

1. What was done?

Development and implementation of nutrition support protocols by using an electronic prescribing and compounding software (catoPAN™) to address the special needs of neonates and ensure a high level of individualized care



Implementation of individual, hospital pharmacy-compounded neonatal TPN

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2. Why?

Individual total parenteral nutrition (TPN) for neonates was **originally compounded** by nursing staff **on the wards**.

This process was error-prone, documentation and traceability were inadequate and clean room conditions were absent.

3. How?

- Development of nutrition support protocols in cooperation with neonatologists
- A validated TPN compounding process was implemented, including the **validation** of catoPAN™ software and compounding pumps (Fig. 1)
- Various process and organizational changes concerning the wards, the production and the QC department of the hospital pharmacy (Fig. 2)

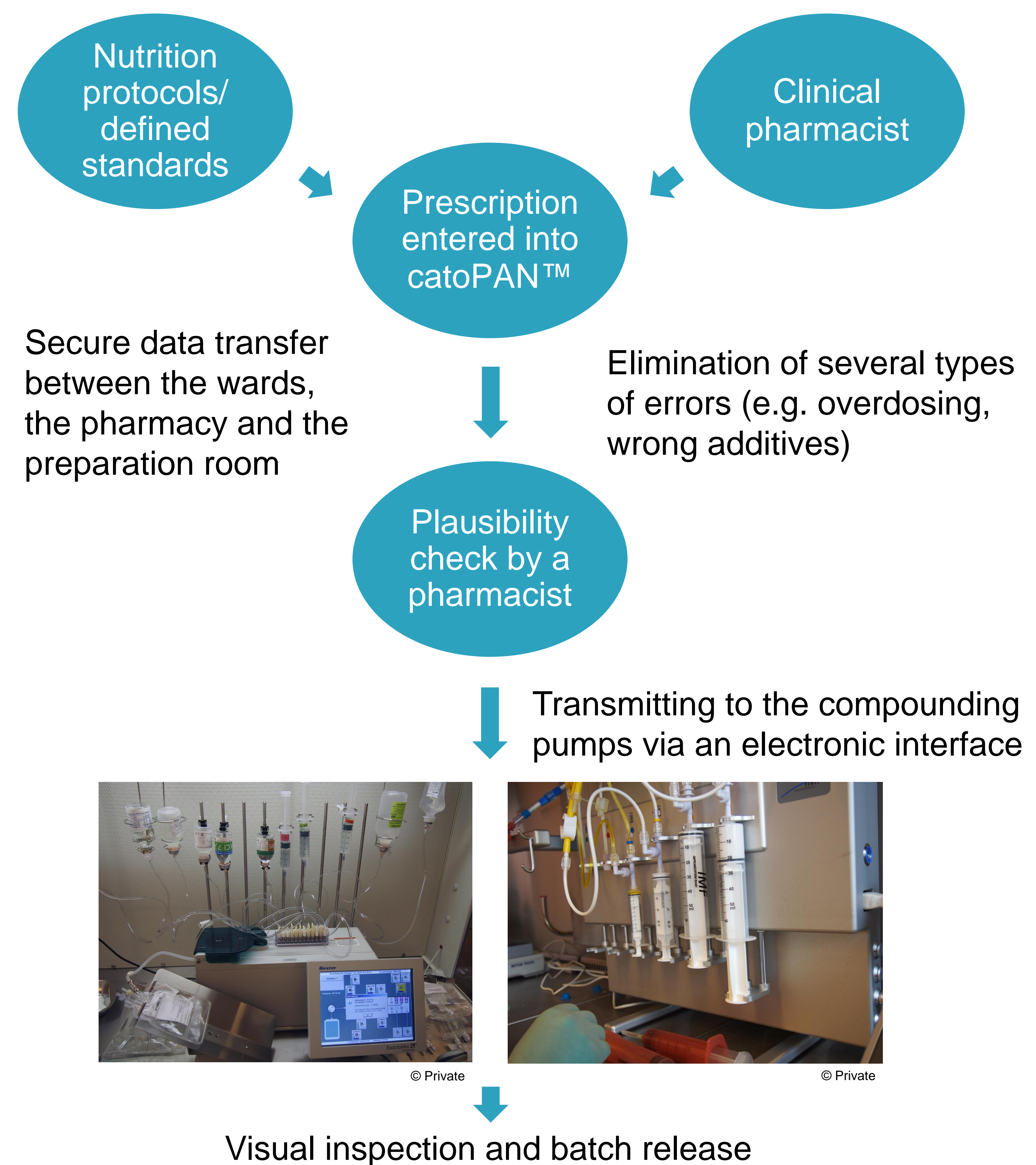


Figure 2: Process of our TPN production

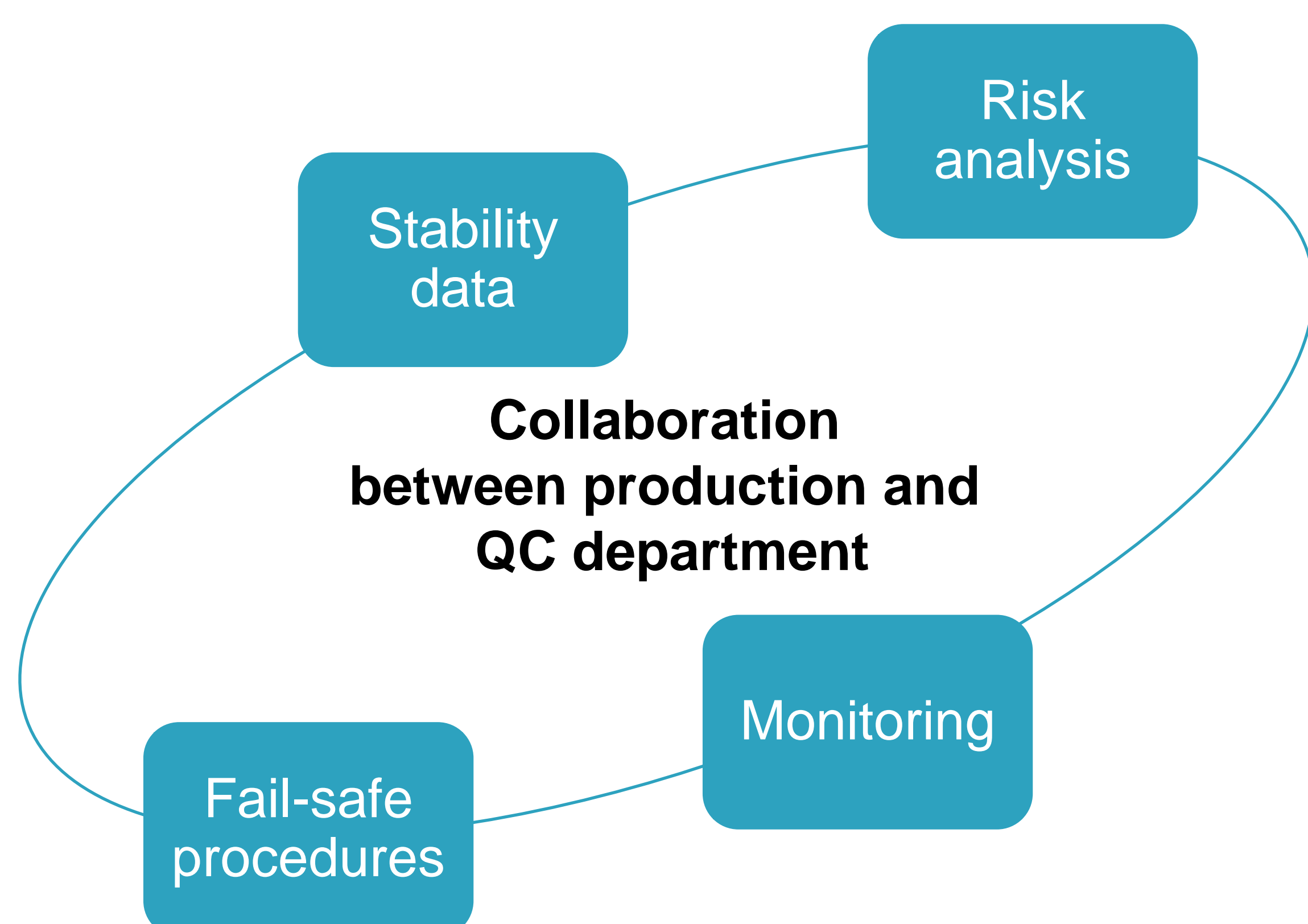


Figure 1: Validation process

We provide nutrition bags for four wards (18 ICU- and 24 intermediate care beds), equaling an average production of 50 bags per day.

Infobox 1

Year	Produced bags	Increase compared to previous year
2015	6357	+ 5 %
2016	11126	+ 75 %*
2017	14398	+ 29 %

* Compounding of lipid infusions
Table 1: Production data

4. Achievements

(Infobox 1, Table 1)

- Compounding of individualized nutrition solutions within defined standards, predetermined specifications and quality attributes
- The production process is continuously monitored, including complete traceability
- A strong **interprofessional collaboration** between physicians ↔ nurses ↔ pharmacists
- A **high level of confidence** among all members

5. What is next?

- Expansion of TPN compounding to further pediatric wards / development of new nutrition protocols addressing other requirements
- Further support by pharmacy-based IV admixture service