

## Abstract

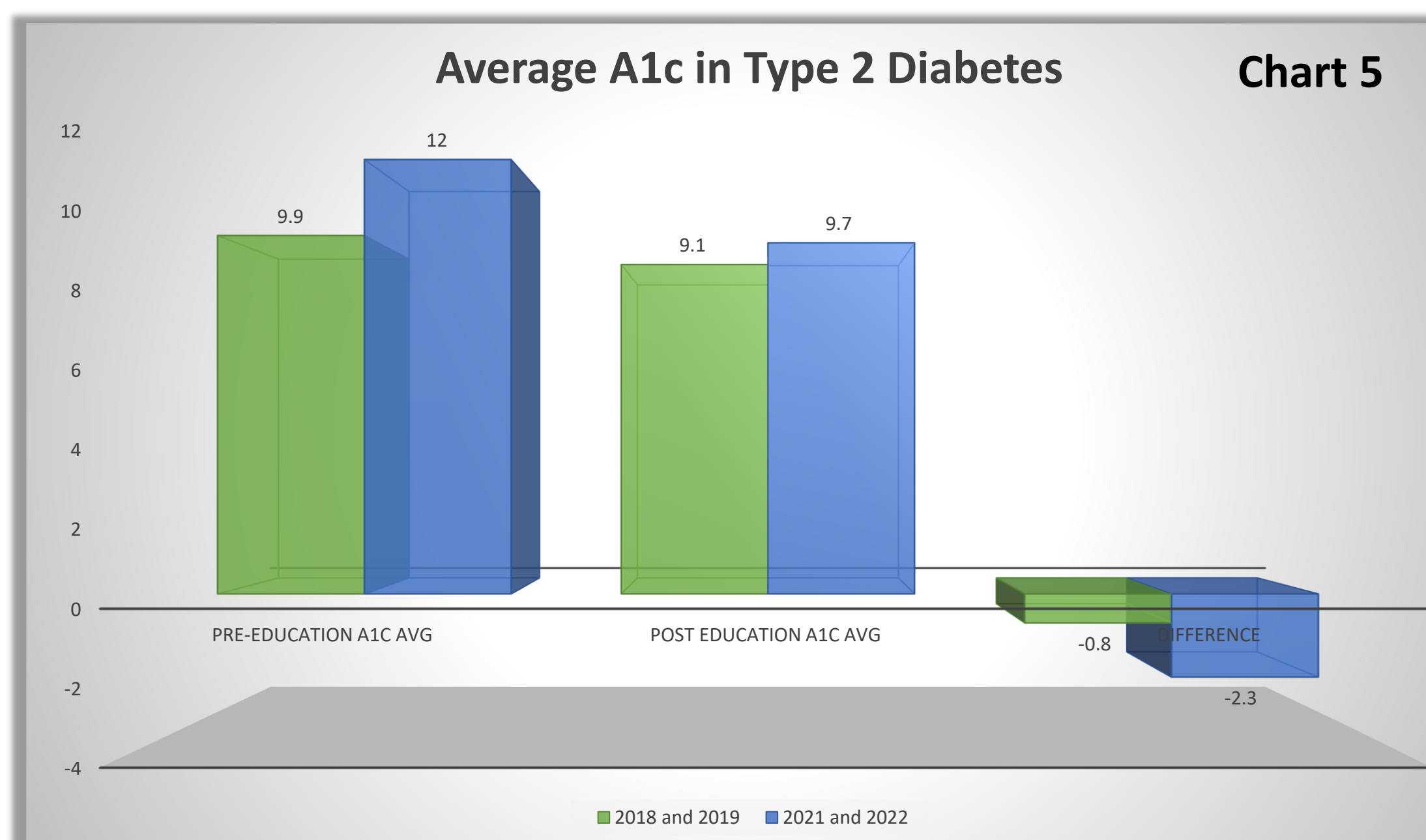
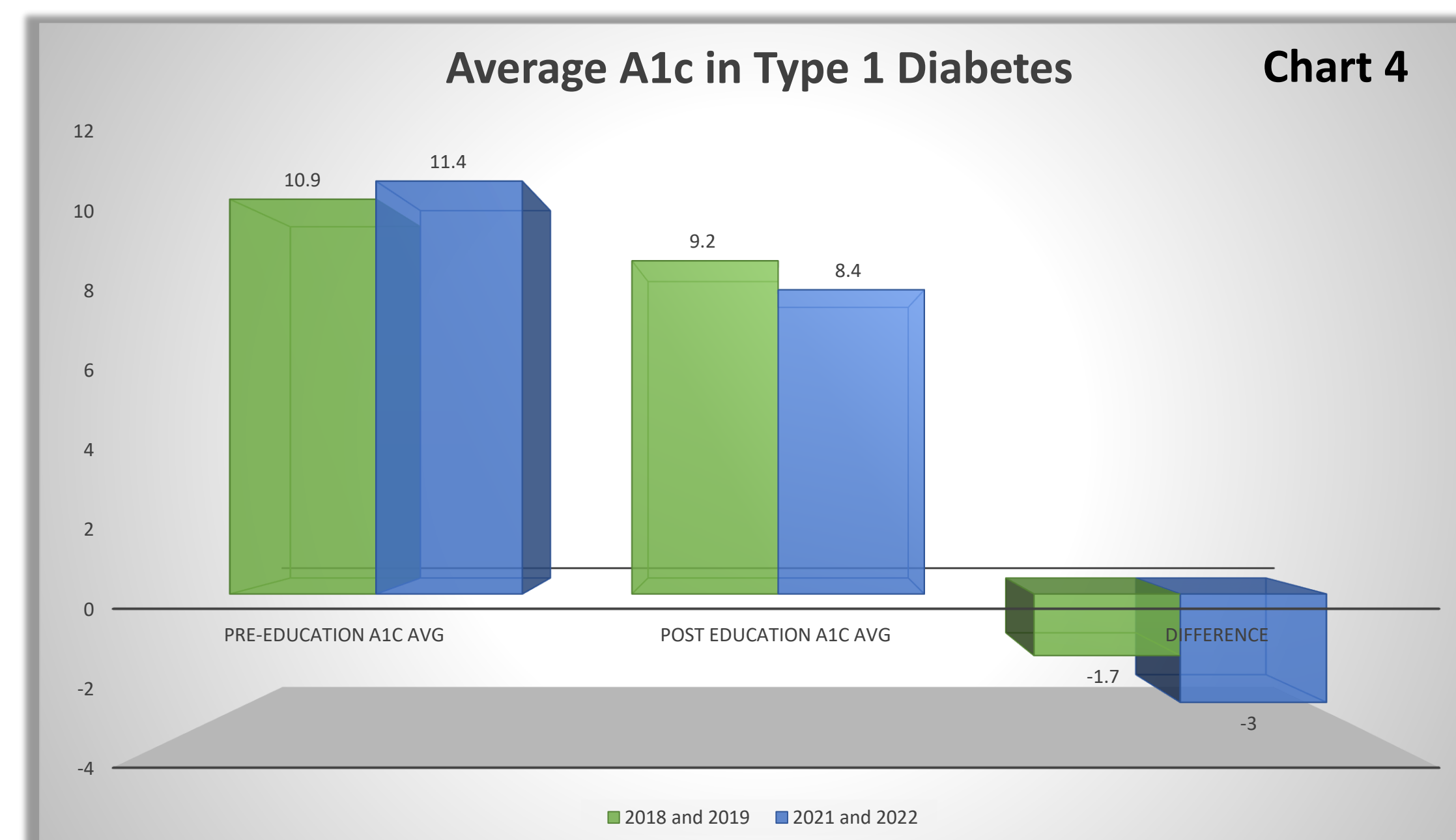
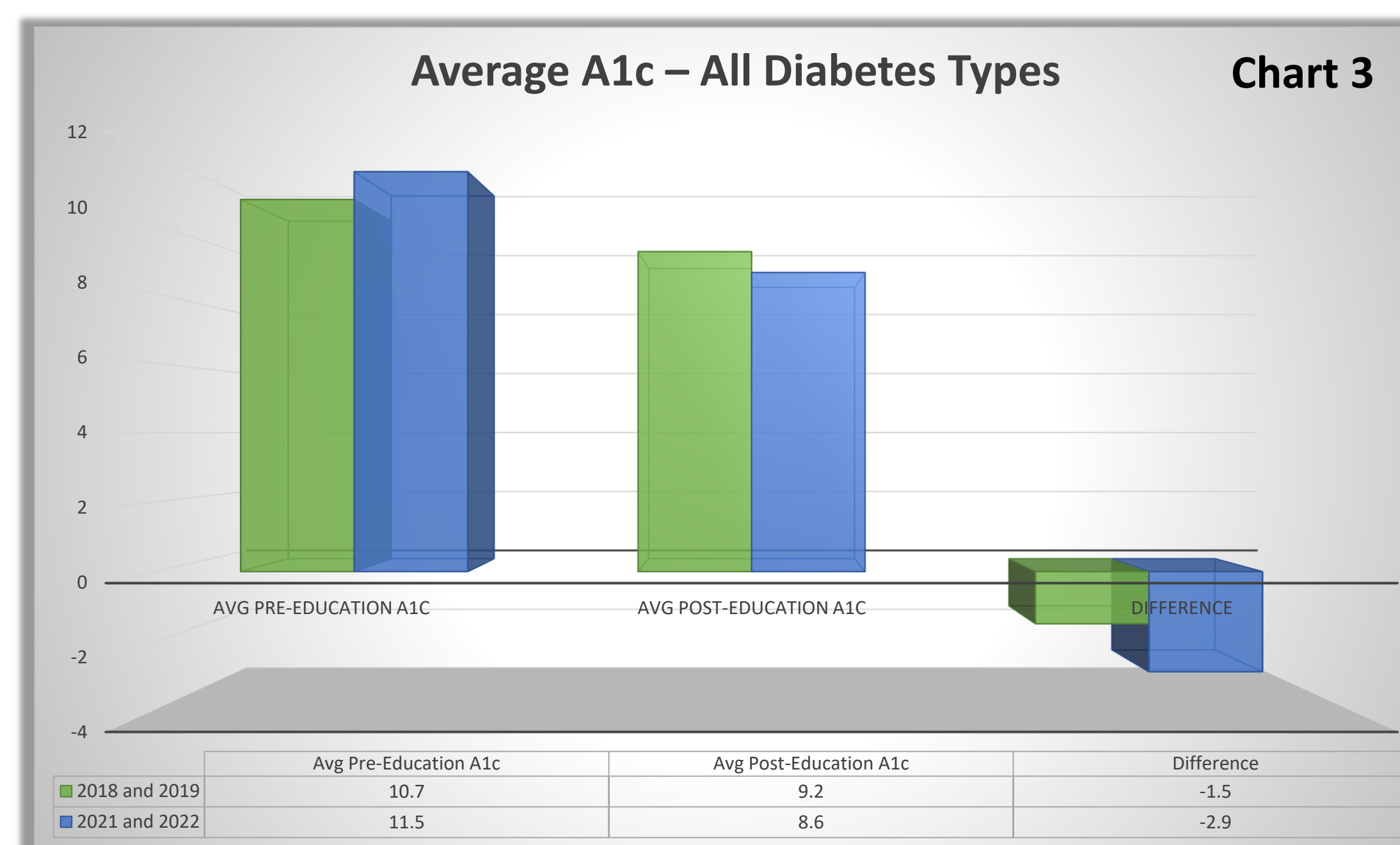
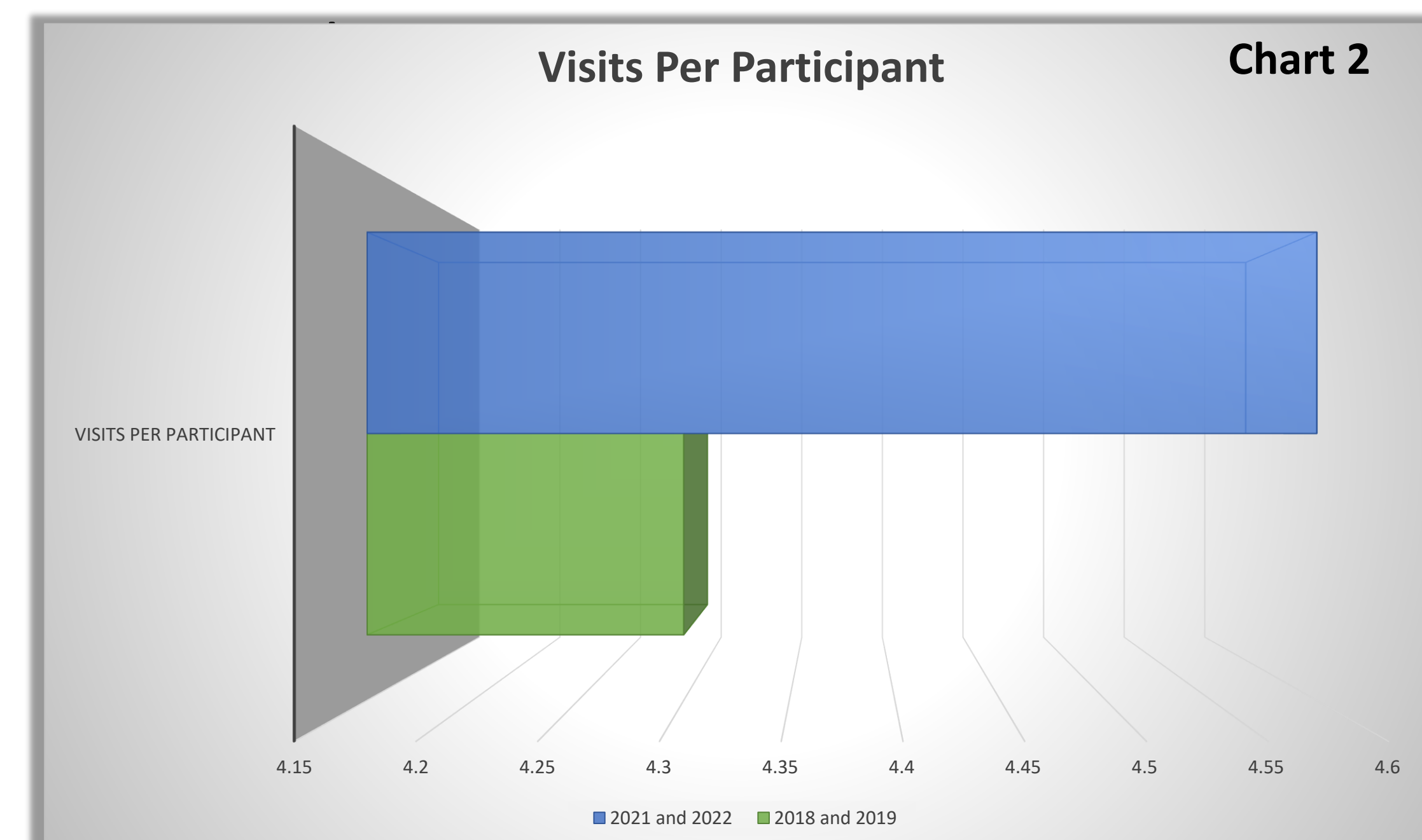
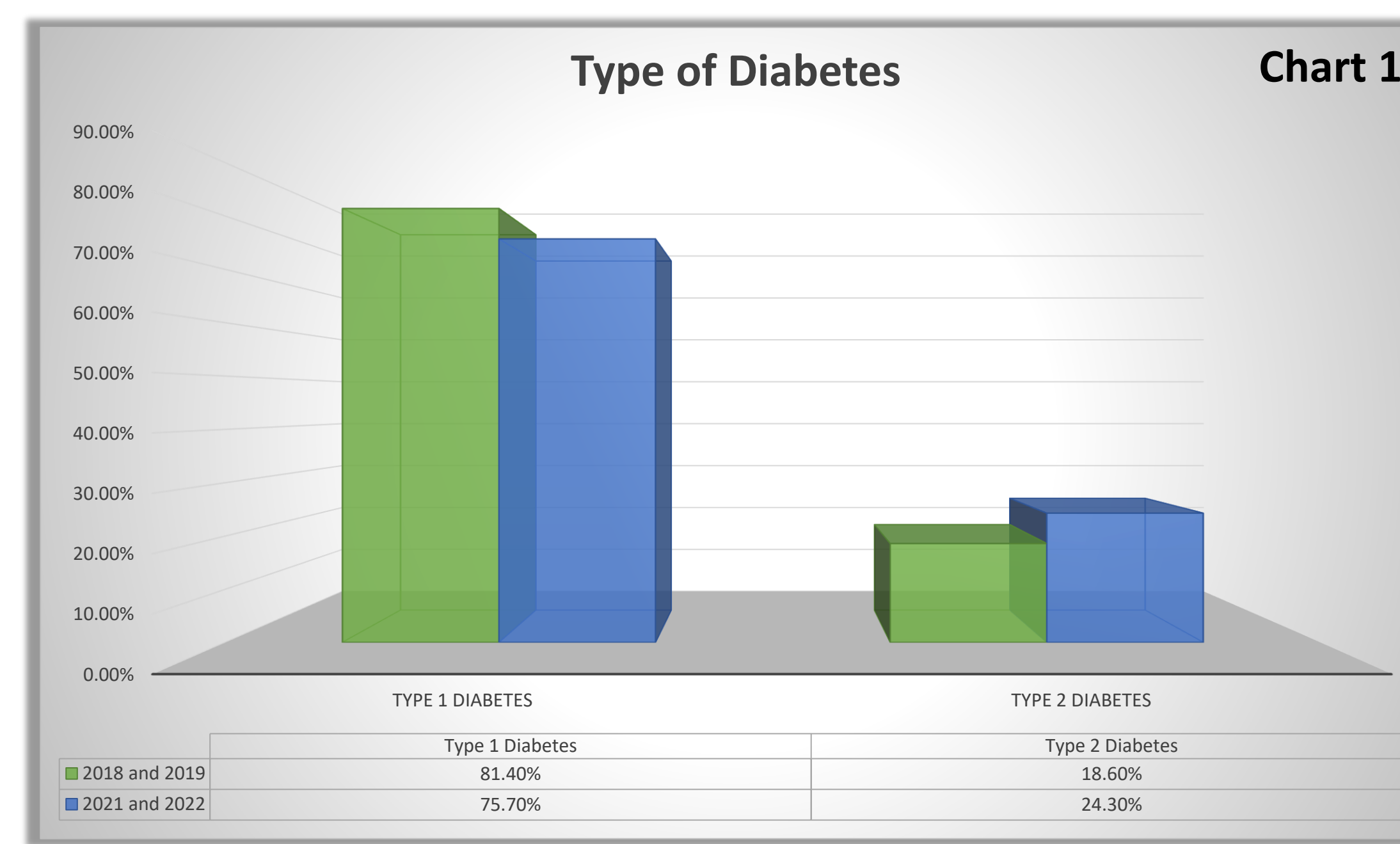
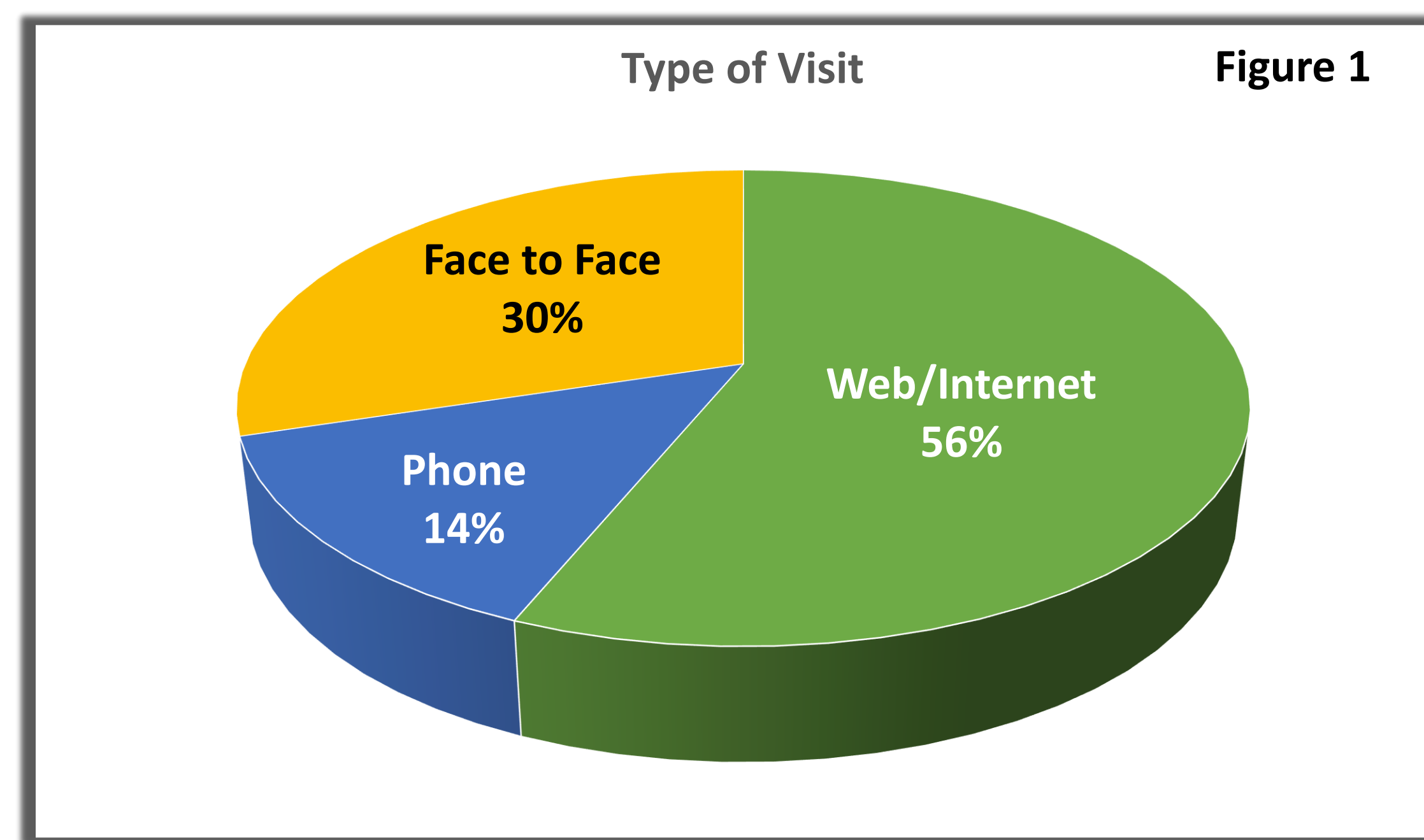
Children with diabetes from low-income households are at increased risk of healthcare disparities. Policy changes from the Covid-19 public health emergency allowed for Diabetes Self-Management Education and Support (DSMES) be provided via telehealth. Other efforts, such as remote patient monitoring and data-sharing software offer more flexibility. The use of available technology assists the Certified Diabetes Care and Education Specialist (CDCES) to help the child with diabetes and their families achieve positive outcomes as evidenced by an increase in visits per participant and a decrease in the average A1c level.

## Introduction

- The American Diabetes Association (ADA) acknowledges that social determinants of health must be addressed to improve health outcomes.
- Studies have identified challenges in providing DSMES to all people with diabetes.
- El Paso Children's Hospital (EPCH) has the only hospital-affiliated Pediatric Diabetes Education Program between Phoenix and Austin that is ADA Recognized for its Outpatient Program. EPCH is located in the second lowest-income neighborhood in El Paso, Texas. El Paso is the 6<sup>th</sup> largest city in Texas but consistently ranks among one of the poorest cities in the United States.
- The opportunity to provide DSMES services via telehealth offered the chance to reach those that would otherwise not have the ability to participate.

## Methods and Materials

- The EPCH Program uses the ADA Chronicle Diabetes platform to document. Data for home address zip code, diabetes type, attendance, type of visit and A1c was obtained from Chronicle Diabetes for all program participants for the years 2018, 2019, 2021 and 2022.
- Information for eleven low-income zip codes with poverty levels ranging from 20% to 58.8% was collected.
- Data was compared for the years with telehealth availability, 2021 and 2022, to the years with no available telehealth, 2018 and 2019.



## Results

- 70% of all participant visits were documented as telehealth, either by telephone or web/internet (Figure 1)
- The incidence of participants with type 1 diabetes decreased by 5.7% and the incidence of type 2 diabetes increased by 5.7% (Chart 1)
- The average visit per participant, all visit types included, increased from 4.33 to 4.60 in 2021/2022 (Chart 2)
- The average A1c decreased by 2.9% in 2021/2022 from 11.5% in 2018/2019, an improvement of 1.4% (Chart 3)
- The average A1c for type 1 diabetes participants decreased by 3% in 2021/2022 compared to 11.4% in 2018/2019, an improvement of 1.3% (Chart 4)
- The average A1c for type 2 diabetes participants decreased by 2.3% in 2021/2022 compared to 12% in 2018/2019, an improvement of 1.5% (Chart 5)

## Discussion

- The use of telehealth was associated with increased visits per participant and decreased average A1c levels.
- Telehealth visits offer flexibility for the children and their families. Many parents work outside the home and have voiced less stress due to less time and travel to and from an appointment. Also, many parents are single parents with other children. Telehealth has given them the opportunity for their child to receive health care while in a place where they can continue to care for their families. Many low-income families have voiced inability to afford child-care.
- The overall increased visits per participant gives the CDCES an increased opportunity to continue to guide and positively impact the lives of children with diabetes and their families.
- Given these positive outcomes, EPCH continues to support the efforts of the CDCES to help this vulnerable population, including the use of work cell phones. The existing use of data-sharing software and remote patient monitoring capabilities at EPCH offers increased flexibility.

## Conclusions

- The majority of participants opted for a telehealth visit, with the majority of those using web/internet.
- Children with diabetes living in low-income neighborhoods have benefitted from the implementation of telehealth visits offered at EPCH as evidenced by an increase in visits per participant and a decrease in the average A1c.
- It is vital that we continue to implement new strategies and continue to improve ones in place to help those in need.

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