

**GLOBAL SURVEY REVEALS MORE THAN A QUARTER OF CANADIANS WITH TYPE 2 DIABETES DO NOT TAKE INSULIN AS PRESCRIBED AND ONE THIRD ARE EXPERIENCING EVENTS OF LOW BLOOD SUGAR FREQUENTLY**

**One in five Canadian patients deliberately do not take insulin as prescribed to reduce the risk of experiencing low blood sugar at night**

**TORONTO, Ontario (November 28, 2012)** – More than a quarter of Canadians living with type 2 diabetes are not taking insulin as prescribed by their physician, reveals an international survey. The survey reveals a startling correlation between mis-dosed insulin and incidences of dangerously low blood sugar, known as a hypoglycemic event, as one third of survey respondents also reported experiencing at least one hypoglycemic event over a 30-day period.

The GAPP2™ (Global Attitude of Patients and Physicians) survey shows that Canadian healthcare professionals (HCPs) are concerned that patients often under-report frequency or severity of hypoglycemic events despite reporting that they discussed these events with approximately six in ten patients over a 30-day time period.

**Insulin dosing irregularities are common in Canadian patients**

The GAPP2™ survey revealed that HCPs believe that long acting insulin analogues are better than intermediate acting insulin (neutral protamine Hagedorn or NPH) in providing good blood glucose control and reducing hypoglycemia. However, insulin management still has some challenges which can result in the patients' diabetes not being well controlled:

- Long acting insulin dosing irregularities and self-treated hypoglycemia are common in type 2 diabetes patients who take insulin and impact on the patients well-being
- Patients' lives are negatively affected by having to take long acting insulin at the prescribed time and taking long acting insulin at the same time each day is often inconvenient

“Canadians with type 2 diabetes who take insulin, who represent approximately 15 per cent of those with type 2 diabetes, try to avoid having a hypoglycemic event, as the survey indicates that patients are missing or mis-timing their long acting insulin,” says Dr. Vincent Woo, Endocrinologist at Health Sciences Centre. “The survey findings show that there is a connection between dosing irregularities and incidents of hypoglycemia. This attempt to avoid hypoglycemic events creates an obstacle for patients to achieve optimal glycemic control and compromises the patient care being delivered.”

## Self-treated hypoglycemia is common in Canadian patients

According to GAPP2™:

- More than a **quarter** of Canadian patients surveyed had missed, mis-timed (by more than two hours) and reduced doses and **26 per cent** had done so five or more times in a 30-day period
- **20 per cent** of Canadian patients deliberately did not take their insulin as prescribed and **one in seven** let blood glucose levels go higher to reduce their risk of nocturnal self-treated minor nocturnal hypoglycemia
- On the last occasion of missed, mis-timed or reduced insulin dosing, **87 per cent** of Canadian patients had done so intentionally because their blood sugar level was low and to reduce the risk of having a hypoglycemic event
- HCPs believe that patients under-report frequency or severity of hypoglycemia

“Sometimes, taking insulin at the exact time I am supposed to is simply not possible. Like anyone else, I lead a busy life, and sometimes I cannot take a break for my insulin. At the same time, I often worry about experiencing hypoglycemia,” says Mohamed Eltawil, who lives with type 2 diabetes. “I would look for treatment options that could be flexible with my lifestyle. I also encourage everyone with type 2 diabetes to work with their doctor to develop an action plan to prevent hypoglycemia.”

The results of GAPP2™ reveal that patients experience a negative impact on overall quality of life due to the inflexible routine associated with long acting insulin treatments.

- **Six in ten** Canadian patients worry about missing occasional long acting insulin doses and **seven in ten** feel guilty when they do
- More Canadian patients worry about experiencing a hypoglycemic event at night (**34 per cent**) than during the day (**20 per cent**)

“Patients do not always report the full extent of hypoglycemic events with their doctors,” says Dr. Woo. “This creates a challenge in understanding why the patient isn’t adhering to prescribed insulin treatment. It is important for patients to recognize signs and symptoms of hypoglycemia and discuss hypoglycemia with their physicians.”

## **About GAPP2™ Survey**

The GAPP2™ (Global Attitude of Patients and Physicians) survey was developed to explore and communicate the challenges of managing diabetes, providing real-world data on patients and HCPs views on insulin management, as despite the use of insulin therapy, some people with type 2 diabetes continue to encounter challenges associated with maintaining their glycemic control which can increase their risk of severe complications. The survey was conducted in six countries: USA, Canada, Japan, Germany, UK and Denmark and focused on two groups:

- People with type 2 diabetes who take insulin
- Healthcare professionals who use insulin to treat people with diabetes

## **About type 2 diabetes in Canada**

In Canada, over three million people have diabetes and approximately 90 per cent of people with diabetes have type 2.<sup>i</sup> Type 2 diabetes is a disease that occurs when the pancreas does not produce enough insulin to meet the body's needs and/or the body is unable to respond properly to the actions of insulin (insulin resistance). Type 2 diabetes is treated with careful attention to diet and exercise and usually also diabetes medications (antihyperglycemic agents) and/or insulin.<sup>i</sup> To delay or prevent complications of diabetes, Canadians with type 2 diabetes are encouraged to keep their blood glucose as close to their A1C target as possible.

## **About Hypoglycemia**

Hypoglycemia occurs when excess insulin in the blood leads to extremely low glycemic levels,<sup>ii</sup> which can cause confusion, disorientation, loss of consciousness, seizures, and potentially death.<sup>iii</sup> Hypoglycemia is caused by insulin dosage errors or incorrect estimations, and/or missed meals, illness, increased physical activity or increased physical activity without a corresponding increase in carbohydrate consumption.<sup>ii</sup> Complications with insulin account for nearly 14 per cent of all emergency hospitalizations for recognized adverse drug events.<sup>iv</sup> Improved management of medications that control blood sugar levels in people with diabetes can help to reduce hospitalizations for adverse drug events.<sup>iv</sup> The signs of a hypoglycemic event include shaking, sweating, weakness or feeling tired, confusion, nervousness, blurred vision, headache, fast heart rate, hunger, dizziness, numbness and irritable mood.<sup>v</sup>

## About Novo Nordisk Canada Inc.

Novo Nordisk is a healthcare company and a world leader in diabetes care and biopharmaceuticals. Novo Nordisk manufactures and markets pharmaceutical products and services that make a significant difference to patients, the medical profession and society. Novo Nordisk's business is driven by the Triple Bottom Line: a commitment to economic success, environmental soundness, and social responsibility to employees and customers. For more information, visit [www.novonordisk.ca](http://www.novonordisk.ca).

### For more information or to arrange an interview, please contact:

Amanda Federchuk  
Consultant, GCI Group  
[Amanda.federchuk@gcicanada.com](mailto:Amanda.federchuk@gcicanada.com)  
416-486-7231

---

<sup>i</sup> "Leading the Fight", Canadian Diabetes Association, accessed August 11, 2011, <http://www.diabetes.ca/about-us/leading-the-fight/>

<sup>ii</sup> "Diabetes in Canada: Facts and figures from a public health perspective", Public Health Agency of Canada. Accessed September 7, 2012 at <http://www.phac-aspc.gc.ca/cd-mc/publications/diabetes-diabete/facts-figures-faits-chiffres-2011/chap5-eng.php>

<sup>iii</sup> "Signs and Symptoms of Hypoglycemia", Canadian Diabetes Association. Accessed September 7, 2012 at [http://www.diabetes.ca/Files/kwd\\_signs.pdf](http://www.diabetes.ca/Files/kwd_signs.pdf)

<sup>iv</sup> Bunitz, Daniel et al. "Emergency Hospitalizations for Adverse Drug Events in Older Americans", *NEJM* 2011; 365:2002-12.

<sup>v</sup> Canadian Diabetes association. Hypoglycemia: Low Blood Glucose. Accessed September 12, 2012 at <http://www.diabetes.ca/files/for-professionals/hypoglycemia-tool-kidney-disease.pdf>