

## Decades into pandemic, HIV thrives — even here

By Anika Clark

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More than one million. Twenty-one percent.

The first figure represents the estimated national total of people living with HIV or AIDS in 2006, while the second is the estimated percentage of people who didn't know they were infected.

Both statistics help define a pandemic with an enormity that can be tough to grasp.

But perhaps the most startling tally at Keene State College's recent display of panels from the AIDS Memorial Quilt — which honors the disease's victims — was "eight." That's the number of months a girl named Jasmine got to live.

Upstairs from Jasmine's swatch, which is decorated with miniature plastic baby bottles and a tiny blue and white cotton dress, a sexually active 21-year-old Keene State student took his first HIV test.

It was negative.

"It's good to know," said the student, who wished to remain anonymous.

Still, he said, concerns about HIV, the virus that causes AIDS, aren't high on his radar. A native of the Nashua area, he guessed he's only met three people with HIV or AIDS.

Two of them spoke at his school. And, he said, "I may be making up the third."

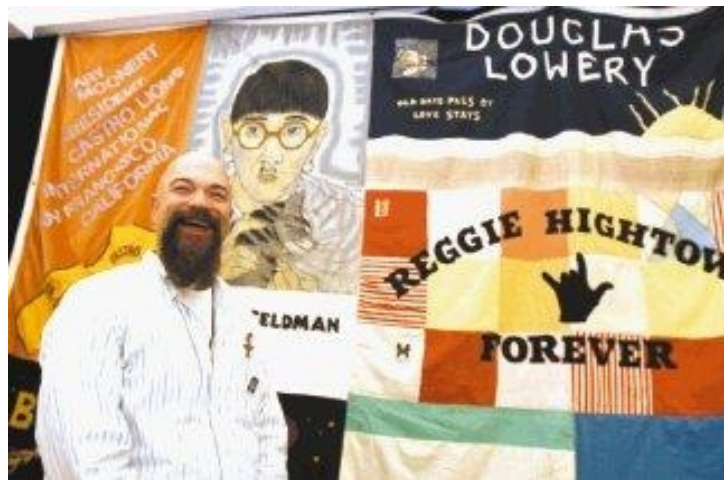
At this point in life "it's not that big of a deal," he explained. "It's not dinner conversation."

But for a 43-year-old man who lives within five minutes of Keene State's campus, HIV is of paramount concern.

"I got to take all those meds," he said. "It's constantly with me."

"Raymond" — a pseudonym for the man, who asked to remain anonymous — was diagnosed with HIV in 2000 following a string of sore throats and fevers, and after his mother alerted him that a woman he used to have sex with had died of AIDS.

"My emotions were mixed — whether to cry, whether to get mad," he said. "I was angry at (the



*Arne' A. Grandell stands in front of the first section made of the AIDS Memorial Quilt, at Franklin Pierce University.*

woman), wondering (if) she knew about it or not.”

He also remembered what he’d said to friends when AIDS first came onto the public radar in the early 1980s.

He recalled talking with friends, and “we were like, you know, ‘We don’t have to worry about this,’ ” he said.

“And I was one of the ones who said, ‘Yeah, they need to give everybody their own little island with HIV and AIDS ... and blow it up.’ And that’s the way I thought about it.”

His initial thought upon learning he was HIV-positive?

“I need to be on that island.”

At the end of 2003, up to 1,422 people in New Hampshire were living with HIV or AIDS, according to estimates in a 2005 report from the N.H. Department of Health & Human Services.

A. David Lein, an infectious disease physician at Cheshire Medical Center/Dartmouth-Hitchcock Keene, treats about 40 of them — all area residents.

They represent the local face of a disease that’s killed about 25 million people worldwide.

The Joint United Nations Programme on HIV/AIDS and the World Health Organization reported that statistic with other updated figures late last month. In 2008 alone, an estimated 2.7 million people were infected with HIV. Meanwhile, 28 years into the pandemic, Susan MacNeil of AIDS Services for the Monadnock Region said, There’s “no end in sight.”

While “Raymond” never figured he’d be one of the statistics, reality struck Arne’ A. Grandell of Rindge early.

“I think ’82, ’83 is when it started hitting. And then it started hitting friends of mine,” Grandell, 45, said.

Although HIV/AIDS has left its mark across demographics, it was first widely recognized among gay men, when doctors in Los Angeles and New York started seeing a spate of rare illnesses among men who had sex with men, according to the Centers for Disease Control and Prevention.

Beginning in the mid-1980s, Grandell’s circle of gay friends in Connecticut was decimated.



*Arne’ A. Grandell, left, of Rindge, checks out a section of the AIDS Memorial Quilt at Franklin Pierce University last week with project volunteer Jordan Dyer, an FPU senior.*

“I had friends that had no family around them and died in my arms,” he said. “There were weeks that we went to four or five funerals in one week.”

So many people were dying, Grandell began to wonder why the virus had spared him.

On June 13, 1993, he learned it hadn't.

“I thought from that test (they) should be able to tell me something and they could tell me nothing, except that I was positive,” he said.

Among the other questions he asked, he wondered when he'd get sick.

“Today, if you ask the same questions, they will give you the same answers,” he said. “We don't know.”

Still, much has changed over the 28 years of the pandemic.

The principal development is the introduction of antiretroviral therapy — medications that work to block the HIV virus from attaching to CD4 T-cells or from replicating, according to the federal government's AIDS information Web site, [www.AIDS.gov](http://www.AIDS.gov).

HIV is a retrovirus — a virus that consists of RNA, a type of genetic material — and replicates by infecting other cells through a process called reverse transcription (see sidebar).

Antiretroviral drugs fall into classes, depending on which stage of the virus' cell entry or replication they inhibit. Protease inhibitors and reverse transcriptase inhibitors, for example, block the virus' ability to use different types of enzymes it needs to replicate. Fusion inhibitors, by contrast, are designed to prevent HIV from attaching to healthy cells in the first place.

By the late 1980s, doctors began prescribing for HIV patients the drug Zidovudine, a reverse transcriptase inhibitor also known as AZT, according to Lein.

But HIV is a virus that can produce drug-resistant mutations when allowed to replicate (as can happen when a patient skips doses.) In an online animated presentation about HIV resistance, Joel E. Gallant of the Johns Hopkins School of Medicine in Baltimore likens

You've heard the scary statistics, but have you ever wondered how HIV attacks the body?

Found in high concentrations in the blood, semen, breast milk, vaginal fluids and rectal mucous of infected people, HIV (Human Immunodeficiency Virus) targets white blood cells (CD4 T-cells, or “helper” cells) that are important to the body's immune response.

Proteins in the outside membrane of the HIV virus enable it to fuse with receptors on the outside of T-cells. The HIV virus can then unload its contents into the healthy cell.

Viral DNA is copied from the viral RNA with the help of an enzyme called reverse transcriptase. This viral DNA enters the nucleus of the cell and, with the help of another enzyme, becomes integrated with the host cell's DNA.

The infected cell is used as a factory to create new viral RNA containing the code for the components of more virus, which is then assembled and released to repeat the cycle in other parts of the body.

The infected cells are ultimately destroyed in the process. During replication, forms of the virus that are resistant to certain medications can be produced.

When CD4 T-cells drop below 200 — or when people who are HIV-positive develop certain illnesses or cancers — they might be diagnosed with AIDS (Acquired Immune Deficiency Syndrome).

With weakened immune systems, AIDS patients are vulnerable to a host of opportunistic and potentially fatal diseases. These include recurrent pneumonia, lymphoma, the fungal lung disease histoplasmosis and Kaposi's sarcoma, a cancer that results from overgrown blood vessels.

— Anika Clark

Sources: Aaron Diamond AIDS Research Center, Centers for Disease Control and Prevention, [AIDS.gov](http://AIDS.gov).

this to loosening the lid on a trash can filled with rats and letting the strongest and smartest escape.

Today, according to the World Health Organization, standard antiretroviral therapy consists of using at least three different drugs – a cocktail that was unavailable to HIV’s earlier victims.

“People who are really in poor shape now are the people who were treated early on with just single-drug therapy,” Lein said. “They tended to get moved from one drug to another drug to another drug in the early 1990s, and as a consequence their viruses became very resistant.”

As of 2008, an estimated 33.4 million people worldwide had HIV, 30 million of them living in low- or middle-income countries, according to the World Health Organization. Of that latter total, only 4 million had access to antiretroviral therapy.

But for those who can get it, the life-extending effects can be profound.

“I’ve got patients who have had an undetectable viral load for over a decade,” Lein said, referring to viral levels that are still present but so low they can’t be detected in blood samples by certain tests.

While varying from person to person, “I think it’s likely going to be very possible to live a normal or near normal lifespan” with HIV, he said.

A normal CD4 T-cell count ranges from 500 to 1,000, according to the federal Web site [www.AIDS.gov](http://www.AIDS.gov).

After having a count of just 350 when he was diagnosed 15 years ago, Grandell’s most recent count last month was approximately 790.

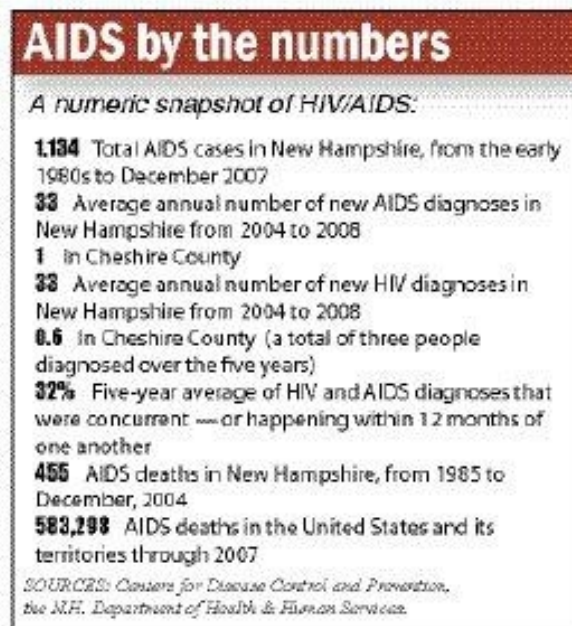
“Raymond’s” latest count was 640. Nine years ago, his CD4 T-cells were down to an estimated 215 — only 15 above the threshold used to diagnose AIDS.

Still, antiretroviral medications can breed a false sense of security.

Although AIDS cases may be declining in the Granite State, HIV diagnoses have held fairly steady in recent years, according to Deputy State Epidemiologist Jodie A. Dionne-Odom.

From 2004 to 2007, the CDC found a 15 percent increase in HIV diagnoses in 34 states that used a certain method of HIV reporting. While offering a variety of possible explanations — including reporting quirks — the CDC also says there may be a bona fide increase in infection rates.

However, “youth today really have no idea about how the pandemic began, about why they need to care about HIV,” said MacNeil of AIDS Services. Of particular concern, she said, is the



portrayal of HIV as simply another chronic illness.

Some of the region's health teachers have seen HIV complacency first-hand.

Jeanne M. Pride, a health teacher at Conant High School in Jaffrey, knew people personally who died of AIDS. In her earlier days as a health teacher, "it was really hard because you had (an HIV/AIDS) speaker and they only would do it for a year or two and they died," she said.

Now, students "don't see people dying of it. They don't hear the stories," she said. "It's more of an abstract thing for them."

In the 1990s, even if students didn't know anyone with HIV, they didn't have to look far. In 1991, Los Angeles Laker Earvin "Magic" Johnson Jr. announced he had the virus.

In 1993, Tom Hanks won an Academy Award for portraying a gay man who dies of AIDS in the film "Philadelphia." Later in the decade, the musical "Rent" brought AIDS to Broadway.

And in 1994, viewers of the third season of MTV's "The Real World" watched HIV-positive Pedro Zamora struggle with the virus only to die shortly after.

At Monadnock Regional High School in Swanzy Center, health education teacher Lori L. LaBrie said she's found "the gross videos" particularly effective in schooling teens about sexually transmitted diseases.

But, she said, AIDS seems less visible.

"I think AIDS seems like something to them that you get in other places until we talk about it," she explained. "And then they realize that people could have it and not even know it."

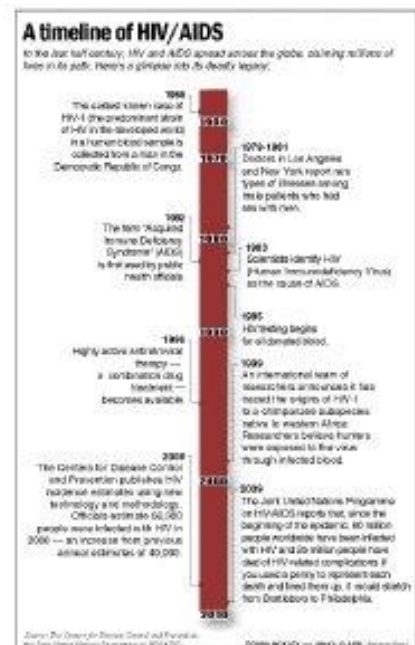
James S. Brunelle of Fall Mountain Regional High School in Langdon has been teaching health since before scientists understood what HIV was.

While stressing that having the information doesn't mean teenagers will make wise decisions, he said, "I wouldn't say that they're more removed" from HIV/AIDS than students a decade earlier.

"Kids are reasonably well-informed," he said.

But then there are students Grandell has encountered locally through his work as chairman of AIDS Services for the Monadnock Region's board of directors. Among them was a college student who said she didn't know why she needed an HIV test since she was on birth control, and a high school freshman who asked if it was safe to shake Grandell's hand.

"I had one freshman boy say, 'You know, it's no big deal. You get HIV, you just take a couple of pills. Everything's fine,'"



Grandell recalled. “They weren’t around in the ’80s and the ’90s when it hit and it was, like, devastating. They don’t get it.”

Contrary to the teenager’s perception, Grandell takes his pills by the handful — for HIV and for a slew of side effects he’s not shy about describing.

For example, there were the violent bouts of sickness he experienced when starting new medications and the persistent diarrhea that makes knowing where public restrooms are located imperative.

And although today’s medications have fewer severe side effects, Grandell’s chronic neuropathy has left him with little feeling in his feet.

But the hardest thing about having HIV?

“The isolation,” he said.

“When you’re telling (people) and they turn their backs on you or they hear about it and they don’t call you anymore. ... Because then you start questioning every relationship you’ve ever had.”

Like Grandell, “Raymond” has an HIV-negative partner who supports him through his illness and said he has relatives and AIDS Services standing in his court.

He’s also seen friendships fall by the wayside.

“It affected my wife a lot because a lot of people were saying that she has it and that my daughter has it. ... I lost family members too,” he said.

Healthy for now, he and Grandell have generally positive attitudes.

But both also acknowledge the reality that their health might not keep up forever.

Grandell’s used the same medications successfully for 10 years. But, having developed resistance to four other drug regimens, he said, “I’m running out of options. ... Once those options are all exhausted, then you end up with a virus that’s completely drug-resistant. And then they basically say, ‘There’s nothing else we can do for you.’”

As for the unknowns of his future, Grandell said, “I think the part that scares me the most is being sick. ... And I love my family, you know? I want to see my goddaughter get married. I want to see her have children.”

Before sitting down with The Sentinel recently, “Raymond” worked on his living will.

“I’m nervous about it because I want to be around to see my daughter, obviously graduate high school, get married and everything else,” he said.

“Do I realistically see it happening? No.”

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