# In Sync with Diabetes: Increasing Remote Upload of Insulin Pump Data among Children with Type 1 Diabetes

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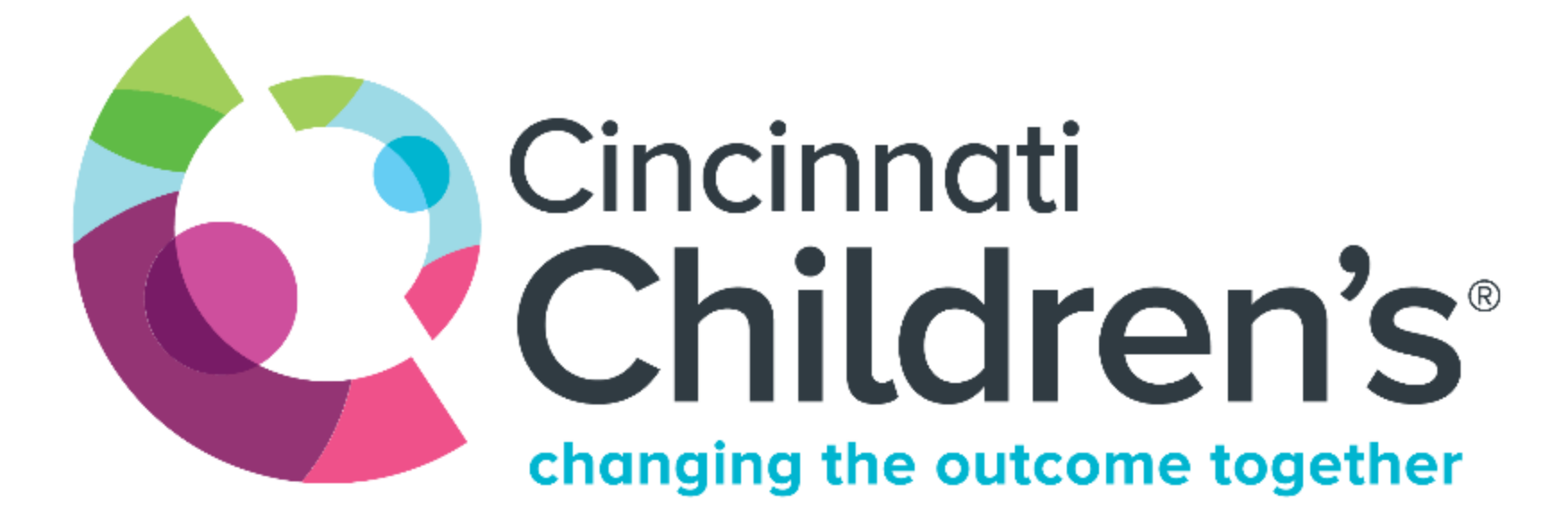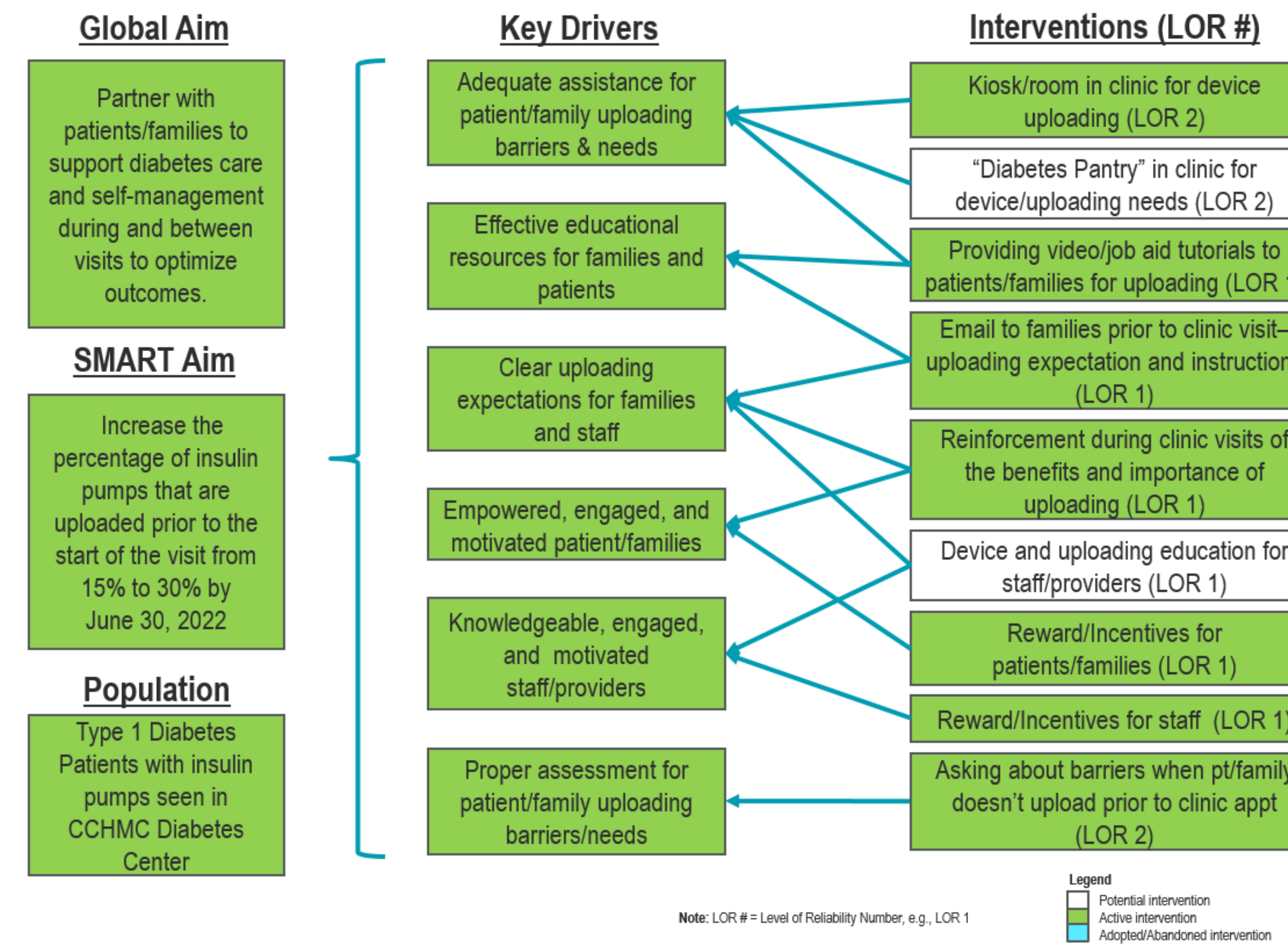
Background

- Insulin pump data upload is crucial for pediatric type 1 diabetes (T1D) care delivery

- Data upload by staff requires significant time, extends visit length, and cannot be performed at telemedicine visits

- Tools for remote data upload exist but are underutilized

SMART Aim

To increase the percentage of insulin pumps uploaded prior to T1D clinic visit at our institution from 15% to 30% by June 30, 2022.

Methods

Our Team:
- Clinicians
- Educators
- Parents
- QI Specialists

Our Approach:
1. Understand the baseline state of pump uploading in our diabetes center
2. Develop a Key Driver Diagram (KDD) reflecting our theory for improvement
3. Conduct Plan-Do-Study-Act cycles targeting key drivers
4. Track outcomes of our interventions on a run chart

Key Driver Diagram

Example: Uploading Instructions Handout

Run Chart
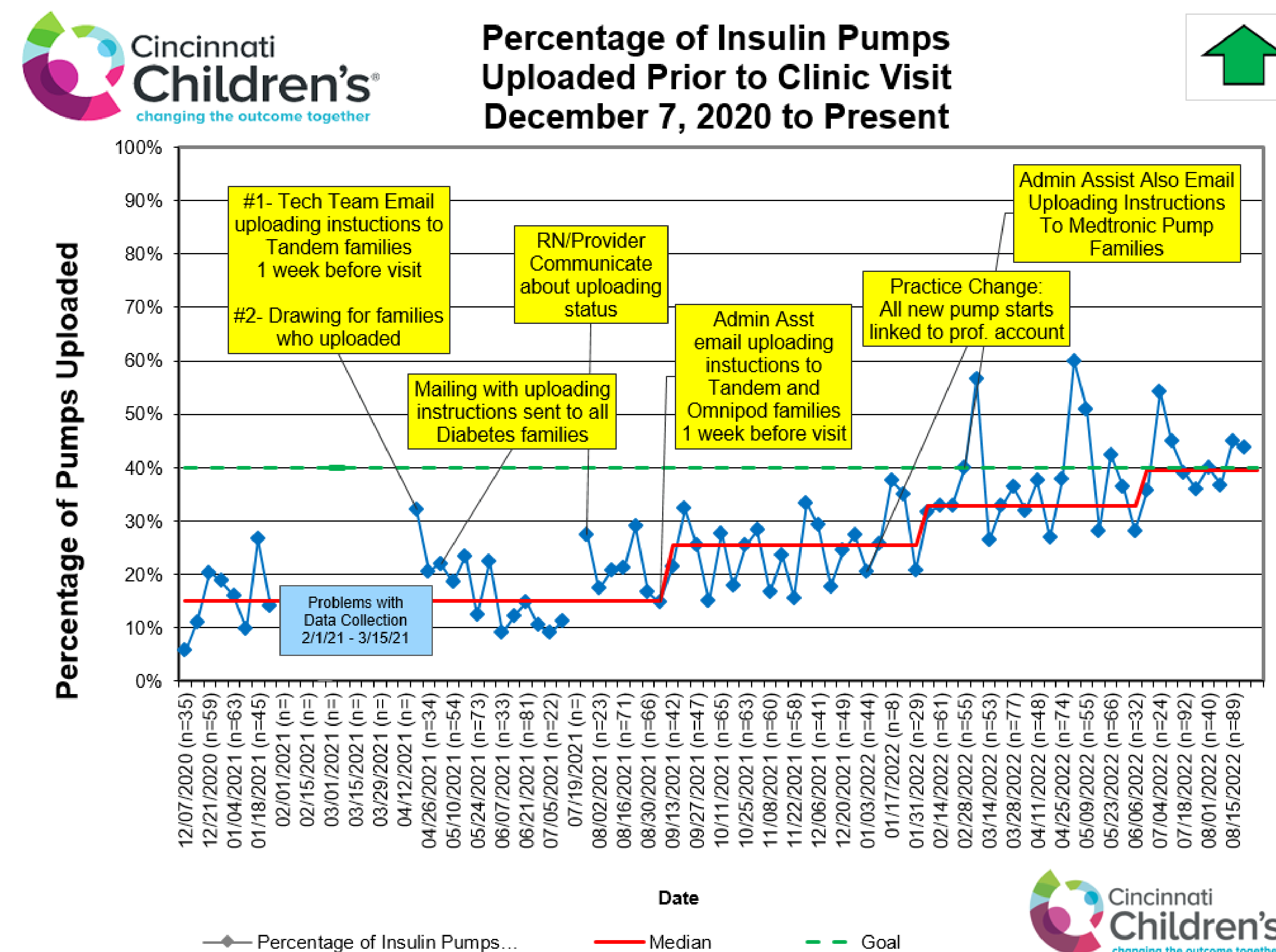
Results and Conclusions

We increased the percentage of insulin pumps uploaded prior to clinic visit by 25%, from 15% to 40%.

This 25% increase in pre-clinic pump loads corresponds to **_over 50 more patients per month with insulin pump data uploaded_** prior to clinic visit (and counting!)

Most Effective Interventions:
- Discussing the goal of pre-visit pump upload with families
- Emailing upload instructions to families one week before visit
- Syncing all new pumps to our professional cloud account during pump start

Future Directions:
- Assess and address gaps
- Study the impact of pre-visit upload on clinic cycle time
- Enhance remote monitoring of diabetes data
- Integrate device data into electronic medical record
- Facilitate artificial intelligence-guided modifications