Biotechnology industry is recovering now. Denison:  
Staff writer for the Boston Globe, 09 (D.C., “N.E. biotechnology firms get venture capital boost”, The Boston Globe, 7/25/2009, <http://www.boston.com/business/healthcare/articles/2009/07/25/ne_biotechnology_firms_get_venture_capital_boost/>

The New England industry breakdown reflected the national trend. **The life sciences sector (biotechnology and medical device industries combined) represented 41 percent of all investment dollars and 26 percent of all deals in the three months that ended June 30.** Eight of the 10 largest deals in New England were in life sciences. The largest New England deal to close in the second quarter was a $40 million early stage investment in Aileron Therapeutics Inc. in Cambridge, which is developing new technologies to help treat cancer. It was followed by investment in ConforMIS Inc. of Burlington, which raised more than $35 million for its minimally invasive medical implants for orthopedics. Polaris Venture Partners was the most active New England venture capital firm during the second quarter, with 13 deals reported; Highland Capital Partners was second with nine deals in the three-month period. New England was the second most active US region for venture capital investment, with 76 deals worth $467 million, 13 percent of total US venture capital invested. **However, venture investment in the region was down sharply, with 43 percent less invested than the $826 million in the same period last year.** More than half of the total for the quarter went to life sciences companies in the region. The number of deals for the quarter also fell, from 128 to 76 over the same period a year earlier. The data appeared in the MoneyTree Report, which is produced by the accounting firm PricewaterhouseCoopers and the National Venture Capital Association, using data from research firm Thomson Reuters. New England was still a distant second behind California’s Silicon Valley, which landed 174 deals totaling nearly $1.2 billion. Venture investment in Silicon Valley companies accounted for 32 percent of venture investment nationwide. However, both regions and the rest of the country are struggling with fewer opportunities for venture capitalists to cash out their investments, according to Mark Heesen, president of the National Venture Capital Association. **“We’re still facing an extremely poor exit market,’’** Heesen said. **“There were only six venture-backed initial public offerings in 2008, and so far there have only been six this year. In a good year, we’ve seen a hundred or more. That is having a dampening effect on venture investing.’’** The decline mirrored a national downturn in venture funding, as the total number of dollars invested in the United States fell to just under $3.7 billion from more than $7.5 billion during the same period last year. “The comparison, year over year, is stark, because if you think about the economy a year ago - that was before the downturn really started,’’ said Kevin Shaw, a partner in the Emerging Company Services practice at PricewaterhouseCoopers LLP in Boston. “The companies that were funded a year ago got their investments before the downturn.’’ Although the data show that venture investment declined dramatically year over year, the second quarter was actually a slight improvement over the previous quarter. In New England, venture investment was up $61.5 million over the first quarter of this year; US venture investment was up $500 million. “When your kid’s report card improves from a D to a D plus, it’s hard to get too excited, but that’s where we are,’’ said Heesen. **“The numbers are still poor, but they are getting better, slowly.’**

UHC would destroy medical innovation in biotech. Fazio:

**Fazio**, managing editor of the Northwestern Chronicle and weekly contributor to the D.C. Writeup, **09** Ryan “Public Option will pull the plug on medical innovation” <http://www.thedcwriteup.com/2009/07/public-option-will-pull-the-plug-on-medical-innovation>

America, we often hear, is the last industrialized nation without a uni versal health care system. This fact is commonly a source of rebuke from the American left as well as some self-denying foreigners. But while a government-dominated health care system would assuage the American left, it would invariably be a disaster for the health of both Americans and foreigners. **While America is the world’s last wealthy nation without universal health care, it is also the last great enclave for medical innovation** — and those two realities are no coincidence. **The world needs American health care almost as badly as America does, because — unlike the government-run systems abroad — America’s system rewards innovation.** For years, foreign countries have been freeloading off American medical innovations. **If America abandons its private health care system**, which looks increasingly possible, **that fountainhead of innovation will dry up.** France, Britain, Canada, Germany, and even that great beacon of utopian medicine, Cuba, would not have access to so many of today’s life saving technologies, if it were not for America’s cruel, profiteering, archaic system. MRIs, CT scans, ACE inhibitors (heart failure and hypertension drugs), statins to lower cholesterol, mammography, surgery for heart failure, hip replacement, knee replacement — all of these are among the most important medical innovations of the past 25 years. And all of them were either invented or developed in the United States. Even the birth control pill, used by one-quarter of British women, was an American discovery. I’m not picking and choosing examples either: According to a 2004 report, eight out of the ten most important medical innovations in recent history were developed in the United States. American scientists (or scientists who did their research in America) were awarded Nobel Prizes in Medicine in 29 or the last 34 years. And according to Dr. Scott Atlas of Stanford University, America is responsible for about 80 percent of the entire world’s medical innovation. We may be the black sheep of the world’s health care systems, but that does not mean we should go die our wool to resemble the rest of the flock. Amid all of the talk of our health care system’s faults, little has been said about its many benefits. The way the current system incentivizes innovation is chief among those benefits. According to the State Department, new drugs are responsible for about half of the increase in average life expectancy that has occurred over the past 15 years. In America, the economic benefits from health care innovation total over $500 billion per year. Ominously, it is exactly these types of gains that will evaporate if we adopt the type of health reform that is on the table in both the House and the Senate, and that has been endorsed by President Obama. Democratic lawmakers plan to include a “public option” component in any health care reform bill. Democrats claim that this Medicare-esque program, in which any employer or individual will be able to enroll, will increase competition in the health insurance market and “keep private insurers honest.” In fact, the public option’s built in advantages — its access to the bottomless pit of government finances, its invulnerability to bankruptcy, its tax exemption, and the fact that it’s regulated by the same organization (the government) that operates it, among others — will allow it to gradually crowd out private insurers. This will reduce competition in the health insurance market and, in the process, destroy the competitive pressures that drive medical innovation. In other words, the public option doesn’t so much “keep private insurers honest” as it handcuffs, blindfolds, and hits them over the head with a chair, and then expects them to be able to compete. **Under our current system, doctors, scientists, and companies are rewarded for their innovations.** In the European welfare states, governments underpay doctors and providers in order to cut costs. Considering that the US is responsible for so much medical innovation, it should be no surprise thatfrom 1989 to 2002, four times as much capital was invested in American biotechnology firms than in European ones. Simply: **innovation requires investment.**

Downward pressure on health costs destroys biotech innovation. Greenwood:  
Greenwood, 8 James, President and CEO of Biotechnology Industry Organization, October, “Health Care Reform,” <http://www.nxtbook.com/nxtbooks/medimedia/bh_20080910/index.php?startid=18#/26>

How significant are biologics to the nation’s healthcare tab?  Greenwood: Approximately 1.8 percent of every healthcare dollar is spent on biologics. **Even if you could achieve European-level pricing of drugs in the United States, the savings out of a $2 trillion-a-year health expenditure in this country would only be about $50 billion a year.  That is almost as large as the entire private sector drug research and development budget.** So I think **downward pressures on pricing would likely have a very serious impact on the ability of biotech companies to innovate**, when there’s reason to believe that the real way to take control of healthcare costs is to reduce the prevalence of chronic diseases. Biotech products are all about reducing prevalence of chronic diseases. If we could reduce prevalence of chronic disease even by 10 percent, we would save $150 billion a year.

A. Biotech is key to preventing bioterrorism. Maurer:  
Director of the Goldman School Project at the University of California – Berkeley, 07 (Stephen, “Lifeboat Foundation BioShield”, <http://lifeboat.com/ex/bio.shield>)

The new realities of terrorism and suicide bombers pull us one step further. **How would we react to the devastation caused by a virus or bacterium or other pathogen unleashed** not by the forces of nature, but intentionally **by man?  No intelligence agency**, no matter how astute, **and no military**, no matter how powerful and dedicated, **can assure that a small terrorist group using readily available equipment in a small and apparently innocuous setting cannot mount a first-order biological attack.** **With the rapid advancements in technology, we are rapidly moving from having to worry about state-based biological programs to smaller terrorist-based biological programs.** It's possible today to synthesize virulent pathogens from scratch, or to engineer and manufacture prions that, introduced undetectably over time into a nation's food supply, would after a long delay afflict millions with a terrible and often fatal disease. It's a new world.  Though not as initially dramatic as a nuclear blast, **biological warfare is** potentially **far more destructive than the kind of nuclear attack feasible at the operational level of the terrorist. And biological war is itself distressingly easy to wage.** It would be more cost effective if those funding the BioShield set specific goals and gave prize money to the people/organizations that accomplished them than simply funding research without such goals.  We propose that we take the measure of this threat and make preparations today to engage it with the force and knowledge adequate to throw it back wherever and however it may strike. **It is time to accelerate the development of antiviral and antibacterial technology for the human population. The way to combat this serious and ever-growing threat is to develop broad tools to destroy viruses and bacteria.** We have tools such as those based on RNA interference that can block gene expression. We can now sequence the genes of a new virus in a matter of days, so our goal is within reach! We call for the creation of new technologies and the enhancement of existing technologies to increase our abilities to detect, identify, and model any emerging or newly identified infective agent, present or future, natural or otherwise — we need to accelerate the expansion of our capacity to engineer vaccines for immunization, and explore the feasibility of other medicinals to cure or circumvent infections, and to manufacture, distribute, and administer what we need in a timely and effective manner that protects us all from the threat of bioengineered malevolent viruses and microbial organisms. **Time is running out.**

### Bioweapons risk extinction. Steinbruner: Steinbruner, Brookings Institute, 1998 [John; Senior Fellow – Brookings Institute, “Biological Weapons: A plague upon all houses” Foreign Policy Winter]

Although human pathogens are often lumped with nuclear explosives and lethal chemicals as potential weapons of mass destruction, there is an obvious, fundamentally important difference: **Pathogens are alive, weapons are not. Nuclear** and chemical **weapons do not reproduce themselves and do not independently engage in adaptive behavior**; pathogens do both of these things. That deceptively simple observation has immense implications. The use of a manufactured weapon is a singular event. Most of the damage occurs immediately. The aftereffects, whatever they may be, decay rapidly over time and distance in a reasonably predictable manner. Even before a nuclear warhead is detonated, for instance, it is possible to estimate the extent of the subsequent damage and the likely level of radioactive fallout. Such predictability is an essential component for tactical military planning**. The use of a pathogen**, by contrast, **is an extended process whose scope and timing cannot be** precisely **controlled**. For most potential biological agents, the predominant drawback is that they would not act swiftly or decisively enough to be an effective weapon. But for a few pathogens - ones most likely to have a decisive effect and therefore the ones most likely to be contemplated for deliberately hostile use - the risk runs in the other direction. **A lethal pathogen** that **could** efficiently spread from one victim to another would **be capable of initiating a**n intensifying **cascade of disease that might** ultimately **threaten the entire world population.**

B. Biotech key to prevent and cure AIDS. BIO:  
BIO, Biotechnology Institute Organization, 2K ( “AIDS: A Terrible Pandemic”, Your World, Biotechnology and You, <http://www.biotechinstitute.org/resources/YWarticles/9.2/9.2.1.pdf>)

Meanwhile, every hour two U.S. teenagers become infected with HIV. AIDS kills more men between the ages of 25 and 44 in the U.S. than only other cause. In the U.S. alone, more than one million people have HIV. Worldwide, **more than 47 million people are HIV-infected and 11 more become infected every minute. AIDS is destroying entire communities in Africa and Asia.** People in these countries have no access to drugs that treat HIV, and people die rapidly of AIDS. Twenty-three million people in Sub-Saharan Africa are HIV-infected, and 13.7 million have died. There are two major weapons against AIDS: education and biotechnology. Education and biotechnology. Education helps prevent the behavior that leads to HIV infection. As the 1999 World AIDS Day slogan stated, "Listen, Learn, Live!" In the early 1980s, **biotechnology helped scientists identify HIV as the cause of AIDS, diagnose HIV infection, and clear the blood supply of contaminated blood.** In the 1990s, **new biotechnology techniques allowed scientists to study the virus' life cycle and design drugs that can interrupt that life cycle. Now scientists are using biotechnology to develop new drugs and vaccines that may** eventually **cure or prevent new infection.**

Mutation and spread of AIDS ensures extinction. ACSA:ACSA 05 ("U.N.: HIV Epidemic continues to Spread" American Computer Science Association <http://www.acsa2000.net/aids/global_aids_ap.htm#ross>)

At a 12% annual compounded growth rate in the spread of infection , which netted 5 million new cases in 2005 and 3 million deaths from the disease, that means **the growth of** HIV/**AIDS will exceed Humanity's Birthrate within 100 Years.** At that point it will be too late to do anything about: **Humanity will cease to exist in less than 150 years**, by 2155. The increasing number of long term survivors is at a rate of 40% increase, per year, butat some point, **once the Birth Rate is exceeded by the AIDS deaths per year, the number of human beings to catch the disease will decline to the point where the only survivors will all be under the age of sexual activity, and many will be in-vitro infected and die within 5 years.** At that point, only those capable of living with the disease and caring for the young, will live, a few million young persons at best . At the present rate Humanity will be Economically Bankrupt within 25 years (680 Million People will have AIDS, about 10% of humanity, 600 million People will have died of it by then:  with 68 million new deaths each year, roughly equivalent to 1/5th the population of America.) **The "Extinction Point" may** actually **accelerate** the impending **extinction to less than 75 years, if birth rate declines as a result.  It is the Economically Bankrupt Point** , however, **that will insure Extinction**, since beyond that point, the population of non-infected persons will drop due to other factors, such as war, barbarianism, and the like .