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A Health People Special Report: Ending the Diabetes COVID Disaster

The Massive Mortality that People with Diabetes in the United States, and Particularly New York City and New York State, Have Suffered During COVID are Significantly Preventable

NYC's 56% Increase in Diabetes Deaths in First COVID Wave was Highest in Nation

Overview of Excess, Preventable COVID Diabetes Deaths in New York City, New York State

What is particularly striking in the studies is the cumulative evidence that modest blood sugar decreases can provide measurable protection both against people with diabetes dying from COVID and developing severe COVID complications that require intensive hospitalization.

It has been demonstrated for years that a range of self-management and patient education courses--particularly when they are provided at community sites right in neighborhoods where high need populations with diabetes can access them--regularly help people with Type 2 diabetes drive down their blood sugar within weeks. These courses also save significant amounts of medical dollars by reducing hospitalizations and emergency room visits for people with diabetes as well as expensive complications from other diseases, such as heart and kidney disease, which diabetes worsens.

The stakes in improving health--even while reducing the nation's now overwhelming medical costs--are enormous. The United States has 34 million citizens with Type 2 diabetes; New York State has 2 million and New York City has 1 million; available surveys on population health strongly suggest that between 40 and 50% of people with Type 2 diabetes in these jurisdictions have blood sugar levels that place them at high risk for COVID complications and death and would significantly benefit from direct education to lower their blood sugar. In one major study, 11% of people with diabetes hospitalized for COVID who were in poor blood sugar control died; but only 1% of those in good control died--a devastating difference. The significant reduction in serious COVID complications, including Acute Heart and Respiratory Diseases, with lower blood sugar, is also impressive and important.

In sum, evidence-based self-care education presents an extraordinary opportunity--unique in the COVID epidemic--to measurably decrease COVID deaths as well as the serious complications now

Diabetes as a Driver of COVID Deaths and Complications The United States has seen a staggering association of diabetes and COVID deaths, with diabetes reported as a factor in almost 40% of deaths nationally in the first five months of the epidemic. But the situation in New York City and New York State was particularly shocking. In the first wave of COVID, New York City had had the worst increase in excess deaths of people with diabetes of any major area of the United States—a 356% increase. New York State's increase in excess deaths of people with diabetes was the largest of any major state! (These excess death studies compare the number of monthly deaths of people with diabetes in the early surge of March and April 2020 to average monthly diabetes deaths over the previous five years ---that is, pre-COVID; in this instance excess diabetes deaths are ~~meant to~~ include both people with diabetes whose COVID was not diagnosed and people with diabetes whose care was interrupted by the epidemic.)

As the COVID pandemic has continued, diabetes deaths, apart from the deaths of people with diabetes from known COVID infection, continue to be significantly above normal. Overall for the first recognized eight months of the COVID epidemic, diabetes has the highest rate of excess deaths of any chronic condition surveyed.

Between mid-March and mid-November, deaths directly attributed to diabetes were 15% above normal nationally; (these deaths are also assumed to represent a combination of undiagnosed COVID deaths and diabetes deaths that occurred as the epidemic interrupted regular medical care.) In New York City, overall for the same period, even though the city pulled back from the devastating first wave of deaths after April, for the whole period from mid-March to mid-November, deaths for people with diabetes were 24% above normal (in addition to documented COVID deaths of people with diabetes); New York State's diabetes deaths (not counting New York City) were 18% above normal for the same period and New Jersey's were 37% above normal.

The mechanism, which we now understand, of sugar interactions with COVID receptors helps explain this extra vulnerability of people with diabetes. Excess blood sugar (glucose) actually

while 6.5% and above starts the diabetes range; 7.5% is widely considered the outer limit of acceptable blood sugar control; 7.6% and above shows increasingly poor control

The British study determined that deaths start to measurably rise when people with diabetes have an A1C level of 7.6% and steadily increase with rising A1Cs, doubling for those with A1Cs of 10% or more.

A study of 810 COVID patients with Type 2 diabetes followed at 19 hospitals in China also found significantly increased deaths and complications for patients in poor control compared to those in good control. Patients in poor control had a median A1C of 8.1 % and those controlled had a median 7.3%A1C⁴

Details of Studies:

A. English Population Study of Mortality in 10,525 People with Type 2 Diabetes and COVID Recorded on Death Certificates

In this study of 10,525 people with pre-existing Type 2 Diabetes hospitalized with COVID, A1C levels of 7.6 and above showed a steady, step-wise increase in mortality; equally, it was clear that even modest reductions in A1C could provide measurable protection against death.

This chart summarizes the British findings for 10,525 hospitalized patients with diabetes and COVID



New York City has some one million adults with diabetes; in the most recently available public report on New York City A1C levels (which, reflecting the city's own disinterest in even tracking diabetes, is from 2012) those tested had an average A1C of 7.8%; 13.4% had an A1C of 8 to 9%; with another 16.9% were in very poor control with A1Cs of 9% or more.²

Since none of these governments report A1Cs in detail, by level, it is not possible to directly project what portion of these diabetic populations are at the higher risk level of 7.6% and above; however, it certainly appears that in every jurisdiction, at least 40 to 50% of citizens with diabetes are at this higher risk for COVID death and complications, and would directly benefit from education and information.

From Lethal Neglect to Widely Saving Lives and Massively Saving Money

There is already a range of well-proven strategies, perfectly well known to the federal government and to Health Departments, that could have been immediately used to give people with diabetes the chance to achieve better control to protect themselves. Diabetes self-management courses and protocols, especially those delivered in community settings where they are accessible to the people who need them, have been well evaluated to measurably help people with Type 2 diabetes reduce their A1C levels within weeks. A major review of multiple different self-management courses implemented in community settings (such as churches, community centers, etc.) found that participants achieved an average 1.9% A1C reduction, a reduction which would clearly reduce COVID risk very large numbers of people in both New York State and City with blood sugar levels that now place them at higher risk for COVID complications and death.

Yet, the New York State and City Health Departments, and others across the nation, just continue to leave people with diabetes vulnerable to more episodes of avoidable mass mortality in a COVID "second wave."

reduce hospital usage but strongly suggest that reducing blood sugar is a leading way to start preventing “longhauler” complications that keep people sick for months (and perhaps years) after COVID. Acute respiratory and heart diseases during COVID illness are the complications that decrease most as blood sugar levels decrease and are strongly associated with debilitating continuing illness from COVID.

The savings to states and the federal government in public health expenditures would also be enormous. New York State’s excess Medicaid diabetes costs, for one example, now amount to \$1.4 billion a year. They are the highest in the nation and a major source of the state’s \$4 billion Medicaid deficit. (Excess Medicaid diabetes costs are defined by the Centers for Disease Control and Prevention as the extra annual cost per Medicaid patient with diabetes, compared to the annual cost for others on Medicaid.) These excess costs are driven by complications like diabetes-related blindness, kidney disease and amputations, which alone have soared by 48% in the state in the past decade. Adding up surgery, prosthetics, pain (ed)5.9(o)-9(n)-0.7(g)]TJ-4.2(t)-6(hc)-1.94u(p-4.3(,)-44.2(t)-1(r)-2.3(c)-4..9(e)-69(i5-0.

Yet, now added to the mult**in**illions in savings in diabetes costs would be further mult**in**illions

Works Cited

1. <https://jamanetwork.com/journals/jama/fullarticle/2768086>
2. <https://www.medpagetoday.com/endocrinology/generalendocrinology/88004>
3. <https://www.ncbi.nlm.nih.gov/books/NBK69447/>
4. [https://www.cell.com/cellmetabolism/pdfExtended/S1550131\(20\)30238](https://www.cell.com/cellmetabolism/pdfExtended/S1550131(20)30238)
5. <https://www.nihb.org/covid-19/wp-content/uploads/2020/08/CDC-MMR-Characteristics-of-PersonsWhoDied-with-COVID19.pdf>
6. <https://www.nytimes.com/interactive/2020/12/13/us/deaths-covid-other-causes.html>
7. <https://eatreal.org/alerts/>
8. https://www.newswise.com/coronavirus/emergendringingdown-blood-sugarnow-newswiselive-event-for-nov-12-at-2pm-et/?article_id=741304
9. [https://www.thelancet.com/action/showPdf?pii=S2214101\(20\)2930270](https://www.thelancet.com/action/showPdf?pii=S2214101(20)2930270)
10. <https://www.cdc.gov/diabetes/pdfs/data/statistics/nationaldiabetesstatisticsreport.pdf>
11. https://www.health.ny.gov/health_care/managed_care/reports/eqarr/
12. <https://www1.nyc.gov/assets/doh/downloads/pdf/epi/databrief53.pdf>
13. <https://www.jmir.org/2016/12/e322/>
14. “Wasted Billions, Wasted Health: NY’s Highest in Nation Diabetes Costs Fuel Medicaid Deficit”
by Chris Norwood:
https://www.newswise.com/pdf_docs/15826583187527_158135755698591_Wasted%20Billion%20Wasted%20Health%20Report%20Huge%20%20Excess%20Diabetes%20Costs%20Fuel%20Medicaid%20Crisis.pdf
15. [https://www.thelancet.com/journals/landia/article/PIIS2214101\(20\)30072/fulltext](https://www.thelancet.com/journals/landia/article/PIIS2214101(20)30072/fulltext)