these states criminalized one or more behaviors which have a "low or negligible risk for HIV transmission." [9] Some jurisdictions (most notably the State of Iowa) have begun to remove such laws but there remains work to be done in other states.

Seventh, as noted above, the investment in HIV prevention, care and housing programs in the US is substantially less than what has been estimated in the literature to be needed to roll out services at the intensity required to meet the NHAS goals [2, 3]. Most of the necessary additional investment theoretically should be covered under the Affordable Care Act (however, states that choose not to expand Medicaid services substantially undermine this premise); the rest could come from discretionary programs that are newly funded or with redirected funding support (in the public and/or private sector). Just as pharmaceutical dosages must be correct in medicine, scale of investment must also be appropriate in population health.

Eighth, we must measure the progress toward key goals of the NHAS in a more timely fashion. While it is reasonable to believe that incidence estimates, reported deaths, and other statistics will be available no sooner than the second year after a particular year closes (because surveillance information will continue to come in during the year after a particular calendar year ends, by the time the information is fully analyzed and reported, it will be the year after next), we now have key metrics that lag 3–4 years behind. This impedes the national ability to mount a nimble response to the epidemic that can rapidly make real time adjustments. We must reinvest in our national HIV surveillance system.

Ninth, we must lift our sights beyond 2015 and begin to develop a second generation of the NHAS for 2016 onward [3]. We recently suggested a set of NHAS "2.0" goals for the year 2020 that are based on epidemiologic and economic modelling regarding what should be achievable within 6 years' time in the US, and suggested a reconceptualization of goals related to health disparities so that these disparities maybe addressed as rapidly as possible [3]. It is time for the nation to begin developing a second generation of the NHAS. Further, a future version of the NHAS would do well to include consideration of viral hepatitis among PLWH (for instance, HIV and viral hepatitis co-infection appears to synergistically hasten the effects of liver disease, and liver disease brought on by hepatitis B and C is now a leading cause of non-AIDS-related deaths among PLWH) [10].

Hopefully, these suggested foci will serve to generate further, urgent debate and action so as to achieve the goals

of the NHAS by next year and to begin to plan a strategic, impactful response to the epidemic in the US through 2020. Failure to act swiftly at the required scale will result in more HIV infection, more HIV-related morbidity and mortality, continued social injustices, and substantial negative economic consequences [2, 3, 6, 11].

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