



EVALUATION AND DECISION-MAKING RELATED TO QUALITY AND WORKLOAD ASSESSMENT OF PARENTERAL NUTRITION COMPOUNDING.

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Background and good practice initiative

A training program centered on audiovisual resources related to parenteral nutrition (PN) procedures was implemented in a tertiary hospital after a **quality assessment within the PN department** revealed a decline in certain indicators between 2020 and 2022.



A shared folder with video tutorials covering various processes was made available to pharmacy staff, mainly intended for nursing staff and pharmacy technicians, who typically have **high turnover rates between departments**.

Parenteral Nutrition (PN)



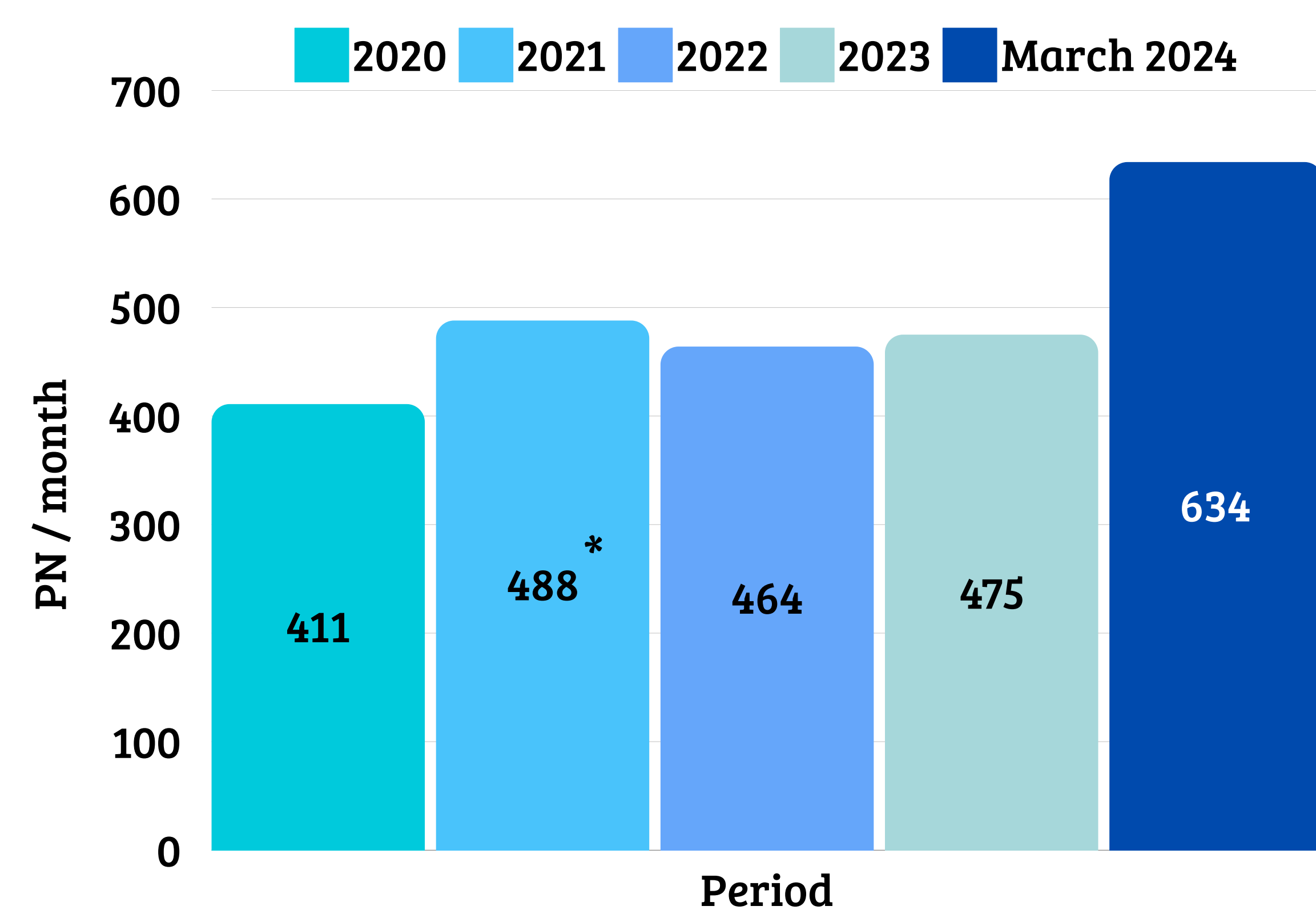
- High-risk preparation
- Significant risk of iatrogenesis
- Requires:
 - Strong training program for staff involved (prescription, validation, and preparation)
 - Reliable quality assurance plan.

Monthly quality indicators	
Errors	Acceptable monthly thresholds:
Pharmacists (transcription)	2
Technicians (tray preparation)	25
Nursing (Sterile PN preparation)	6

- Additional activity indicators:
 - No. PN preparations (monthly)
 - Episode duration
- Reasons for suspension were also recorded.

Findings and outcomes

- The indicators showed a steady **increase in PN preparations**, rising from 411±74 per month in 2020 to 475±51 in 2023, with a record high of 634 in March 2024.
- 18.1% of episodes in 2023 lasted over two weeks, partly due to the **underutilization of home PN** and a **lack of hospital beds despite increased outpatient activity**.
- Errors in tray preparation increased from 2020 to 2022, peaking in 2021. This coincided with high staff turnover and an increased workload.



*COVID-19 peak



- In response, the **implementation of video tutorial training** for rotating staff was introduced in **2022**.

- **This initiative reduced monthly tray preparation errors**, which decreased from 19.33±7.35 (4 months over threshold) to an average of 12±4.9 between January 2023 and March 2024.



Conclusions

- These measures could be adapted and implemented in other departments within the pharmacy service.
- Regarding PN, we are now aiming to optimize the workload by promoting home PN, and implementing **semi-automated systems** such as **barcodes** and **gravimetric control**, which are also recommended to **improve safety and traceability**.