



Background/Introduction

According to the American Diabetes Association, hypoglycemia is a blood glucose level less than 70 mg/dl. This requires rapid intervention to achieve a blood glucose level > 70. Symptoms can be mild such as confusion, sweating, dizzy, lightheaded, and possible headache. However, if left untreated can swiftly progress to unconsciousness and can be fatal.

In hospital hypoglycemia events can often be associated with longer insulin medication administration times from the last blood glucose results. Insulin administered within 60 minutes of last glucose result ensures a more accurate dose.

At Houston Methodist The Woodlands hospital we strive to reduce hypoglycemia events. The Vizient Laboratory metric: Hypoglycemia in Insulin Use is used to benchmark performance.

Purpose/Objectives/Hypothesis

The purpose of the project was to engage a culture of patient safety by decreasing the time of insulin administration from the last known blood glucose result; thereby decreasing hypoglycemia events.

- Objective 1: Reducing hypoglycemia events
- Objective 2: Decrease time between POC and Insulin Administration

6 South, a 32-bed medical/surgical unit elected to change the daily workflow by relieving the Patient Care Associates (PCA) of obtaining the POC and assigning this to the RN. The RN would obtain the POC and administer insulin in the same visit decreasing the time between. In effect the “middle” person was removed.

Decreasing the time between POC and insulin administration will decrease hypoglycemia events.

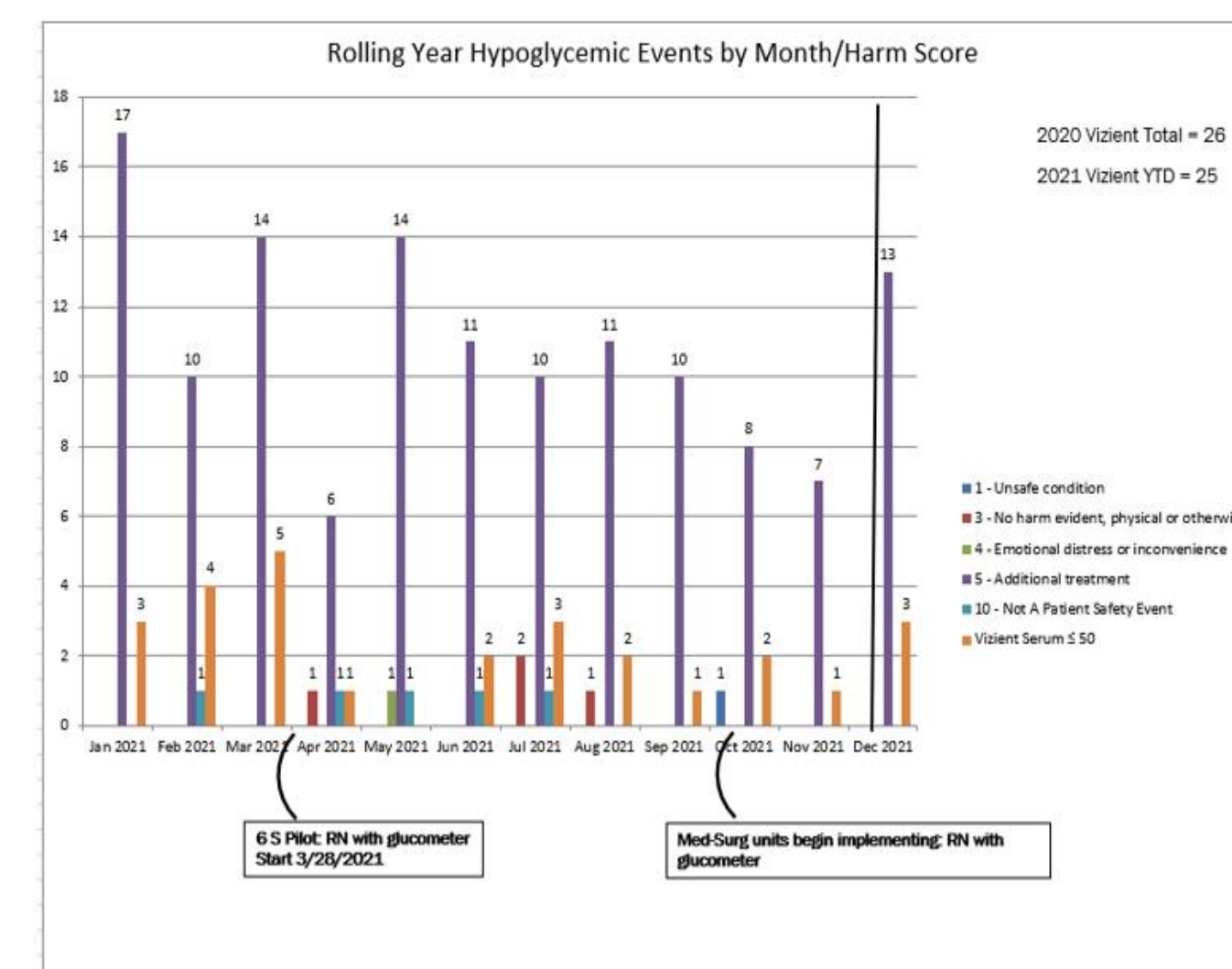
Methods

Multi-modal strategies were used such as:

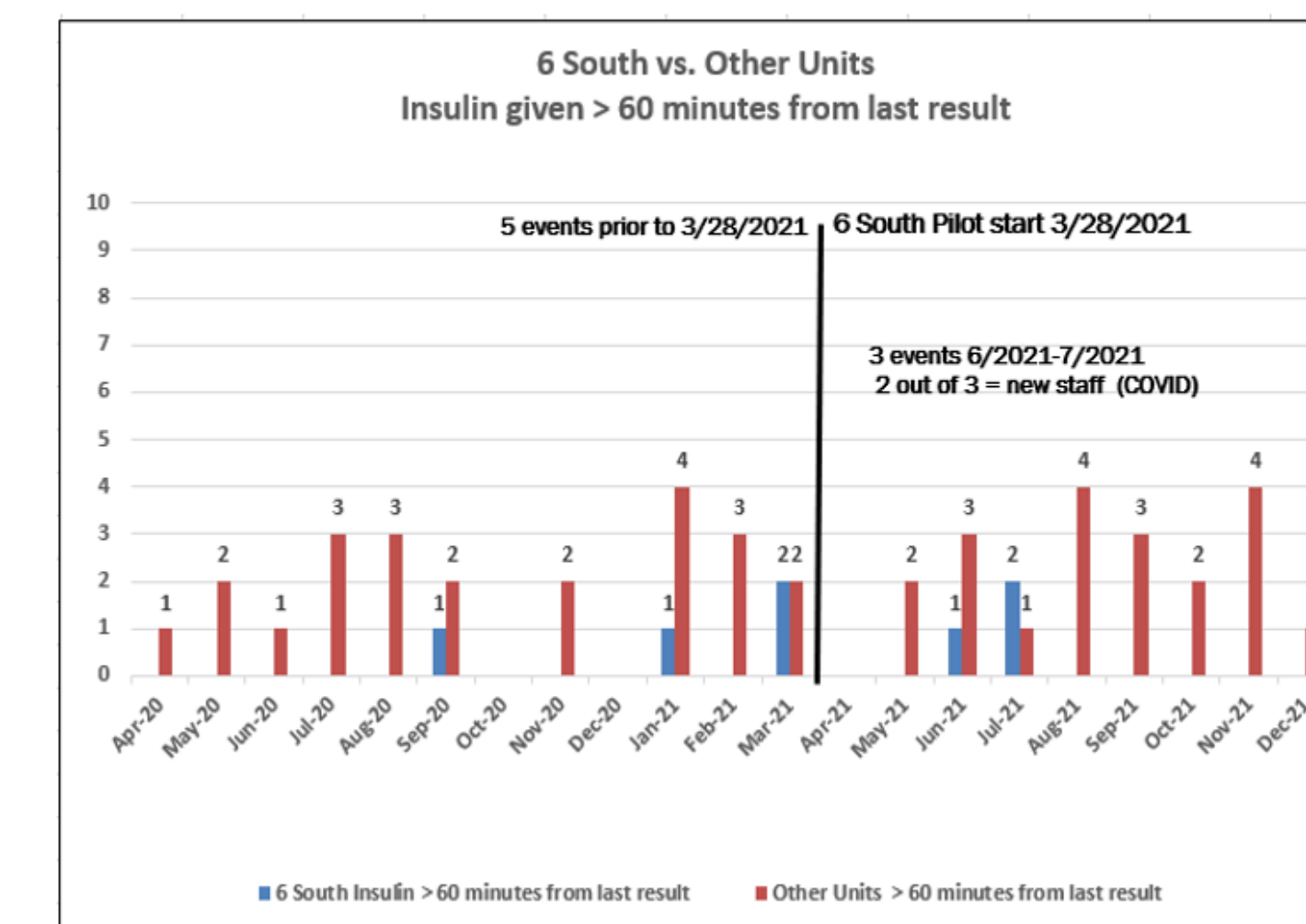
- Brainstorming with 6 South bedside RNs
- Internal benchmarking hypoglycemia events
- External benchmarking using Vizient Laboratory Metrics: Hypoglycemia in Insulin Use
- Plan Do Check Act methodology
- Data collection and analysis
- Purchase of additional glucometers
- Staff Education
- Nursing Shared Governance Integration

Result

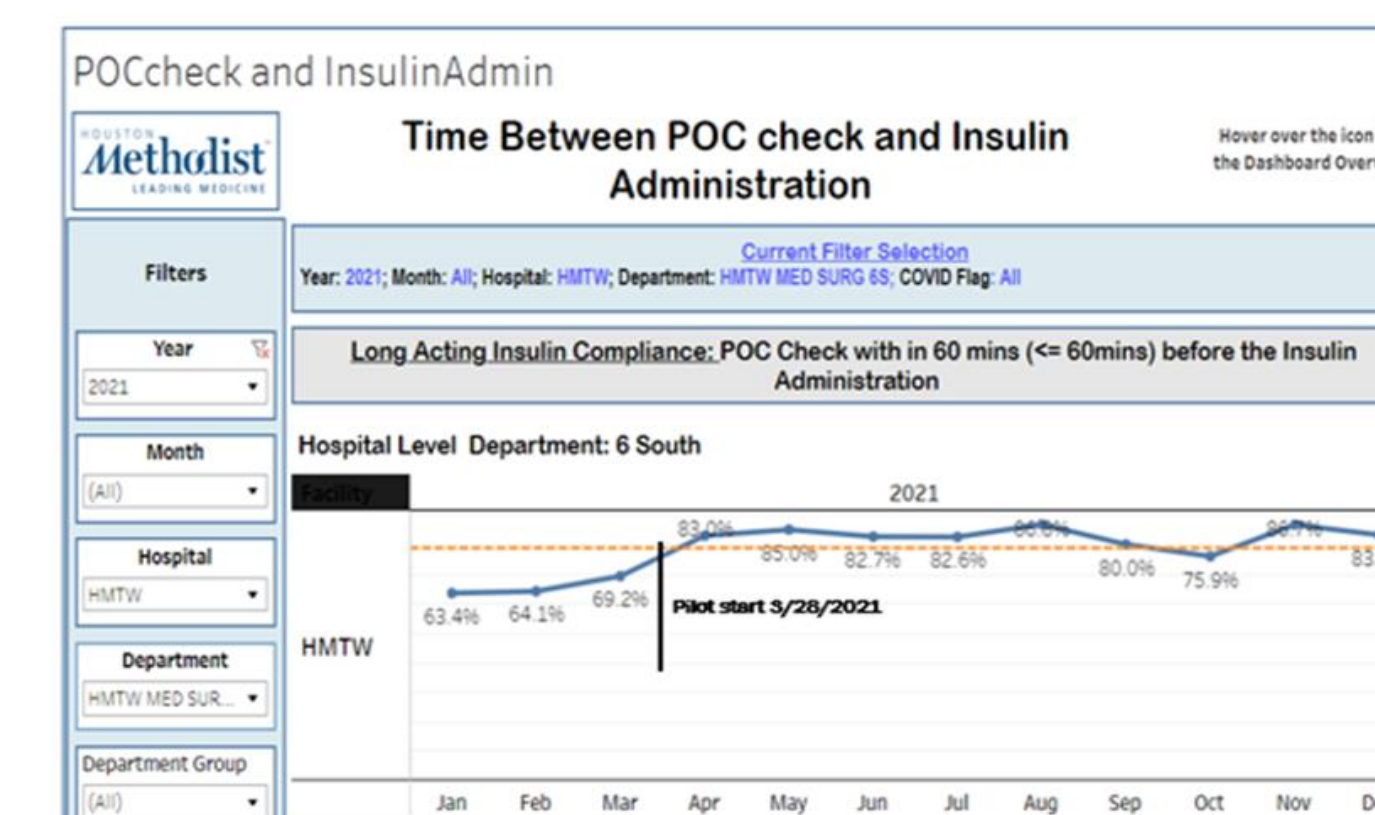
Hypoglycemic Events



6 South Pilot – RN Glucometer



6 South Pilot Results

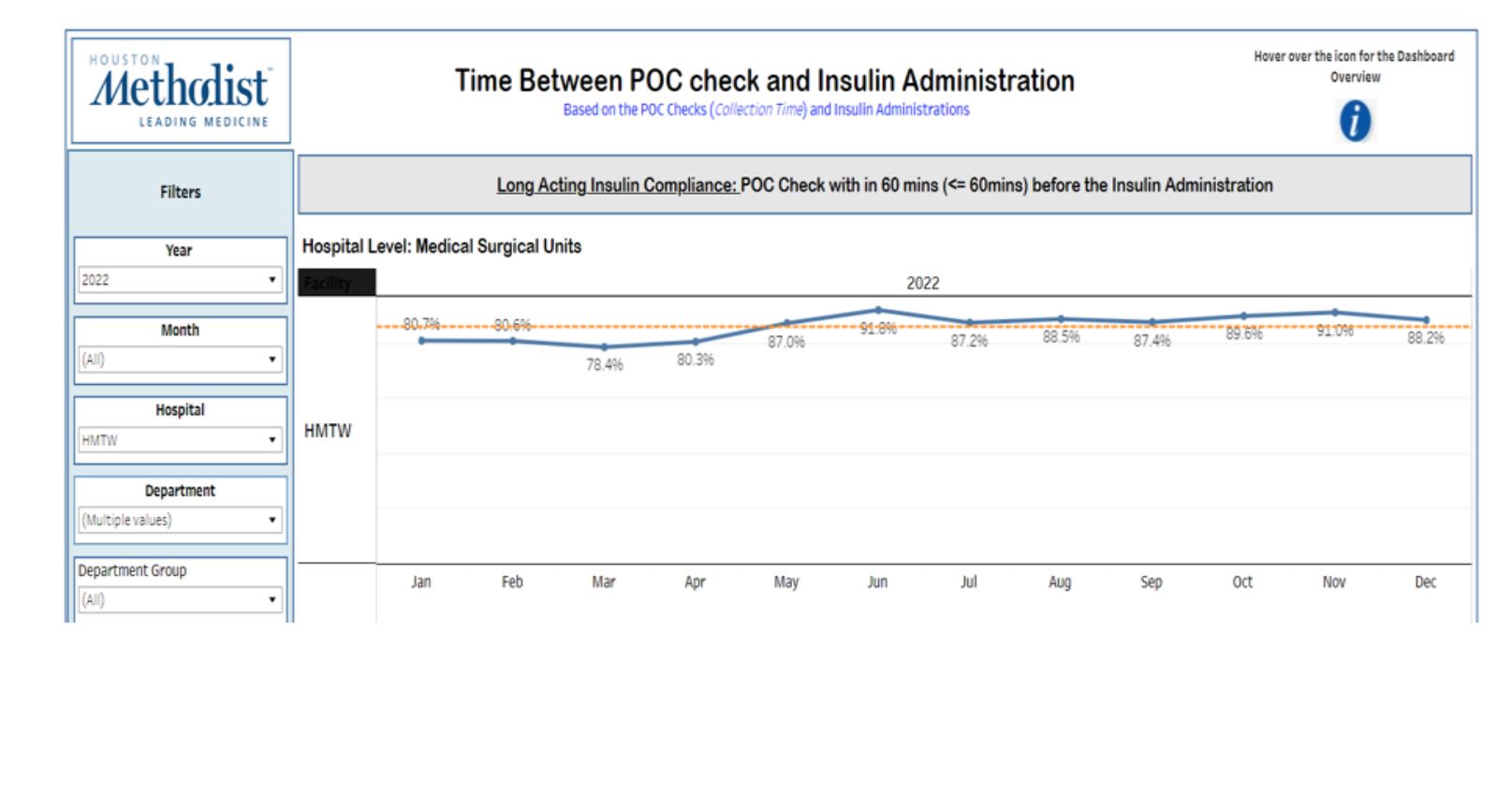


Pilot Evaluation

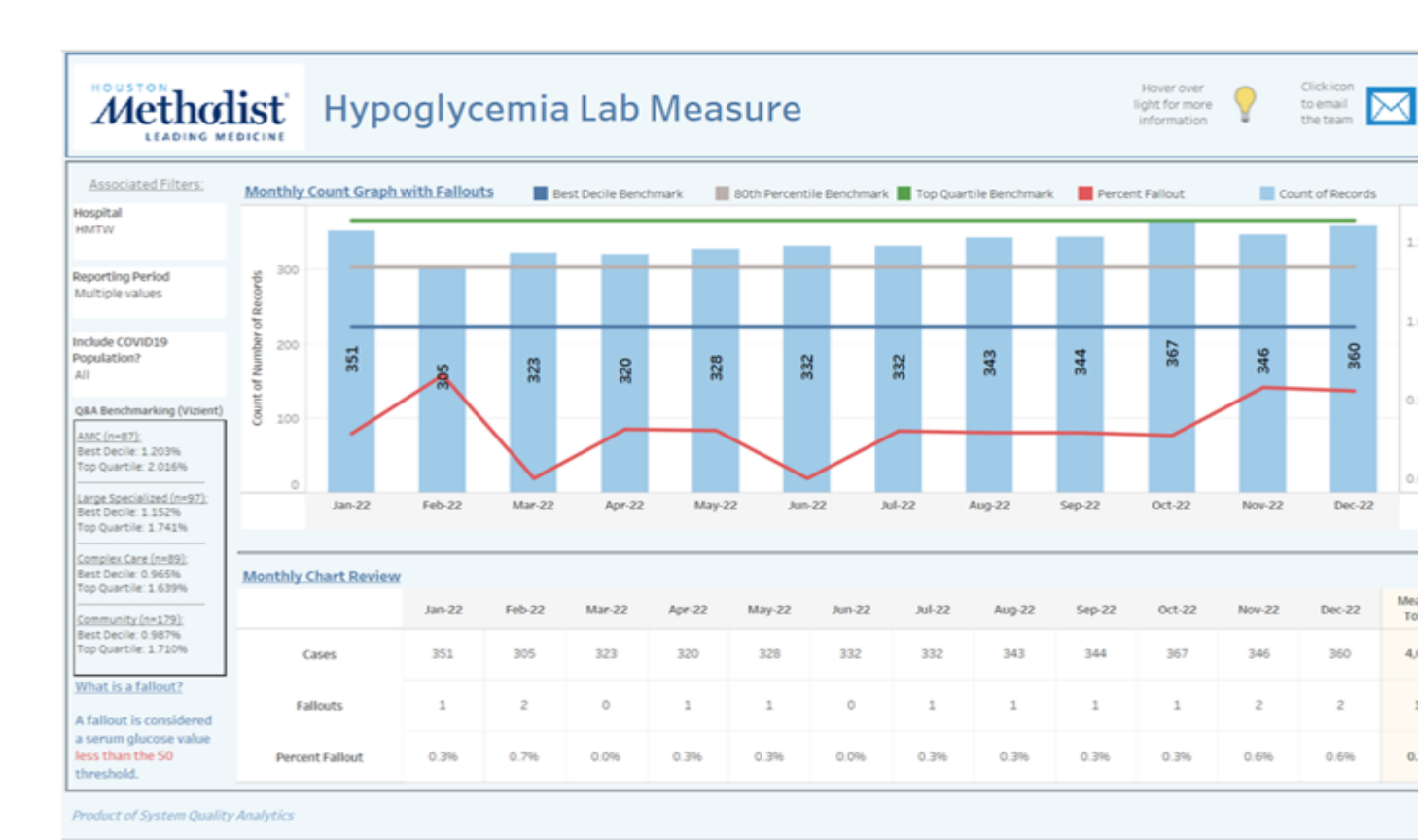
Goal: Decrease POC time to Insulin Admin time to
Goal: Decrease Vizient Hypoglycemia

- 3/28/2021 Pilot start
- 9/2021: Pilot Effective
- 10/1/2021 – All other med/surg units start

2022 All Medical Surgical



Vizient Hypoglycemia 2022



Best Practices

- Utilizing the 6 South bedside nurses' recommendations provided a roadmap to hardwire the culture of patient safety.
- Compliance with insulin administration time within 60 minutes of last bedside point-of-care (POC) glucose result.
- Applying the Plan Do Check Act methodology allowed nursing operational workflow changes to be effective during the pilot.

Results/Implications

- 6 South baseline compliance was 66% for Qtr 1 2021.
- Compliance improved to 82% (average) for Qtr 2 & Qtr 3.
- A 16% increase in compliance was noted after the workflow was changed to RN POC collection. This was deemed effective.
- Recommendation was made to implement operational workflow change to RN collection of POC for all medical surgical units effective 10/1/2021.

“Data focusing on clinical workflow and clinical outcomes are essential for identifying critical issues and organizational solutions to improve quality of care, ensuring reasonable workloads and the well-being and safety of both healthcare providers and patients” (Tanzini, 2020 p. 394).

Acknowledgments

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- Action Council
- Houston Methodist System Medication Safety department
- Hypoglycemia Workgroup
- 6 South Nursing Staff
- Laboratory POC Staff
- EPIC Clinical Documentation Group
- Houston Methodist System Business Analytics (Tableau)

References

American Diabetes Association. (2023) Hypoglycemia. Retrieved from <https://diabetes.org/healthy-living/medication-treatments/blood-glucose-testing-and-control/hypoglycemia>

Tanzini, M., Westbrook, J.I., Guidi, S., Sunderland, N., Prgomet, M. (2021). **Measuring Clinical Workflow to improve Quality and Safety.** In: Donaldson, L., Ricciardi, W., Sheridan, S., Tartaglia, R. (eds) *Textbook of Patient Safety and Clinical Risk Management*. Springer, Cham. https://doi.org/10.1007/978-3-030-59403-9_28

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