In Search of the AIDS Boson

July 23, 2012 By David Ernesto Munar

Like tweens at a Justin Bieber concert, scientists wildly cheered new experimental research findings earlier this month in the field of theoretical physics. The hoopla resulted from observations made possible by the Large Hadron Collider -- the biggest particle accelerator ever built -- of the existence of a long sought subatomic particle known as the Higgs Boson.

Here's a brief summary, if you missed it: Scientists hope the Higgs Boson will help explain the essential characteristics of all matter and energy in the universe. Scientists have long sought a single unifying model to explain why astronomical observations suggest a mystery energy source is rapidly expanding the universe. Other measurements suggest the universe comprises heavy matter that nonetheless cannot be observed. The mysterious forces (known as dark matter and dark energy) amount to 96% of known mass-energy in the universe.

AIDS researchers and activists from around the world are on the hunt for their own Higgs Boson. In fact, 25,000 participants from all corners of the globe assemble in Washington, D.C. this week for the 19th International AIDS Conference to help determine how to turn the tide against one of human history's worst epidemics.

How and why does the HIV/AIDS epidemic expand? What forces drive the epidemic and can these forces be accurately predicted, measured and reliably interrupted? What societal characteristics make the epidemic controllable in some settings and populations, and fail to do so in others?

We need a boson of AIDS or its equivalent to make needed progress for public health and humanity.

In my wildest dreams, I image elegant formulas as transformational as Einstein's theory of special relativity that would apply to every HIV/AIDS scenario and predict with astonishing accuracy paths to better outcomes. The magic potion of my dreams might be something like: AIDSFreeGeneration = Human Rights*Universal(EdCareHouse)-poverty + stigma/leadership100.

We already know some of the core ingredients of an effective response. The Washington, D.C. Declaration -- launched by conference organizers as a grassroots organizing tool to garner greater political and financial commitments -- names nine essential elements of an effective response (see the full declaration at www.2endaids.org):

1. Increase targeted new investments.

2. Ensure evidence-based HIV prevention, treatment and care in accord with the human rights of those at greatest risk and in greatest need. No one can be excluded if we are to reach our goal.
3. End stigma, discrimination, legal sanctions and human rights abuses against people living with HIV and those at risk. Stigma and discrimination hamper all our efforts and prevent delivery of essential services.
4. Markedly increase HIV testing, counseling and linkages to prevention, care and support services. Every person has a right to know her/his HIV status and get the treatment, care and support they need.
5. Provide treatment for all pregnant and nursing women living with HIV and end perinatal transmission: We can support women to stay alive and healthy and to end pediatric HIV infections
6. Expand access to antiretroviral treatment to all in need. We cannot end AIDS until the promise of universal access is realized.
7. Identify, diagnose and treat TB. Implement TB prevention programmes through integrated HIV and TB services. No more living with HIV but dying of TB.
8. Accelerate research on new HIV prevention and treatment tools, including novel approaches such as pre-exposure prophylaxis (PrEP) and microbicides, and on optimal delivery of what we know works, from condoms to treatment as prevention. Expand research for a vaccine and a cure.
9. Mobilization and meaningful involvement of affected communities must be at the core of collective responses. The leadership of those directly affected is paramount to an effective HIV/AIDS response.

We know unequivocally that these and other proven-effective strategies make a substantial difference achieving better outcomes in the fight against HIV/AIDS.

Yet the field still struggles to precisely describe the subtle nuances that make all the difference achieving better outcomes.

We still question what scale, combination, sequence and dose (delivered by whom, in what settings, and with what approaches and supports) are optimal and necessary. How best can we harmonize education for the masses in tandem with targeted efforts for those disproportionately affected? How do we secure the needed financial and political support to sustain the work that must occur epidemiologically among a minority of the population, particularly among those most vulnerable and isolated?

As quixotic as it may be, the hunt to explain a universal method is inescapable among conference delegates and presenters. Everyone is engaged in unraveling the riddles to explain why some communities thrive as others flounder in controlling new infections and supporting care access for people with HIV/AIDS.

Maybe passion and commitment are the bosons that power creativity. Or maybe it’s a combination of passion with enlightened governmental leadership, adequate infrastructure and a compassion populace.

Or maybe it’s not simple at all and the AIDS boson includes: workforce capacity; engaged and

educated community stakeholders; a stable national economy; integrity in government; negligible income stratification; strong accountability mechanisms; pioneering academic, media, and cultural institutions; and supportive, non-prudish social and community norms.

We’re unlikely to find definitive answers this week but the discourse and advocacy can move us one step closer to celebrating as rambunctiously as those particle physicists.

An AIDS boson? Never say never -- wait, isn’t that a Justin Bieber song?

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http://beta.docker.poz.com/blog/in-search-of-the-aid