A Clinical Workgroup Drives Real-Time Improvement in Pump Ordering Process

UW Health Kids

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Background

- Previous quality improvement work at UW Health Kids ambulatory diabetes clinic increased insulin pump utilization to 65-70% among children with Type 1 Diabetes.
- Increased pump utilization revealed inefficiencies in ordering and care coordination workflows.
- Workflow barriers delayed pump initiation and follow-up, postponing access to pump therapy.
- Inefficient workflows created administrative burden for staff, contributing to burnout.

Goal

The project aimed to reduce the interval from insulin pump order to follow-up by 25% while improving staff experience and reducing perceived administrative burden related to pump ordering and initiation.

Methods

- Formed a multidisciplinary workgroup of registered nurses and coordination assistant.
- Met regularly to identify workflow challenges, contributing factors, and planned improvements.
- Implemented targeted interventions to improve ordering, tracking, communication, and care coordination (Figure 1).

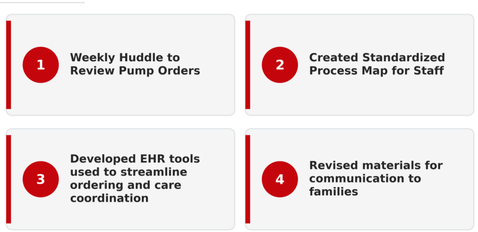


Figure 1. Summary of changes implemented

- Used EHR Patient lists to track measures.
- Conducted manual chart reviews to measure time from pump order to pump initiation and follow-up.
- Selected a systematic pre-intervention sample (every third chart from 2025; n=40). Included all new pump starts through August 2026 in the post-intervention cohort (n=76).
- Evaluated staff perceptions using a survey developed by the workgroup.

Results

Time from Order to Pump Initiation & Follow-up

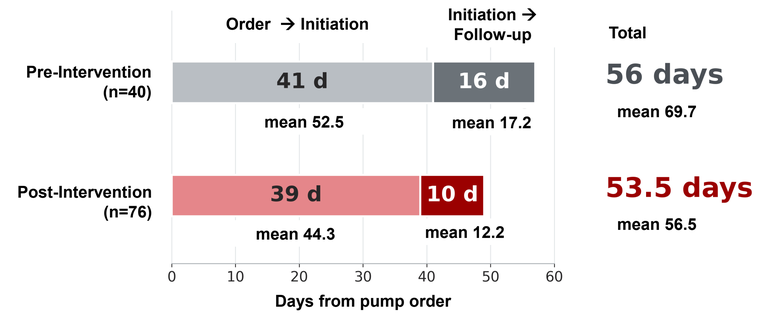


Figure 2. Median days (bars) and mean days (below bars) from insulin pump order to initiation and from initiation to follow-up, pre-intervention (n=40) vs. post-intervention (n=76). Step medians do not sum exactly to the median total time.

Staff Perceptions of Pump Workgroup Impact

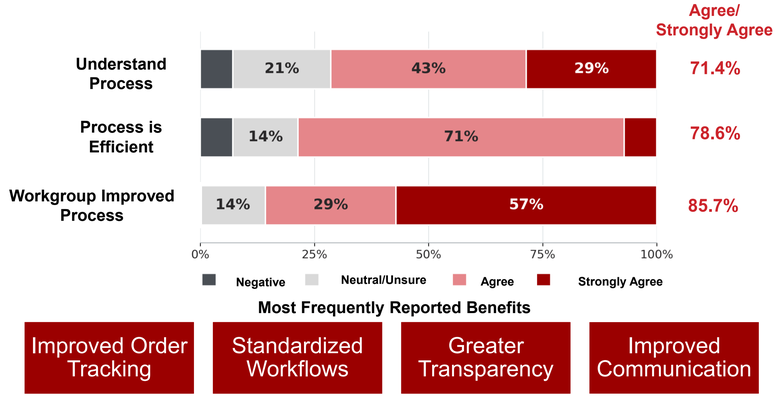


Figure 3. Staff survey responses on pump process understanding, efficiency, and workgroup impact (n=14), shown as percent of respondents by response category in stacked Likert bar chart. Most frequently reported benefits summarized in graphic.

- Median time from pump order to pump initiation remained stable following intervention (41 vs. 39 days; p=0.57). Mean time decreased from 52.5 to 44.3 days (−16%).
- Median order-to-follow-up time decreased from 56 to 53.5 days; however, mean time decreased substantially from 69.7 to 56.5 days (−19%). Fewer orders had very long delays in the post-intervention group.
- Time from pump initiation to follow-up improved significantly, decreasing from a median of 16 days to 10 days (−37%, p=0.008), with a reduction in mean time from 17.2 to 12.2 days (−29%).
- Fourteen team members completed a post-intervention survey. Most respondents reported improved process navigation and information access (85.7%), perceived the process as efficient (78.6%), and understood the process (71.4%).
- Staff survey responses demonstrated improved process navigation and confidence in pump ordering workflows. Qualitative comments emphasized enhanced order tracking, workflow standardization, communication, and transparency regarding order status.

Conclusions

- Although the project did not achieve its target of a 25% reduction in overall order-to-follow-up time, multidisciplinary workgroup interventions significantly reduced the interval from pump initiation to follow-up, improved process reliability, and decreased perceived administrative burden among staff.
- Most staff reported improved process transparency, easier navigation of pump workflows, and greater efficiency following implementation of workgroup-led interventions.
- Order-to-initiation time remained the largest contributor to overall process duration before and after the interventions, suggesting that insurance authorization and operational barriers remain important targets for future improvement efforts.
- Future opportunities for improvement include enhanced EHR-based order tracking, streamlined communication regarding pump fulfillment, and expanded education for families new to insulin pump therapy.