CENTRALISED NON-HAZARDOUS INTRAVENOUS COMPOUNDING: FROM THEORY TO CLINICAL PRACTICE

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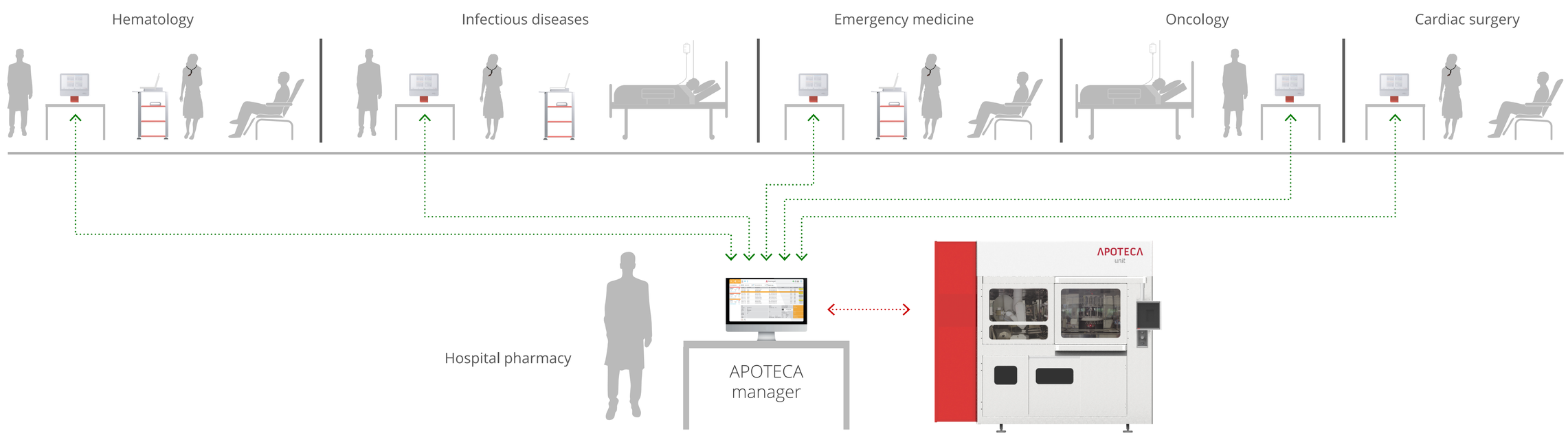
Background and purpose

After a preliminary study demonstrated its feasibility, a new **Central IntraVenous Additive Service (CIVAS)** opened in April 2016 dedicated to the compounding of non-toxic injectable drugs (IV) in a new class-C cleanroom equipped with a robotic system. The following months were dedicated to develop and improve the CIVAS pilot project, increasing the number of hospital departments involved and enlarging the IV productivity.

This study presents the preliminary results of the pilot CIVAS project in term of the improvement in the hospital workflow of the pilot departments.

Material and methods

We have examined 4-months activity involving **5 pilot hospital departments**. All data have been collected and elaborated trough the APOTECAmanager software that manages the entire IV production workflow of the hospital pharmacy.



Results

Seven drugs with chemical stability greater than 48 hours and prescribed in standard doses were selected for the pilot study.

The preparations identified in each unit were:

Infectious diseases	Piperacillina-tazoobactan	4.5 g	15 prep/day
	Ceftriaxone	1 g	6 prep/day
Hematology	Palonosetron	250 microg	14 prep/day
	Ondansetron	8 mg	6 prep/day
	Zoledronic Acid	4 mg	5 prep/week
Oncology	Ondansetron	8 mg	6 prep/day
	Denosumab	120 mg	5 prep/week
Cardiac surgery	Cefazolin	1 g	25 prep/day
Emergency medicine	Piperacillina-tazoobactan	4.5 g	7 prep/day

The automated compounding was performed in advance, based on a daily consumption estimate for each unit. Therapies were stored inside the refrigerator overnight. The day after, once the prescription was confirmed, preparations were packed and delivered to the corresponding unit. Average time per preparation is 2minutes 30seconds and dosage accuracy is 98,5%. Any preparation in excess remains in the refrigerator to be used later as drug stability permits. No wasted products were registered.

Conclusion

The pilot results shows the desired outcomes of time saving and drug waste reduction. The remaining challenge now is not so much the technology adoption as the organizational aspect in terms of production planning and logistics. Future plans include continuing to enlarge the number of drugs prepared and departments utilizing this service, demonstrating the benefits of this technology innovation more broadly hospital-wide.

References and/or Acknowledgements
[1] S. Leoni et al., 2016. Centralized IV compounding: a pre-feasibility study on clinical practice. Eur J Hosp Phar, 2016; 23

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