

Evaluation of Inpatient Insulin Pump Policy Adherence and Patient Safety Outcomes

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Background

- Continuous subcutaneous insulin infusion continues to gain acceptance in diabetes care
- Although insulin pumps are used predominantly in the ambulatory setting, the American Diabetes Association advocates for usage in non-critically ill hospitalized patients who are able to self-manage their pump
- The purpose of the study was to assess policy adherence and patient outcomes

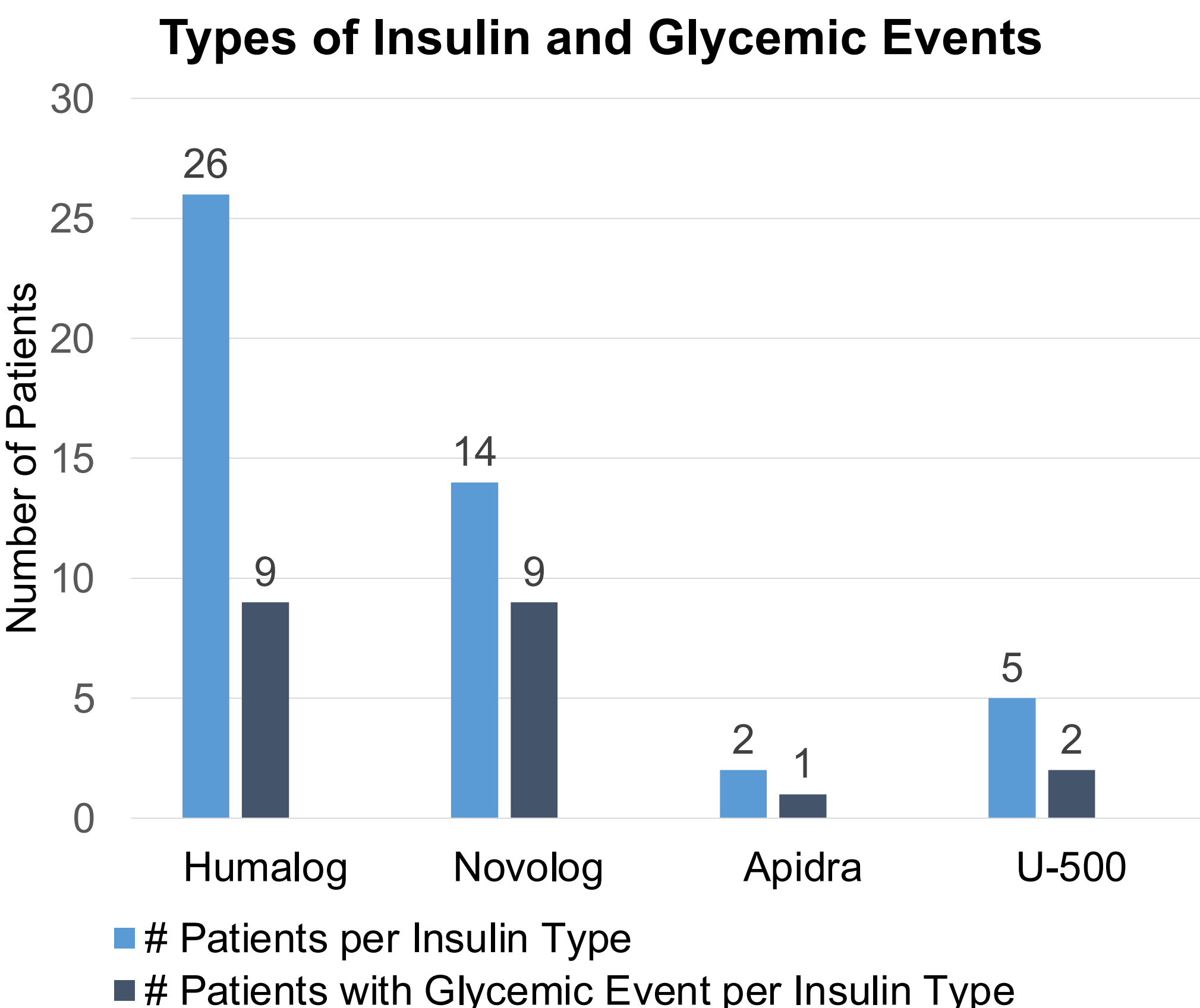
Study Design

- Retrospective, single-center, chart review
- Patients at least 18 years of age who had an insulin pump order placed from July 1st 2018 to July 31st 2019 (N=47)

Results

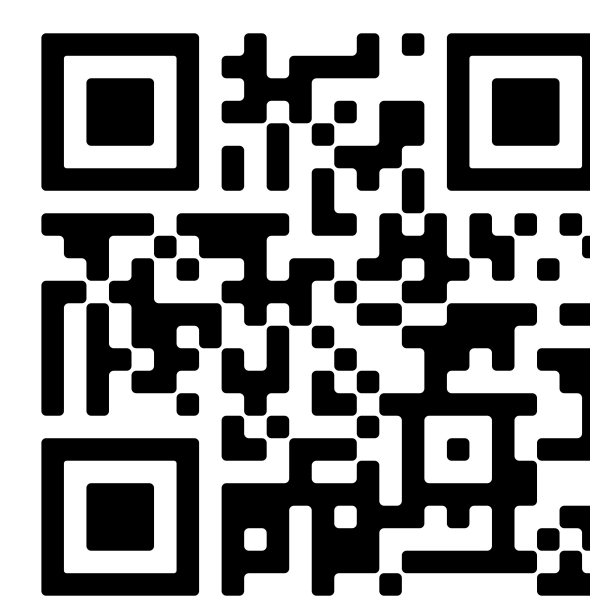
Policy Adherence	Yes N (%)
CAM* score recorded every 8 hours	40 (85)
Consent form scanned	32 (68)
Glucose log scanned	27 (43)
Pump location documentation	4 (9)
Glucose check every hour during surgery	0 (0)

*Confusion Assessment Method



Documentation and monitoring per hospital policy was infrequently recorded in the chart

Glycemic events were frequent reasons for pump interruption but escalation of care was rarely needed



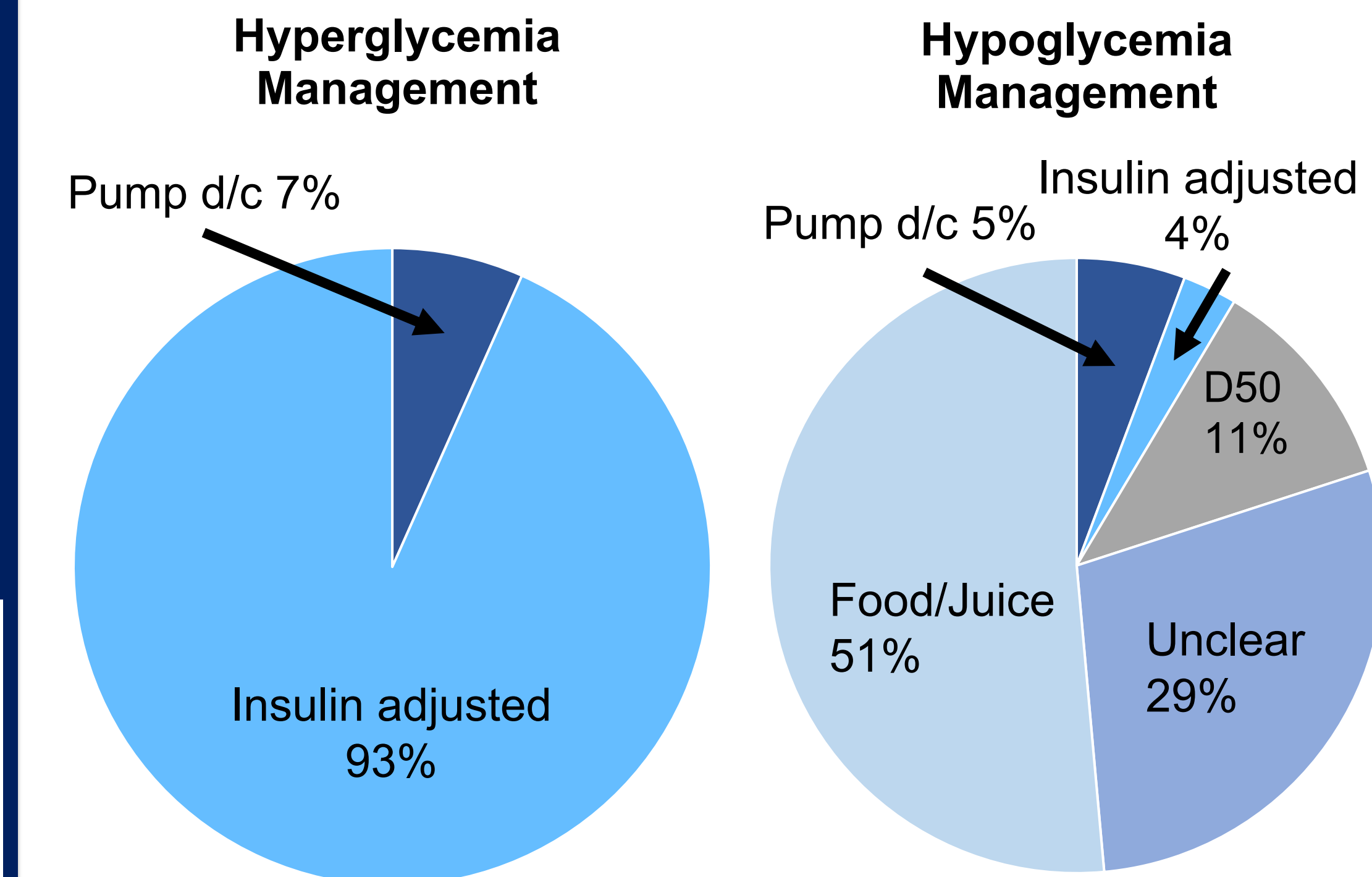
Reason for pump interruption	Patients N (%)
Glycemic event*	8 (40)
Unclear / Other	4 (20)
Surgery/Radiologic procedure	3 (15)
Patient preference	2 (10)
ICU admission	1 (5)
Altered mental status	1 (5)
Ran out of supplies	1 (5)
Total	20

*Glycemic event defined as BG <60 or >300mg/dL

Adverse Event	Hypoglycemia*	Hyperglycemia**
Number of Patients N (%)	16 (34)	15 (32)
Number of Patient with Recurrent Episodes N (%)	8 (50)	7 (40)
Total Episodes	35	34
Escalation of Care	0	1

*Hypoglycemia <60mg/dL

**Hyperglycemia >300mg/dL



Discussion

- Adherence to documentation and monitoring required by insulin pump policy was low
- Missing paperwork may have been completed but not scanned into the chart
- The main reasons for pump interruption were hypoglycemia and hyperglycemia, but the majority of cases were mild and did not require escalation of care
- This study highlighted areas of potential improvement, specifically nursing and surgical documentation

Conflicts of interest

- The authors have no conflicts of interest to report