Diabetes Educator course with a Specialization in Indigenous Health

Background:
Diabetes Mellitus (DM) is a global epidemic, and affects women of all ages. In 2017, 500 million people were suffering globally with either type 1, type 2, or gestational diabetes. Patients do not have proper tools to successfully manage the symptoms associated with their diabetes mellitus, due to the lack of proper quality improvement (QI) of diabetic self-management education (DSME). In 2013, this number was 3 to 5 times higher in First Nations populations, than in the general population.

Objectives:
To facilitate better QI and DSME in Indigenous populations across the globe.

Methods:
By creating a free, accredited course which is accessible anywhere in the world, anyone can learn skills to teach diabetes self-management. This course will begin with the basics, progressing all the way to advanced health promotion techniques needed to educate sustainable engagement in sugar monitoring, treatment of common complications, medication management, associated mental illness management, and physical and nutritional therapy, to only name a few.

Once presented to the public, research on the succession will be analyzed in a Public Health practice-based research network (PBRNs) method along with surveys and interviews conducted by Registered Nurses (RNs), with final statistical analysis used to display the initial, short-term, and long-term effectiveness based on baseline tests. These will include, but not be limited to: heart rate, blood pressure, mental health and medication, blood sugar levels over the last three months with potential hyper-/hypo-glycemia, blood circulation and ankle brachial pressure test scores, kidney function, macrovascular complications, retinopathy complications, initial dermatology concerns, and nerve damage assessment. These tests will be completed in a small group of remote Indigenous communities in Quebec, Canada.

Results:
It is hypothesized that this will improve public health efforts of patient self-management of diabetes mellitus and its associated symptoms. With this free, accredited, accessible online course to prepare health practitioners in DSME, better glycemic control, decreased retinopathy, nephropathy, and neuropathy is expected. It is estimated that due to the 2.3 times higher expenditure for those with diabetes than with those without, there is a greater financial burden placed on societies. This number is expected to decrease with patients' basic understanding of their illness, as hospital visits have shown to decrease with improved knowledge.

Conclusions:
It is expected that the number of people with diabetes mellitus will grow to more than 629 million people by 2045 if nothing is done. With a course such as this, DSME will succeed

through QI strategies, patient hospitalization rates are expected to decrease, as are associated symptoms, and overall societal economic burden will be lifted. Global education rates will increase without personal financial strain, and additional healthcare research will be contributed to Indigenous populations.

Sources:

1. Harris, Stewert., Bhattacharyya, O., Dyck, R., Naqshbandi Hayward, M., Toth, E. “Clinical Practice Guidelines: Type 2 Diabetes in Aboriginal Peoples.” *Canadian Journal of Diabetes* 37 (2013): S191. Web. 19 Feb. 2020.
2. “IDF Diabetes Atlas: Eighth edition 2017.” *Forwards.* 2017. 6. pag. www.diabetesatlas.org. Web. 14 Feb 2020.
3. Dearinger, Angela., Ingram, Richard., Pendley, Robin., Wilding, Sarah. “Diabetes Education: Quality Improvement Interventions Through Health Departments.” *American Journal of Preventative Medicine*, Dec. 2013. Web. 14 Feb 2020.
4. Yang, Wenya., Dall, Timothy., Beronjia, Kaleigh., Lin, Janice., Semilla, April., Chakrabarti, Ritashree., Hogan, Paul. “Economic Costs of Diabetes in the U.S. in 2017.” *American Diabetes Association: Diabetes Care*, May. 2018. Web. 14 Feb 2020.