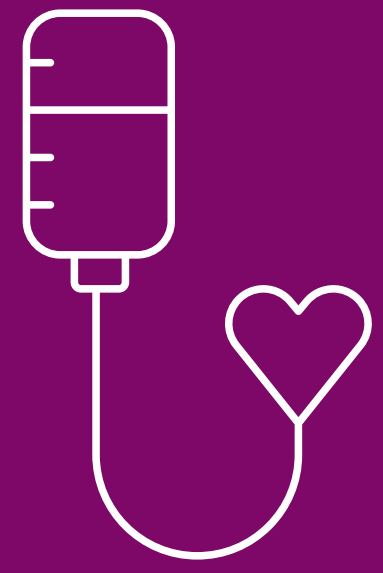


FIVE YEARS OF A BIG CONTRIBUTION FOR THE SMALLEST AMONG US



THE IMPLEMENTATION OF AN INTRAVENOUS (I.V.)-SERVICE ON NEONATAL INTENSIVE CARE UNITS BY THE HOSPITAL PHARMACY



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The hospital pharmacy of the University Hospital Vienna, launched its I.V.-Service in March 2020.

It implemented the production of patient-specific intravenous infusions and total parenteral nutrition (TPN) for neonatal intensive care units (NICU) to meet the specialized needs of neonates and enhance individualized care. Additionally, the assembling of patient infusion sets by pharmacy staff has been established with special focus on catheter types and Y-site-compatibility.

GPI Number:
PC 50004



Background

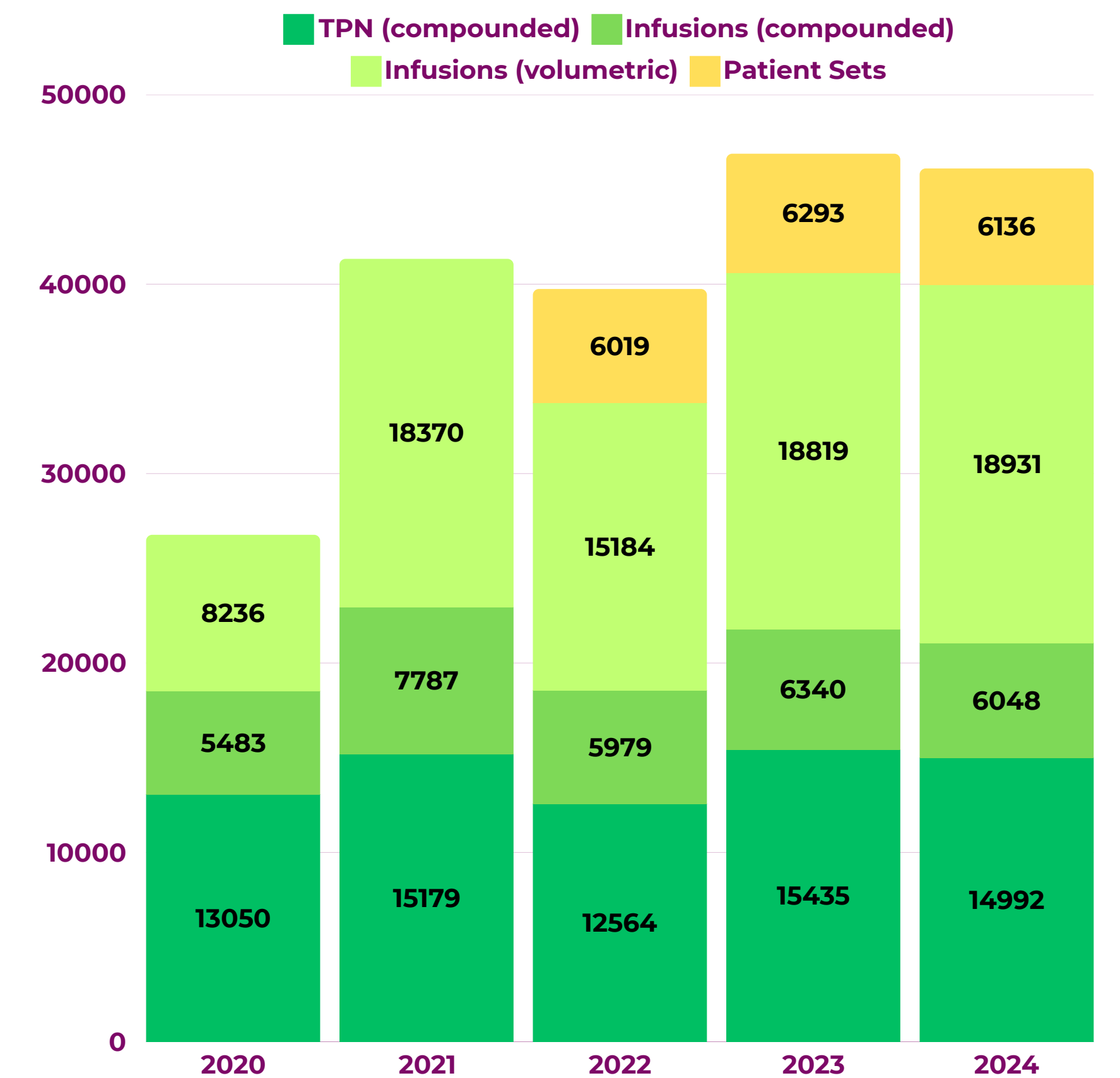
Shortage of nursing staff increases the risk for medication errors due to higher workload and stress.

By **preparing all infusions** for the NICUs, including TPN, continuous and intermittent infusions, the I.V. service alleviates nurses' workload and minimizes application errors via providing those infusions **tailored to each patient**.

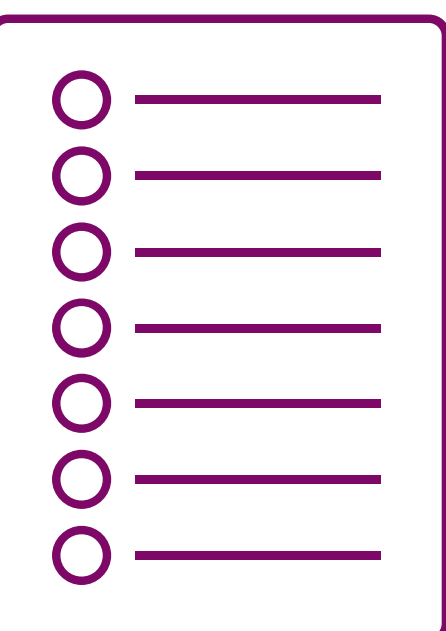
Additionally, **the pharmacist's daily presence on the wards** not only enhances medication safety but also serves as a reliable point of contact for nurses and doctors, while also providing **clinical pharmacy services**.

Producing infusions with compounding pumps in the hospital pharmacy's clean rooms improves microbiological quality as well as dosing accuracy.

Standardized concentrations with defined stability and proper documentation practices ensure consistent quality.



Chronological development of the I.V.-Service from March 2020 to December 2024



- Data on NICU medications and dosages were systematically collected.
- Standard infusion concentrations were harmonized, considering fluid intake and physical-chemical stability.
- Protocols for automated compounding of continuous infusions and TPN were established.
- Standard operating procedures for additional volumetric preparations were introduced.
- I.V. compatibility of the drugs was researched and compatibility tables were created.

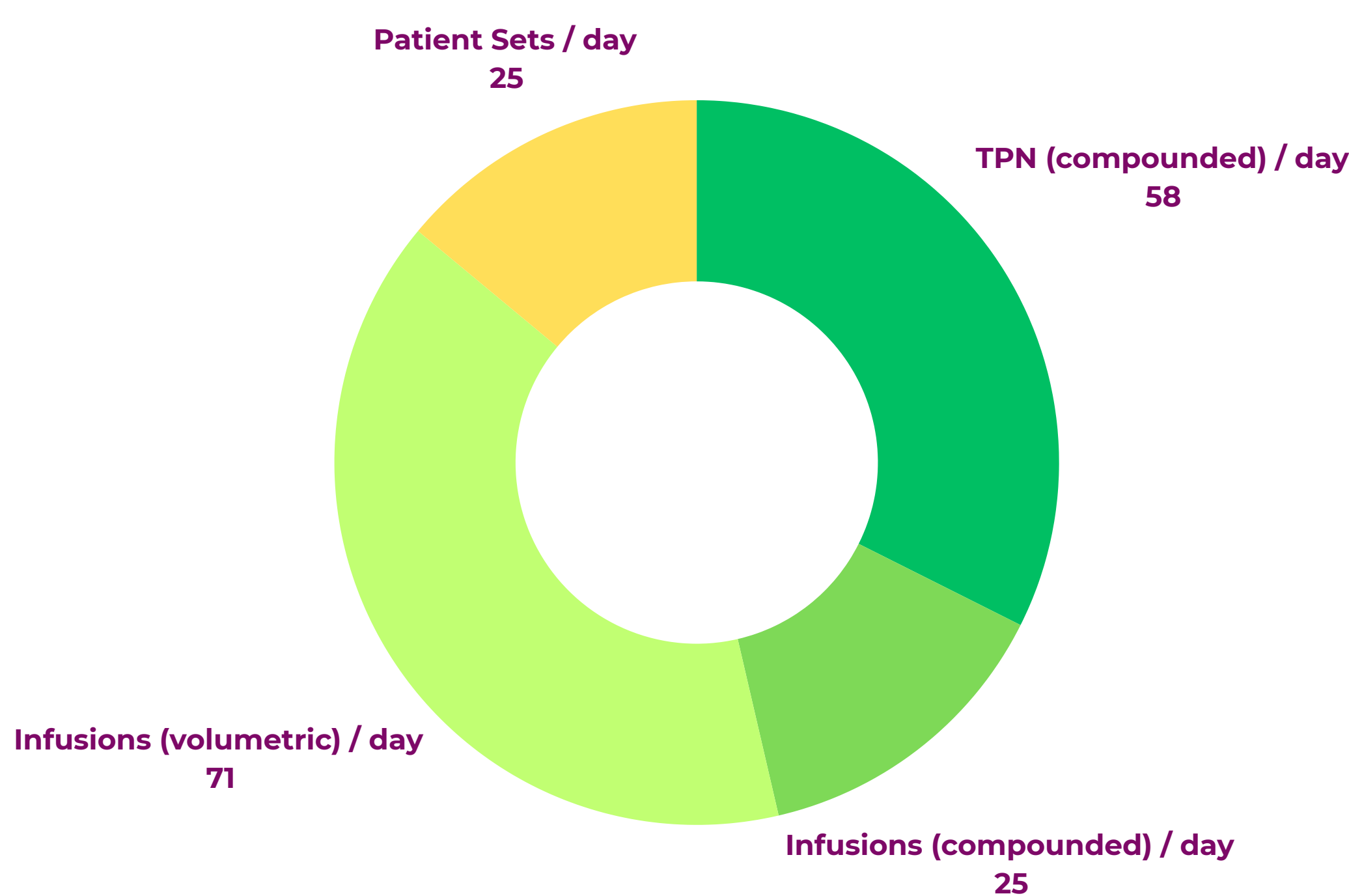
Achievements

The project successfully implemented **individualized compounding of infusions and TPN** with established standards in the hospital pharmacy's clean rooms.

Complete traceability and **continuous microbiological monitoring** during production ensure **high product quality**.

The initiative **enhanced interprofessional collaboration**, strengthened confidence among physicians, nurses, and pharmacists and significantly reduced nurses' workload for preparing medications, TPN, and assembling patient sets. In 2024, 2635 clinical-pharmacy interventions were processed by the I.V. service.

The service currently operates on **5 wards** (= 64 beds), producing an average of **154 infusions and TPN daily**. The assembly of patient sets is provided for 44 care beds across NICU and Intermediate Care (IMC) wards, averaging **25 sets daily**.



A breakdown of the average daily production of the I.V.-Service

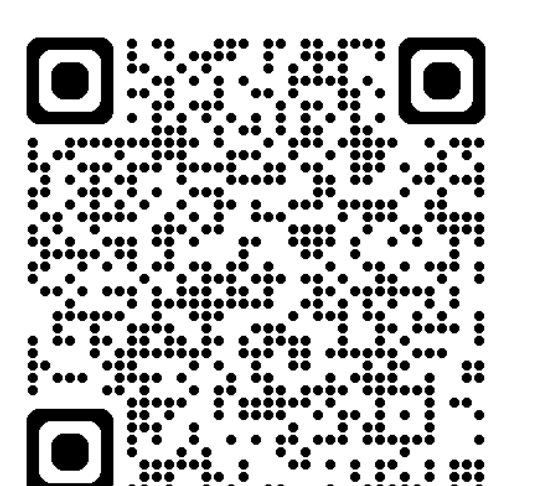
What is next?

The service aims to maximize automated production by implementing new compounding pump plans, increasing output to supply more wards.

Plans also include expanding the service to the Pediatric Intensive Care Unit (PICU), where both intermittent infusions and patient set assembly will be offered in addition to the existing continuous infusion supply and clinical pharmaceutical service.



The Team of the IV-Service



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