Barriers to Diabetes Technology in Low-Income Patients

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Objective
Identify key access barriers to diabetes technologies and care options for low-socioeconomic (SES) patients and analyze the impact of public insurance across state coverages.

Background
- Type 1 diabetes (T1D) affects approximately 1.6 million Americans.
- Low-Socioeconomic Status (SES) is a Risk Factor for Poor T1D Management.
- Low SES Patients Have 3x Risk of Diabetes-Related Death.
- 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.

Methods
1. CMS Data Review: Comparison of CGM coverage under public insurance by states.
2. Literature Review: Review of current literature on T1D and barriers of access in Clinicaltrials.gov.
3. CGM Financial Review: Analysis of State Medicaid costs for CGMs and reimbursement rates.

Results
- CGM Coverage
  - CGM Coverage
  - Restricted CGM Coverage (T1D only and/or age requirements)
  - No Coverage / Not Specified
- CGM Coverage by State
- Health Literacy
  - 41 states offer some level of CGM coverage
  - Higher emergency department visits for diabetic patients on Medicaid
- Average State Spending on Diabetes-Related Costs Per Capita
  - $18,000
- State Reimbursement Rate Range for CGMs
  - $0-800
- Self-Monitoring Requirement Barrier Imposed by Insurance
  - 4X
- Socioeconomic Status
  - 18 studies
- Health Literacy
  - 4 studies
- Low-Income
  - 99 studies
- Minority
  - 4 studies
- Barrier
  - 59 studies

Figure 1. State Medicaid CGM Coverage Map (created with mapchart.net)

Figure 2. Clinical Trial Keyword Search Results

Additional Findings
1. Lack of clinical trials (only 9 relevant results) looking at low SES and T1D.
2. Lower clinical outcomes for Medicaid and Children's Health Insurance Program patients.
4. Significant discrepancies among States for fee reimbursement rates for CGMs.
5. Low CGM usage rates despite broad Medicaid CGM coverage.

Conclusions
- 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.
- Discrepancies amongst states for fee reimbursement rates for CGMs exacerbate health disparities.

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Type 1 diabetes (T1D) affects approximately 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.

Low CGM Usage Rates in Low-SES Populations.