Let's Dia-BEAT-This: Examining the Impact of the COVID-19 Pandemic on Diabetic Clinical Outcomes at the UC San Diego Student Run Free Clinic Project (SRFCP)

Dr. Michelle Johnson, Dr. Natalie Rodriguez, Dr. Edward Chao and Dr. Jimmy Yu
UCSD School of Medicine

UC San Diego
MEDICAL CENTER

AIMS / PURPOSE

The purpose of this study is to **evaluate the impact of the pandemic on diabetes care at the SRFCP** by comparing diabetes process and intermediate outcomes from previously published data from 2008-2009 with care immediately before the pandemic (2018-2020) and during the pandemic (2020-2022).

BACKGROUND

The UCSD Student-Run Free Clinic Project (SRFCP) provides high quality, comprehensive, humanistic health care to low-income, uninsured adults in San Diego.

The SRFCP has previously published outcomes using data from 2008-2009 that showed the SRFCP met or exceeded standards of care for diabetes process and intermediate outcomes in nearly all categories when compared to other published studies.

The Covid-19 pandemic had a major impact on care delivery and utilization in all healthcare settings and some studies have shown worsening glycemic control and delays in diabetes-related care during the pandemic. The SRFCP adapted to the pandemic by shifting to telemedicine visits with continued care of diabetes and other chronic diseases through continued access to laboratory services, food, diabetes testing supplies, home blood pressure cuffs and medications.

This study assessed the impact of the pandemic on diabetes care.

METHODS

This was a retrospective chart review of SRFCP patients with a diagnosis of diabetes and an office visit before the pandemic (3/2018-3/2020) and/or during the pandemic (3/2020-3/2022) using the electronic health record EPIC.

Demographic data and clinical outcome data were collected and analyzed using means and standard deviations as well as by calculating percentage of patients meeting goals. Independent sample t tests in Microsoft Excel were used to compare values of diabetes outcome measures from each time frame and Fisher's exact tests using SPSS were used to compare process performance measures and percentage of patients meeting each diabetes outcome. This study was considered exempt by the UCSD Institutional Review Board, IRB# 809073.

RESULTS

- **There was no statistically significant difference in the A1c and LDL.**
- There was a statistically significant decrease in the triglyceride levels and increase in HDL levels of female patients as well as a statistically significantly higher systolic blood pressure (SBP 132 compared to 130).

Demographic data comparing the patient samples from the different time frames are shown in Table 1 and show a general trend over time of more female, Latino and Spanish-speaking patients. Diabetes outcome measures from before the pandemic (2018-2020) and during the pandemic (2020-2022) are shown in Table 2. The percent of patients completing process measures was consistent across timelines except for blood pressure which decreased during the pandemic (Table 3).

TABLE 1: DEMOGRAPHICS

	2008-2009	2018-2020	2020-2022
# DM patients	182	207	196
Mean Age	53	57.1	58.4
% Male/Female	41/59	32/68	33/67
%Latino	75	88	95
%Spanish-Speaking	71	91	91

TABLE 2: Clinical Outcomes

CLINICAL INDICATOR	2018-2020 MEAN (SD)	N	2020-2022 MEAN (SD)	N	P VALUE
HEMOGLOBIN A1C	8.4 (2.0)	960	8.4 (2.0)	833	0.84
LDL	92 (35)	299	91 (37)	337	0.83
TRIGLYCERIDES	249 (347)	289	190 (184)	338	<0.05
HDL (MALE)	43 (15)	94	46 (12)	107	0.12
HDL (FEMALE)	46 (13)	195	50 (24)	230	<0.05
URINE MIROALBUMIN/CR RATIO	111 (506)	320	175 (887)	295	0.26
SYSTOLIC BP	130 (16)	328	132 (18)	482	<0.05
DIASTOLIC BP	76 (10)	2328	76 (10)	482	.55

DIABETES OUTCOME MEASURES COMPARING PREPANDEMIC (2018-2020) VS DURING PANDEMIC (2020-2022)

Table 3

% PROCESS OUTCOMES

	2008-2009	2018-2020	2020-2022	P VALUES 2018-2020 VS 2020-2022
HEMOGLOBIN A1C	99.5	100	98	0.055
LDL	93	84	90	0.055
TRIGLYCERIDES	88	78	86	0.053
HDL	88	81	90	<0.05
URINE MICROALBUMIN/CR RATIO	80	84	79	0.253
BLOOD PRESSURE	100	99	80	<0.001

DISCUSSION

The care of diabetes at the SRFCP continued to be high quality both immediately before and during the pandemic. Notably, the mean A1c did not change significantly during the pandemic and 98% of patients were able to complete their A1c testing. This underscores the continued efforts of the SRFCP to meet the needs of the SRFCP patients during the pandemic. The change in blood pressure outcomes likely reflects the shift to telemedicine and under-utilization of home blood pressure monitoring. Future directions will focus on blood pressure outcomes.

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