

Senator Claxton, Representative Meyer, and members of the Health and Human Services Committee:

My name is Cristobal Alvarado, and I am here to testify in support of LD 1729, which will create a Commission to study the feasibility of manufacturing generic insulin using state funds.

President Biden has said several times recently that “Capitalism without competition is exploitation”<sup>1</sup>. There is no better way to describe the situation that currently exist with insulin manufacture and pricing.

Dr. Frederick Banting became the youngest ever recipient of the Nobel Prize in Medicine in 1923 (age 32) following his discovery in 1921 of a method to produce insulin. Following his classic set of experiments, Dr. Banting sought and received a patent for production of the insulin molecule.

<https://www.thestudentperspective.org/post/insulin-does-not-belong-to-me-it-belongs-to-the-world>

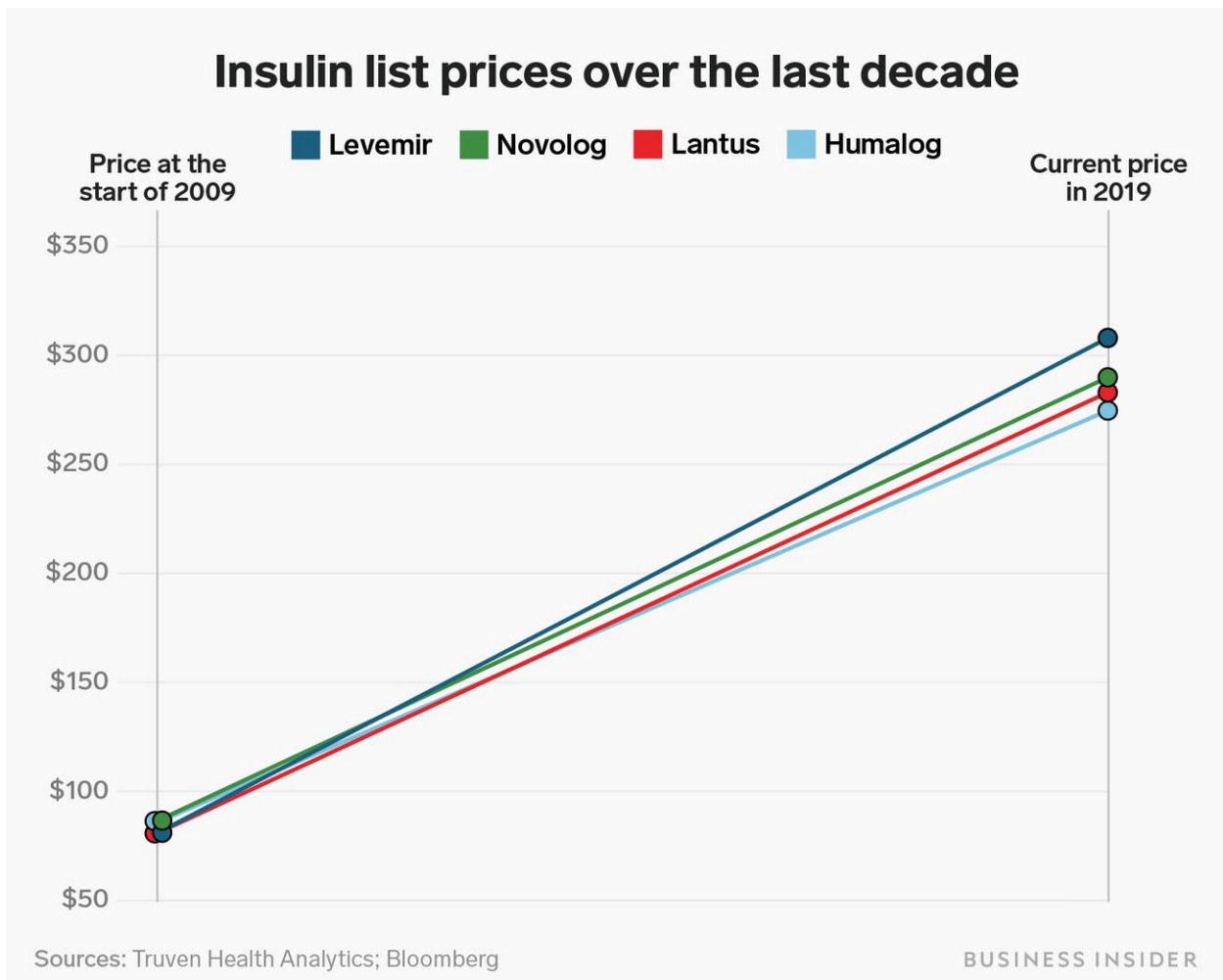
We should step back for a moment and consider just how much such a patent would have been worth.

But rather than pursue the tremendous financial gain possible from his discovery, Dr. Banting altruistically sold his patent for \$1 to the University of Toronto, famously exclaiming “Insulin does not belong to me, it belongs to the world.” In doing so, Dr. Banting stated that he wanted to make sure that no patient would ever be in a situation where they couldn't afford this lifesaving medication.

Fast forward a century in time, and we have a current environment in which three major pharmaceutical companies dominate over 95% of the production of insulin. The price of a vial of insulin has risen in lockstep over the last almost three decades, with price exceeding on average \$300 a vial today. This is particularly abhorrent when one considers that the price of manufacture for a standard vial of insulin is somewhere between \$5-10 per vial.

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<sup>1</sup> <https://www.businessinsider.com/biden-slams-capitalism-without-competition-as-exploitation-consumers-workers-corporations-2022-1?op=1>



While the Maine Legislature has taken the significant step of passing into law LD 2096<sup>2</sup>, a program to limit the amount of copay to which citizens are exposed, this legislation unfortunately fails to address the root cause of the problem. While this legislation will to a large extent shield lower income and other vulnerable patients from being overcharged, nevertheless, the legislation is only a deflecting or shifting maneuver that moves the responsibility for cost from the citizen to the government or to insurance companies, saddling them with the exorbitant costs.

<https://www.diabetes.org/newsroom/press-releases/2020/maine-affordable-insulin>

In the end analysis, the new legislation does nothing to decrease the price of insulin itself significantly, but rather merely changes the form of who provides the payment.

In contradistinction, LD 1729 would create a Commission to study the feasibility of manufacturing generic, off-patent insulin using state funds. By making generic insulin on its own, the State of Maine would effectively “cut out the middleman”.

As a retired cardiothoracic surgeon, I have had experience prescribing insulin and treating diabetics for decades. This issue became quite personal to me when my youngest daughter was diagnosed with type 1 diabetes at the age of 6, about eight years ago.

The insulin used in the later stages of my training during the 90s is currently off patent and generic. These forms of insulin that are available as off patent formulations are safe and effective and have years of use documenting this safety profile. General consensus is that a vial of insulin can be produced for less than \$10 per vial using modern molecular biological techniques.

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<sup>2</sup> <https://www.pressherald.com/2019/12/30/maine-to-consider-bill-to-cap-insulin-costs-for-diabetes-patients/>

Creating a Commission to study the possibility of the state manufacturing its own generic insulin would serve many constructive purposes:

1. State production of generic insulin would likely create a savings on the order of tens of millions of dollars for the state of Maine. One role of a Commission would be to build upon previous reports<sup>3</sup> by studying the economic impact and arrive at a reasonable calculation of what might be called an “*Insulin Dividend*”, i.e., the amount of money saved from state production of generic insulin versus the amount of money currently spent on insulin produced by the pharmaceutical cartel.
2. Creation of such a program to produce generic insulin would likely have constructive economic second and third order effects in terms of creation of jobs, in sectors including construction, transportation, administration and manufacturing.
3. Broad availability of inexpensive generic insulin would have constructive second and third order effects on increasing the overall health of citizens in the state of Maine. In particular, two specific populations would benefit from greater stability in their healthcare - vulnerable patients with pediatric type one diabetes, and older, fixed-income citizens also dependent on insulin and sensitive to expensive prices.

Shielding citizens from having to ration insulin due to cost is a smart investment in the principle that an ounce of prevention is worth a pound of cure. A stable, reliable, inexpensive supply of insulin is the critical first step to enabling treatment which can prevent much more expensive hospitalizations and other adverse events associated with poor control of blood sugar.

4. From a broader perspective of societal self-sufficiency and independence, especially when viewed in the context of national security, the Commission can also study the possibility that producing generic insulin with state funds can lead to a broader effort to produce other generic medications. Producing insulin would provide proof of concept that similar manufacture of diuretics or antihypertensives or anti asthmatics is possible.

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<sup>3</sup> <https://healthcostinstitute.org/hcci-research/capping-out-of-pocket-spending-on-insulin-would-lower-costs-for-a-substantial-proportion-of-commercially-insured-individuals-1>

Such a plan was proposed by Senator Warren at the national level with a much broader scope:

<https://www.warren.senate.gov/newsroom/press-releases/warren-schakowsky-lead-colleagues-urging-the-biden-administration-to-use-defense-production-act-public-manufacturing-to-expand-global-vaccine-access>

Our Constitutional Republic has always viewed the States as “laboratories of democracy”. Forming a Commission to study this problem will likely demonstrate this is feasible on a local level, and may further uncover heretofore unappreciated possibilities, such as expanding to production of other medications or material (PPE) or exploring development of an interstate consortium for manufacturing.

5. While passing recent legislation to cap insulin copays is a welcome first step in giving the citizens of Maine more stability in terms of the availability of this life-saving medication, it does not address the root cause of the problem. With a co-pay limitation, the continuation of inexpensive availability of insulin will be dependent upon the good faith of the companies involved, who in the end, still maintain control over supply. If cost is merely shifted from the citizen to the government, the benefit of the program is lessened.

By funding the production of inexpensive generic insulin, the Legislature can provide competition to the pharmaceutical giants that will move the current system from being “exploitative” to a system that is more in line with serving the needs of the citizens of Maine.

Simply giving the citizens of Maine a choice, one which they do not have currently, will help vulnerable populations of Maine citizens escape the oppressive effects of inordinately expensive insulin. Merely introducing competition (or even the possibility of competition) may have a beneficial effect on the price structure of insulin in itself.

Regardless, given our current times it is self-evident there is an advantage to producing critical life sustaining medications like insulin locally and under a process which we entirely control even apart from saving money. It is one thing when supply line crises limit the choice of bread or cereal at a grocery store; it is entirely different when supply line crises threaten the availability of critical life sustaining medications.

Manufacturing critical medications locally and under direct control is a prudent, proactive measure.

I strongly encourage the Legislature to authorize creation of a Commission to study the feasibility of producing generic insulin with State funding, as envisioned in LD 1729. Authorization of a Commission to study the issue will provide legislators with the best possible information about the myriad ways in which such a program could help the citizens of Maine.

Authorizing a Commission comes with no risk, extremely low cost and has significant potential benefit.

Respectfully,

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