from the first two categories) and experienced stress at workplace (reduced).

Conclusion and relevance Telepharmacy may allow hospital pharmacists of smaller hospitals learn and benefit from experienced colleagues. Following these results, a broader plan for hospital telepharmacy should be designed and supported by national authorities.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-183 SELECTION OF A POPULATION PHARMACOKINETIC MODEL OF ADALIMUMAB IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE SUITABLE FOR THERAPEUTIC DRUG MONITORING

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Background and importance Adalimumab is an anti-TNF α monoclonal antibody used in inflammatory bowel disease (IBD). Its efficacy can benefit from therapeutic drug monitoring (TDM). However, because there are several population pharmacokinetic models (PopPK) published, it is necessary to perform an evaluation of these models in the target population before being used in clinical practice.

Aim and objectives To evaluate the predictive performance and adequacy of four PopPK of adalimumab in adult patients diagnosed with IBD, using TDM in a clinical setting.

Material and methods A retrospective observational study (2014–2018) was conducted. Inclusion criteria were adult patients with IBD treated with adalimumab, with at least one trough concentration (TC). Four different PopPK were evaluated: Mod-A (FDA-2007), Mod-B Ternant-2015, Mod-C Sharma-2015 and Mod-D Berends-2018. The models were implemented in NONMEM V7.3.

The individual and population predictions of TCs were estimated from the four PopPK models. Two datasets were created; DATASET-1 was used to evaluate the model adequacy, all patients and TCs were included, and their population predictions were compared with the observed TCs; DATASET-2

was used to assess the predictive performance and only patients with two or more TCs were included. Only the first TC of these patients was used to estimate the Bayesian estimates, and the individual predictions were compared with observed TCs.

To validate these models, bias and precision of estimated concentrations were calculated as the mean predictive error and the mean square predictive error in the population, respectively.

Results A total of 171 patients with 245 TCs in DATASET-1 and 55 patients with 74 TCs in DATASET-2 were included; 5.85% of patients in DATASET-1 and 3.64% in DATASET-2 developed anti-adalimumab antibodies.

Conclusion and relevance Mod-B performed better both in the evaluation of adequacy (DATASET-1) and for predictive performance (DATASET-2). All four models overestimated TC although Mod-B had better bias and precision (ie, closer to zero). Implementation of this PopPK in clinical practice should be done with caution.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-184 EVALUATION OF A CLINICAL PHARMACY SERVICE ON AN INPATIENT WARD IN AN ACUTE HOSPITAL

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Background and importance Intensive clinical pharmacy input from admission to discharge has been shown to improve patient outcomes. The clinical pharmacy service in our institution has historically been under-resourced.

Aim and objectives The study aim was to develop a ward based clinical pharmacy service and to evaluate its impact using a number of clinical, safety and financial metrics.

Material and methods A clinical pharmacist was assigned to provide pharmaceutical care to patients on a medicine for the older person ward. Over an 8 week period, the pharmacist prospectively recorded her interventions/activities. To assess impact on patient care, interventions were graded according to the Eadon criteria. The potential cost avoidance associated with interventions was estimated using two methods identified in the literature. Both define costs related to medication errors and calculate cost avoidance associated with clinical interventions based on prevention of harm. Medication incident reporting was analysed to assess the impact on patient safety.

Results

- Eighty-four patients received a pharmacist review. Across a spectrum of activities, a total of 267 pharmacist interventions were recorded: 87% of patients had at least one pharmacist intervention.
- A total of 90% of interventions requiring follow-up with the medical team were accepted and resulted in a change to patient care.
- Eadon grading of interventions deemed that 81% of interventions improved the standard of patient care.
- Two different methods were used to estimate potential cost avoidance: one estimated annual savings of € 154 103–€ 344 926; the other estimated these at € 174 373. Given current pharmacist salary costs, this equates to a cost-benefit ratio of

Abstract 4CPS-183 Table 1

	DATASET-1		DATASET-2	
	Bias (95% CI)	Precision (95% CI)	Bias (95% CI)	Precision (95% CI)
Mod-A	−5.26 (−5.95; −4.57)	7.61 (6.8; 8.42)	−0.906 (−1.99; 0.175)	4.80 (2.97; 6.63)
Mod-B	−2.88 (−3.47; −2.29)	5.52 (4.88; 6.16)	−0.666 (−1.71; 0.376)	4.59 (2.83; 6.35)
Mod-C	−3.71 (−4.34; −3.01)	6.26 (5.52; 7.00)	−2.84 (−3.95; −1.72)	5.63 (4.22; 7.04)
Mod-D	−3.06 (−3.66; −2.46)	5.67 (4.92; 6.41)	−1.77 (−2.89; −0.643)	5.20 (3.56; 6.85)