DIGITAL DIABETES CARE
Virtual pathways to improved employee health, productivity & safety with data-driven disease management

Employee Health Plan Policy Discussion Paper for Advisors, Consultants, Insurers & Sponsors

Adapted from original presentation by Alex Abitbol, MDCM, FRCPC Assistant Medical Director - LMC Healthcare Benefits Canada - Chronic Disease at Work Conference February 23rd, 2021

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1. THE BURDEN OF DIABETES IN THE WORKPLACE

Variable Glucose = Poorly controlled Diabetes
Too high = Hyperglycemia  Too low = Hypoglycemia

Major driver of challenges with employee productivity, disability and workplace safety1-7
- Injury & workplace accidents
- Absenteeism
- Presenteeism
- Short-Term & Long-Term Disability
- Avoidable health plan spending

Effective glucose management is essential
But current intermittent, cumbersome & siloed glucose monitoring approaches fall well short
- Painful, pinprick (repeatedly)
- Poor self-monitoring adherence
- Nocturnal and asymptomatic events go undetected
- Can’t interpret the data
- Doesn’t provide proactive insights to predict & mobilize behavior, or prevent low glucose

TIP We can impact these diabetes outcomes by integrating real-time glucose data within virtual care strategies to enable data-driven patient self-management

2. SIX REASONS WHY DIABETES IS THE IDEAL TARGET FOR DIGITAL / VIRTUAL CARE

1. Well-established biomarker (“gold standard”) of disease control: GLUCOSE

2. Body-worn sensors for glucose monitoring can now continuously collect, digitize, interpret & integrate glucose data in real-time into remote virtual care & self-management environments

3. Effective diabetes management requires continuous consistent monitoring and engagement [24/7]

   a. A person living with diabetes spends 168 hours per week managing their disease8

   b. A 1-hr visit to their physician every 3 months means professional assistance with diabetes only 0.05% of the time8

4. Traditional clinical resource capacity can’t meet these access demands...in-person

5. Diabetes confers 3-fold increased risk of severe COVID-19 outcomes (hospitalization, ICU admission, intubation or death)9, making in-person visits no longer ideal

6. Real-time data-driven individualized diabetes care improves outcomes & reduces cost
3. CONTINUOUS GLUCOSE MONITORING TECHNOLOGY OPTIONS: DIFFERENT REAL-WORLD APPLICATIONS

<table>
<thead>
<tr>
<th>Glucose Sensor Technology Specs</th>
<th>rtCGM</th>
<th>iscGM / FGM</th>
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<tbody>
<tr>
<td>Continuity of Data Flow</td>
<td>☑️</td>
<td>☑️A</td>
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<tr>
<td>Replacement of manual SMBG fingersticks</td>
<td>☑️A</td>
<td>☑️B</td>
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<tr>
<td>Display &amp; Share ➤ Current reading, trend arrow, historical patterns and reports</td>
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<tr>
<td>Remote Monitoring ➤ Continuous real-time autonomous data streaming [users &amp; followers]</td>
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<tr>
<td>Intelligent-software driven predictive alerts &amp; proactive prompts</td>
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<tr>
<td>Integration and interoperability with diabetes software &amp; devices [e.g., insulin pump]</td>
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A. If glucose alerts and readings from the Dexcom G6 do not match symptoms or expectations, use a blood glucose meter to make diabetes treatment decisions.

B. A finger prick test using a blood glucose meter is required during times of rapidly changing glucose levels when interstitial fluid glucose levels may not accurately reflect blood glucose levels or if hypoglycemia or impending hypoglycemia is reported by the FreeStyle LibreLink app or when symptoms do not match the app readings. For a complete glycemic picture, scan once every 8 hours.

“Big glucose data” from real-time Continuous Glucose Monitoring is the ideal foundation for data-driven, personalized virtual diabetes care

4. REAL-TIME CONTINUOUS GLUCOSE MONITORING [rtCGM] TECHNOLOGY

rtCGM vs. intermittent glucose monitoring:
- HbA1c
- Time in hypo and hyperglycemic ranges
- Moderate-severe hypoglycemia events
- Severe hypo events requiring emergency medical care
- Diabetes-related distress
- Diabetes-related work absenteeism
- Hypoglycemic confidence

rtCGM is integrated glucose monitoring technology, with its own diabetes data “ecosystem”, and proven stand-alone health benefits for insulin-requiring diabetes 12, 16-24
5. **OTHER STAND ALONE DIGITAL / VIRTUAL CARE DIABETES INTERVENTIONS**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Telemedicine</td>
<td>Glucose control, Patient engagement, QOL</td>
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<tr>
<td>Virtual Coaching +/- App</td>
<td>Glucose control, Adherence QOL, Hypoglycemia</td>
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<tr>
<td>Remote Monitoring</td>
<td>Glucose control, Nocturnal hypoglycemia &amp; fear</td>
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<td>Predictive Glucose Alerts</td>
<td>Hypoglycemia</td>
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<td>Real-time Glucose Data Sharing &amp;</td>
<td>Glucose control, Adherence QOL</td>
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6. **DESIGNING DIABETES CARE OF THE FUTURE IN THE TECHNOLOGY ERA**

   "The power is integration"

7. **THE FUTURE IS NOW ▶ ESTABLISHING VIRTUAL DIABETES CLINICS**

   "Telemedicine technologies have now proven to be best option and, in many cases, only option for providing critical (diabetes) care as COVID-19 runs its course" ...and beyond
8. **BRINGING IT ALL TOGETHER** → *VIRTUAL DIABETES CARE FOR EMPLOYEES*

Unprecedented Opportunity for Plan Sponsors to Drive Diabetes Engagement & Outcomes by Integrating Real-Time Glucose Monitoring with Health Plan Offerings

9. **CANADIANS ARE READY...NOW**

**February 2020**
- Workers see digital health solutions as having a clear role in personalized health care
- Employers believe digital health solutions will help advance their objectives for health & well-being programs
- Workers & employers highly rate the value of wearable technology for self-managing health conditions like diabetes [i.e., rCGM], equally to telemedicine and more than virtual mental health counseling

**May 2020**
- Almost half of Canadians accessed a physician virtually during COVID-19, with a 91% satisfaction rate
- 46% who used virtual care since COVID-19 would “prefer virtual method” as 1st point of contact with their doctor

**June 2020**
- About half of respondents had virtual medical visits since pandemic started, which they “overwhelmingly” enjoyed
- Most would prefer more virtual visits in future, even after COVID ends

**November 2020**
- Virtual care in Canada: 10-20% primary care visits in 2019 → 60% in March and April 2020
- 91% who received virtual care during the COVID-19 were “satisfied with the experience”
- Users of health tech: 90% saved time / 80% better able to manage health / 53% avoided in-person visit
- 90% want technology that puts them in greater control of their health
10. CONCLUSIONS

1. Poorly controlled diabetes is a major health, productivity & safety risk for employees & organizations in Canada.

2. Improving diabetes outcomes will require a multifaceted approach, including more effective data-driven glucose management strategies, with advanced glucose sensor technology, integrated remote monitoring and virtual clinical care.
   ○ This is especially true for patients requiring insulin, vulnerable to glycemic variability

3. Real-time continuous glucose monitoring [rtCGM] technology has the clinical evidence, pivotal technical specifications, and real-time cloud-based data ecosystem to anchor comprehensive digital diabetes care.

4. COVID-19 has accelerated the need, adoption & acceptability of health technology & virtual care among Canadians.
   ○ This health innovation stream is uniquely applicable and fundamental to diabetes care, and a shining example of how technological advancements can improve the lives of patients living with chronic illnesses.

11. RECOMMENDATIONS

1. Public & private payers should prioritize appropriate patient access to real-time continuous glucose monitoring [rtCGM] technology, as a cornerstone investment into digital diabetes care strategies
   ○ Patients requiring insulin to manage their diabetes → Automatic rtCGM coverage requirement
   ○ Don’t forget about patients with Type 2 diabetes treated with insulin

2. Health Insurers & Employers should leverage opportunities to integrate the rtCGM data ecosystem into other programs & services within their Health Plans to fully engage employees and improve outcomes
   ○ Chronic Disease Management ○ Health Coaching ○ Telemedicine ○ Virtual Care
   ○ Absence / Disability Case Management ○ Occupational Health & Safety Protocols
   ○ Remote Monitoring ○ Mobile Apps

3. Stakeholders should seek-out like-minded partnerships to accelerate the adoption of data-driven virtual diabetes care in Canada.
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1. Transition rTCGM coverage from Extended Health Care to Pharmacy Benefit status

2. OPERATIONALIZING MEMBER ACCESS & ENGAGEMENT
Automate prior authorization at point-of-sale for plan members on insulin

3. Integrate & leverage real-time glucose monitoring technology within other employee diabetes management strategies & health plan programs
   - Telemedicine & virtual care
   - Remote monitoring
   - Health coaching
   - Case management & EAP
   - Occupational health & safety standards
   - Pharmacy services & PPN interventions
   - Mobile apps & digital health marketplaces

REFERENCES:
2. Diabet Care. 2013; 36:1384-1395
3. Diabetologia. 2002; 45:937-948
6. BMJ Open Diabetes Res Care. 2018 Apr 24;6(1)
7. Saf Health Work 2011; 2:9-16
8. Diabetes Technol Ther Vol. 21, No. S2
11. FreeStyle Libre 2 User’s Manual (US)
13. Health Canada - Approval of t:slim X2™ insulin pump with Control-iQ™, Nov 23, 2020
14. Diabetes Care Volume 41, November 2018
27. Diabetes Metab 2014; 40:61-64
29. BMJ 2016;532:i394
32. BMC Health Serv Res 18, 495 (2018)
33. Diabetes Technol Ther Vol. 21, No. 52
34. Diabetes Care. 2018; 41:2641-3

03-03-21
41. Cell Metabolism 29, March 5, 2019
42. Diabetes Technol Ther. Volume 23, Number 2, 2021