Barriers to Diabetes Technology in Low-Income Patients

Emily Donahue, BS Candidate, Pharmacology and Drug Development; Terry Church, DRSc, MA, MS

Objective
Identify and assess barriers to successfully utilizing diabetes technology in low-income patients living with type 1 diabetes

Background
- Type 1 diabetes (T1D) affects an estimated 1.6 million Americans
- Cost of CGM $11,032 vs. Manual Testing $7,236 (annually)
- Low SES Patients Have 3x Risk of Diabetes-Related Death
- CGMs Proven to Lower A1Cs by 1%
- Low-Socioeconomic Status (SES) is a Risk Factor for Poor T1D Management
- Low CGM Usage Rates in Low-SES Populations

Continuous Glucose Monitors (CGMs) are compact medical devices that continuously monitor an individual's blood sugar levels in real time and frequently used in the management of diabetes

Exclusion Criteria
- Not directly studying a SES / behavioral barrier
- Duplication
- Relevancy

Results

Figure 1. Clinical Trial Keyword Search Results
- $18,000
- 20%
- 4x

- Average State Spending on Diabetes-Related Costs per Capita
- Higher Emergency Department Visits for Diabetic Patients on Medicaid
- Self-Monitoring Barrier Imposed by Insurance

Additional Findings:
- Lack of clinical trials looking at low SES and type 1 diabetes
- Lower clinical outcomes for Medicaid and Children’s Health Insurance Program patients
- Few U.S.-based studies
- Vast discrepancies among States for fee reimbursement rates for CGMs
- Low CGM usage rates despite broad Medicaid CGM coverage (41/50 States)

Methodology

- Analysis of product coverage, state spending, and device costs
- Review of current literature on type 1 diabetes and barriers of access in ClinicalTrials.gov
- Keyword Search: Low-income, Low-SES, Minority, Health Literacy, Education, Insurance Type
- Analysis of State Medicaid costs for CGMs and reimbursals rates

Conclusions

- Lack of clinical trials (only 7 relevant results) examining barriers of access for low-SES, T1D patients
- Barriers include a lack of personal empowerment, access, and cost
- Need for increased efforts to help low-SES populations access these devices
- CGMs have the potential to increase health outcomes for low-SES populations while reducing state Medicaid program costs
- Vast discrepancies amongst states for fee reimbursement rates for CGMs exacerbate health disparities

Contact Info | Emily Donahue, BS Candidate | emilydon@usc.edu