

# Improving Diabetes Discharge Education Among Adult Inpatients

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## Background

- Diabetes self-management is an essential skill for individuals with diabetes. Several professional organizations recommend diabetes education as part of the discharge planning process for patients hospitalized for non-critical illness.
- Nurses are expected to teach patients basic diabetes survival skills but have often expressed feeling unprepared to provide information and busy with competing tasks. Without a clearly defined pathway or bundle for the nurse to follow, education delivered solely by the RN may be fragmented, and the patient may leave the hospital without the necessary survival skills needed to manage their diabetes independently at home.
- At UCSF, the inpatient diabetes education process for admitted adult patients had no concise pathway for the nurse to initiate diabetes education. The process heavily relied on the Certified Diabetes Care and Education Specialist (CDCES) performing all aspects of patient teaching, which was neither practical nor scalable to fulfill the educational needs of patients with diabetes.

## Purpose

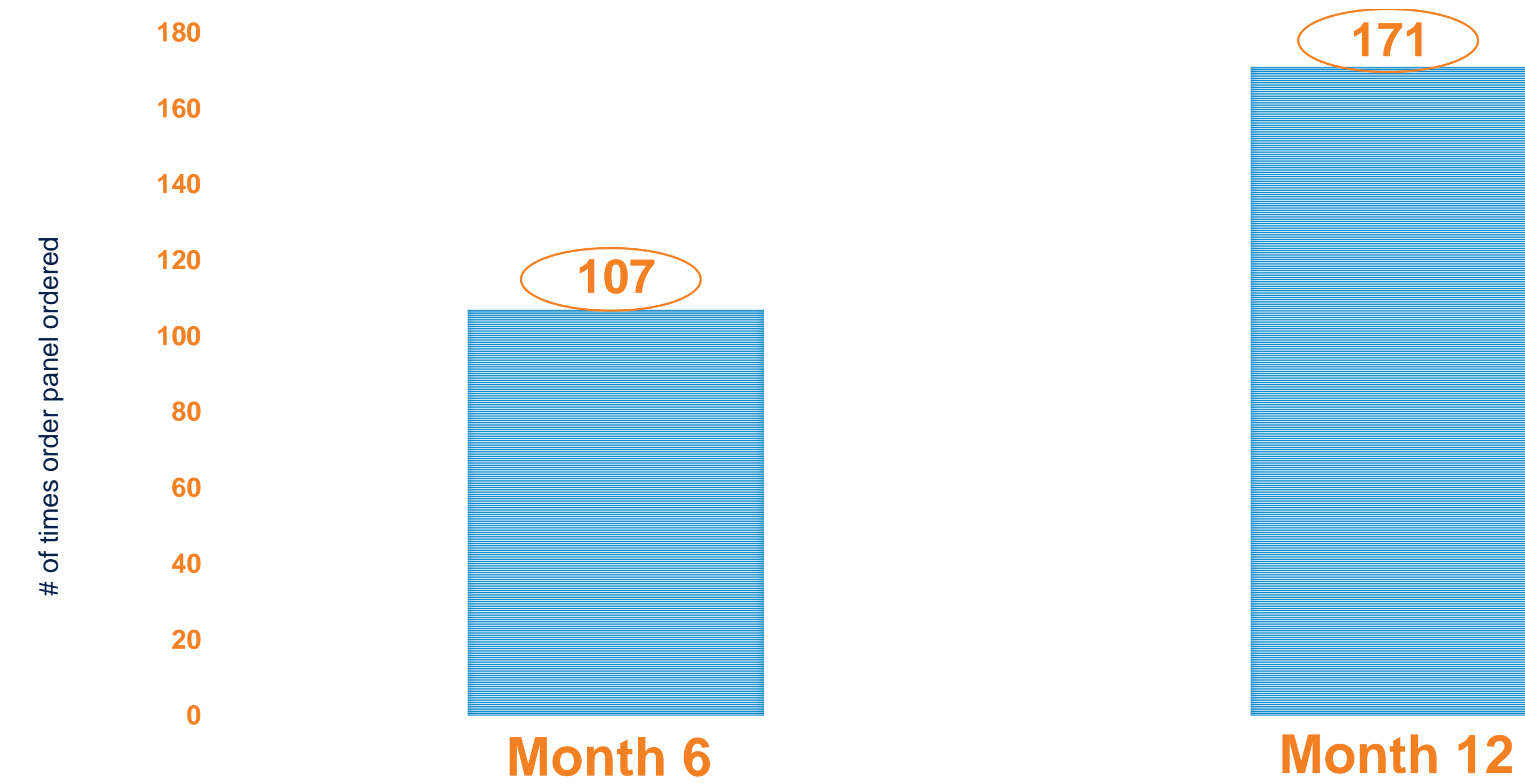
To provide an improved workflow for nurses to deliver diabetes discharge education using this novel order panel which includes the essential elements for most inpatients requiring diabetes teaching in one location.

## Design and Implementation

- A collaborative team was formed, comprising of diabetes resource nurses, a CDCES, and nurse informaticists. This team developed a defined workflow to guide UCSF nurses in initiating diabetes discharge education.
- An order panel was created for providers in the EHR that contained defined elements for the nurse to initiate for diabetes education. This bundle included:
  - Identifying appropriate handouts to be reviewed with and provided to patients.
  - Educational videos that could be assigned to the patient in the EHR to facilitate discharge education.
  - Instructions for the nurse regarding starting insulin injection teaching.
  - Glucose monitoring kit to initiate blood glucose monitoring education ,
  - Consults to the dietician for nutrition counseling, and a formal diabetes education consult conducted by the CDCES.
- An educational flier was emailed to all inpatient Adult RNs and Providers when the order panel was launched. Diabetes Resource Nurses were educated about the new order panel.. Order panel implemented: 12/9/2021
- Presented at 16 Acute Care Unit Staff meetings to >300 RNs.
- Tip sheets on the diabetes education process and how to assign educational Videos were shared with Unit Leaders and Diabetes Resource Champions. E-learnings were offered on the learning management system that included education on Inpatient Diabetes education, glucometer and insulin pen use, and more.

## Results and Impact

### Order Panel Usage



Post- implementation order panel usage

### Order Panel

New Medications Orders			
Ordered			
02/03/23 1428	blood glucose monitoring kit	Start: 02/03/23 1445, Other, Once, Routine	
02/03/23 1428	blood glucose test strip 1 each	Start: 02/03/23 1445, 1 each, Other, Once, Routine	
New Consult Orders			
Ordered			
02/03/23 1428	Inpatient Consult to Diabetes Educator	Start: 02/03/23 1429, End: 02/03/23 1429, Once, Routine	
	Provider: (Not yet assigned)		
	Question: Reason for Consult?	Answer: New diagnosis of Diabetes	
02/03/23 1428	Inpatient Consult to Nutrition Services	Start: 02/03/23 1429, End: 02/03/23 1429, Once, Routine	
	Provider: (Not yet assigned)		
	Question	Answer	Comment
	Reason for Consult	Poor Intake / Diet Intolerance	
	Reason for Consult?	Diabetes education	
New Nursing Orders			
Ordered			
02/03/23 1428	Prepare diabetes discharge reference material (see comments)	Start: 02/03/23 1429, End: 02/03/23 1429, Once, Routine	
	Comments: In the discharge navigator, under "patient instructions" attach, print out and give to the patient the following handouts (that are relevant to patient):		
	1. Insulin Pen how to use (if new insulin pen planned for discharge)		
	2. Use of Insulin pen (if new insulin pen planned for discharge)		
	3. Diabetes discharge information (all patients with diabetes)		
	4. Diabetes: Type 1 General Info or Diabetes: Type 2 General Info (if newly diagnosed with either T1DM or T2DM, depending on type at diagnosis)		
	5. Steroid induced diabetes mellitus General Info (if steroid induced hyperglycemia)		
	6. Carbohydrates UCSF (if newly diagnosed with diabetes or nutrition barriers)		
02/03/23 1428	Review Diabetes discharge informational handout with patient regarding signs and symptoms of hypoglycemia and hyperglycemia with appropriate interventions	Start: 02/03/23 1429, End: 02/03/23 1429, Once, Routine	
02/03/23 1428	Assign the following Emmi videos if patient has MyChart or Oneview	Start: 02/03/23 1429, End: 02/03/23 1429, Once, Routine	
	Comments: 1. Injecting Insulin: Pen (if new insulin is planned for discharge)		
	2. Injecting Insulin (if insulin vials and syringe planned for discharge)		
	3. Checking your Blood sugar (if unable to independently monitor blood sugar)		
	4. Nutrition and healthy eating (if newly diagnosed with diabetes or nutrition-related barriers)		
	5. Diabetes, Type 2 (if newly diagnosed with Type 2 diabetes)		
02/03/23 1428	Perform Insulin teaching (See comments)	Start: 02/03/23 1429, End: 02/03/23 1429, Once, Routine	
	Comments: 1. Initiate insulin pen teaching as soon as possible with patient and or caregiver. Use demonstration pen and injection pad for initial patient hands-on teach-back.		
	2. Patient and or caregiver, after being taught, should perform insulin preparation and dose injection with RN supervision with every dose until independent.		
	3. If insulin vial/syringe ordered for discharge, initiate insulin teaching using vial and syringe.		

Consults

Handouts

Videos

Insulin Teaching

## Nursing Feedback

- Since implementation, there has been an observable change in the way diabetes education is delivered by nurses, with more direct nurse engagement in hands on patient teaching observed
- This workflow has created opportunities to teach nurses how to provide diabetes education for their patients before discharge, for example with learning about home glucose monitoring kits.
- Nurses have reported more clarity about their role in providing diabetes education for patients prior to discharge especially when there are nursing-specific elements listed in the EHR.

## Conclusions

- Implementing this an order panel created a more stream-lined process for providers to formally request diabetes education to start with bedside nurses independent of the availability of the diabetes educator. This led to increased RN participation in diabetes education for hospitalized patients and more opportunities for hands-on teach-back and patient self-injection of new insulin

## Next Steps

- Continue educational offerings for RNs with emphasis on Diabetes Discharge teaching.
- Survey nurses formally to determine gaps in knowledge and opportunities for education
- Automate assigning videos into workflow when order panel is utilized

## References

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