Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company’s public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
**Methods:** A retrospective health records audit comparing LOS and readmission rates in hospitalizations between people with diabetes with or without a diabetes CPL consult from July 2017 to August 2021.

**Results:** The average LOS for inpatients with a diabetes CPL consult was shorter by 4.3 days and the average LOS decreased every year since introducing this role (see Figure 1). Readmission rates were less for inpatients with diabetes CPL involvement (see Figure 2).

**Conclusion:** Incorporating an inpatient diabetes CPL to implement initiatives across the organization reduced LOS and readmission rates for people living with diabetes. This innovative role enhances diabetes management support.

**Figure 1:** Average LOS for hospitalization with diabetes

**Figure 2:** Readmission rate for hospitalizations with diabetes

**34**

**Exploring the Effects of Tailored Phone Call Diabetes Self-management Education Interventions During COVID-19 Pandemic**

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**Objectives:** Limited evidence is available for the effectiveness of delivering virtual care during the COVID-19 pandemic. This study aimed to explore the effects of delivering tailored phone call diabetes self-management education (DSME) interventions for people with diabetes during the COVID-19 pandemic.

**Methods:** A one-group repeated measures design was used. The tailored phone call DSME interventions, given over 1 year, consisted of a comprehensive initial session with nutrition, exercise, self-monitoring of blood glucose, blood pressure (BP) and diabetes medications, and then provided tailored booster sessions based on patients’ needs. One hundred and thirty-six eligible consenting patients completed the study (gender: male, 79; female, 57; age: 62.4±13.5 years; diabetes duration: 14.1±9.7 years). The outcomes were assessed at pre-test, at 6 months and at 1-year follow-up. Chi-square and t tests were used to examine changes in outcomes over time.

**Results:** The findings provided initial evidence suggesting the tailored phone call DSME interventions were effective in patients with diabetes. The results indicated patients’ metabolic parameters, including fasting blood glucose (FBG), glycated hemoglobin (HbA1c), BP, triglycerides and low-density lipoprotein (LDL) cholesterol, significantly decreased at 6-month and 1-year follow-ups after delivering the tailored phone call DSME interventions (all p<0.05). Patients’ diabetes self-management behaviours, including self-report diet, exercise, self-monitoring of blood glucose, BP and medications adherence, significantly improved at 6-month and 1-year follow-ups after delivering the tailored phone call DSME interventions (all p<0.05).

**Conclusions:** The findings support that the implementation of tailored phone call DSME interventions was effective in improving diabetes metabolic parameters and self-management behaviours during the COVID-19 pandemic.

**35**

**Using a Provincial EMR Program to Increase Guideline Utilization in Diabetes**

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**Purpose of the study:** eDOCSNL (Newfoundland) is implementing a guidelines-based set of electronic medical record (EMR) tools for documentation and practice management. We will examine how an intuitive EMR tool set can influence guidelines-based practice and improve patient outcomes.

**Methods:** eDOCSNL has created a standardized set of diabetes tools for use in primary care and diabetes collaboratives in Newfoundland. To support this implementation, we developed a project and change plan to encourage adoption of the tools, including personal visits by eDOCSNL staff, as well as an accredited physician continuing medical education (CME) program highlighting both the guidelines and application of the tool set. The tools include clinical decision support (CDS) and efficiency measures to make the implementation of guidelines-based care in practice simple and intuitive.

**Results:** The tool set has been deployed to multiple physician practices and diabetes collaboratives across the province. Early feedback from the pilot group and CME evaluation surveys was positive, with all respondents having their knowledge of both guidelines and the solution enhanced by the initiative.

**Conclusion:** An individualized approach in diabetes management is pressing given the impact on patient outcomes and health system utilization in Newfoundland. Diabetes treatment is complex and EMR users in the province are not leveraging the CDS features of the EMR for chronic disease management. Family physicians in Newfoundland have responded positively to the provision of tools and education provided by eDOCSNL. Future evaluation will focus on impact on patient outcomes from the use of the tools.

**36**

**Changes to Diabetes Screening During the Early Waves of the COVID-19 Pandemic**

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The COVID-19 pandemic has presented significant challenges to health-care systems and economies. The combined effects of lockdown measures, stress, financial hardships, social isolation and disruptions in health care may affect both the risk of type 2 diabetes and the propensity for people to undergo screening. We used administrative health databases to examine whether diabetes screening patterns among adults (>20 years) were impacted during the pandemic (March 2020 to March 2021), compared to periods prior (March 2016 to February 2020) in Ontario, Canada. The eligible population was 9,353,712 in March 2016 and 9,939,409 in...
March 2021. We fitted a negative binomial regression model using time period and month as predictors for data prior to March 2020, and used this to predict the monthly expected screening rates after March 2020. Overall, screening for diabetes dropped from 5.0% in March 2019 to 1.5% in March 2021. The strongest decline (~70% decline) between the observed and expected screening rates occurred between February 2020 and April 2020. These patterns were consistent by sex, and across all ages, but more marked among younger adults aged 35 to 49 (~71.5%). Further, diabetes screening declined significantly among those living with cancer (~72%), stroke (~51%) and asthma (~37%). Neighbourhoods represented by the highest proportion of visible minority populations and households with more persons per dwelling showed a marked decline in screening, ~73.2% and ~73.8%, respectively. This potential delay in diagnosis of prediabetes and diabetes creates missed opportunities for early treatment and prevention and has implications for future strategies to reduce diabetes risk.

### 37

**Two-year Effect of Semaglutide 2.4 mg Versus Placebo in Adults With Overweight or Obesity: STEP 5**

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The 2-year efficacy and safety of once-weekly (OW) subcutaneous semaglutide 2.4 mg versus placebo in adults with overweight/obesity was assessed in STEP 5 (NCT03693430). In STEP 5 (phase 3, double-blind, placebo-controlled trial), adults with body mass index (BMI) ≥30 kg/m², or ≥27 kg/m² with ≥1 weight-related comorbidity, without diabetes, were randomized 1:1 to 104 weeks’ treatment with OW semaglutide 2.4 mg or placebo. Co-primary endpoints were percent change in body weight (BW) and achievement of ≥5% weight loss. Cardiometabolic risk factors and safety/tolerability were also assessed. P values for parameters with an asterisk were not controlled for multiplicity. Overall, 304 adults were randomized (mean BW, 106.0 kg). Mean BW change from baseline to week 104 was −15.2% (semaglutide) versus −2.6% (placebo) (estimated treatment difference, −12.6%; p < 0.0001). Participants were more likely to lose ≥5%, ≥10%, ≥15% and ≥20% BW with semaglutide versus placebo (77.1% versus 34.4%, 61.8% versus 13.3%, 52.1% versus 7.0% and 36.1% versus 2.3%, respectively; p < 0.0001 for all). Greater improvements were seen with semaglutide versus placebo in waist circumference, BMI, systolic and diastolic blood pressure, glycated hemoglobin (HbA1c), fasting plasma glucose, fasting serum insulin, C-reactive protein and lipids (total cholesterol, very low-density lipoprotein [VLDL] cholesterol and triglycerides) (p < 0.05 for all). No new safety signals were observed. OW semaglutide 2.4 mg resulted in substantial, sustained BW reductions and improvements in cardiometabolic risk factors versus placebo, indicating favourable benefit-risk profile for long-term management of weight and cardiometabolic risk factors.

### 38

**Parental Metabolic Syndrome and Offspring Cardiometabolic Risk From Prepuberty to Late Adolescence: Differences Between Boys and Girls in the QUALITY Cohort**

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Objective: To examine the association between parental metabolic syndrome (MetS) and cardiometabolic risk in offspring across childhood and adolescence; and (2) verify differences across sexes.

Methods: Data stem from the QUALITY cohort study of 630 youth with parental obesity evaluated at 8 to 10, 12 to 15 and 17 years. Parental MetS was defined at baseline according to ATP-III criteria. Markers of offspring cardiometabolic risk included high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), triglycerides (TG), fasting and 2 h post-load glucose, systolic and diastolic blood pressure (SBP and DBP) z-scores and waist-to-height ratio (WHR). Repeated measures ANCOVA, stratified by sex, estimated the parent-offspring association, adjusting for age, sex, pubertal stage, sleep, moderate-to-vigorous physical activity, Diet Quality Index—International, screen time, parental education and income.

Results: From prepuberty to late adolescence, children having parents with MetS had decreased levels of HDL-C and increased WHR, with a worsening gradient according to the number of affected parents. Having both (vs 0) parents with MetS was associated with higher levels of LDL-C (adjusted means: 2.43 [2.23 to 2.63] vs 2.12 [1.99 to 2.24]) and TG (24.8% higher TG levels than those who have no parent with MetS) only in girls. No other associations were noted.

Conclusion: Parental MetS confers heightened cardiometabolic risk in offspring, particularly if both parents are affected, beyond that of parental obesity alone. The effect of parental MetS seems established in childhood, sustained across adolescence, arguing for early intervention in this population.

### 39

**Novel Combination of Continuous Glucose Monitoring Metrics to Predict HbA1c in Type 2 Diabetes**

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Objective: To determine how well continuous glucose monitoring (CGM) metrics, individually or in combination, predict concurrent and future HbA1c in individuals with type 2 diabetes (T2D).

Methods: Among participants in a multicentre diabetes remission trial (REMIT iDegLira), linear regression was used to determine relationships (β coefficient) and model fit (adjusted R² [adjR²]) between 2-week CGM metrics (including geometric mean, a mathematically sound composite of different metrics) and HbA1c. Results: 142 participants (mean age, 57.3±9.8 years; diabetes duration, 2.5±1.4 years; and baseline HbA1c, 7.0±0.5%) had ≥5 days of CGM data at baseline (n=120) and week 6 (n=96). At baseline, correlates of HbA1c were: MG (β=−0.17%/mM [95% confidence interval, 0.11 to 0.23]; adjR²=0.222), standard deviation (SD) (β=−0.48% [−0.39 to 0.56]; adjR²=0.162), time in range (TIR) (β=−0.05% [−0.027 to −0.013]; adjR²=0.190), the geometric mean (MG×SD×(100/TIR))/1 [β=−0.75% [0.517 to 0.98]; adjR²=0.256], and the multivariable model including MG, SD and TIR (adjR²=0.235). The following baseline-adjusted changes in CGM metrics from baseline to week 6 predicted improved HbA1c: MG (β=−0.36%/mM [−0.25 to 0.47]; adjR²=0.526) and SD (β=−0.80%/mM [−0.40 to 1.2]; adjR²=0.310), (MG×SD×(100/TIR))/1 (adjR²=0.432) and the multivariable model including changes in MG, SD and TIR (adjR²=0.513).

Conclusions: A novel combination of CGM metrics via the geometric mean provides a better estimate of concurrent, but not subsequent, HbA1c than MG alone. The ability to predict HbA1c with CGM data may inform diabetes management for tighter blood glucose control.