2.8:1 to 6.3:1. (This does not include the 27% reduction in drug spend observed during the study period. However, more longitudinal data are required to confirm and characterise this phenomenon.)

- In the third quarter of 2018, 21 medication incidents were reported from the study ward compared with an average of 4 incident reports from the first and second quarters of 2018. This represents a fivefold increase in medication incident reporting, suggestive of an enhanced culture of patient safety.

Conclusion and relevance This study assessed and quantified a wide spectrum of pharmacist contributions to medication management and safety. Costing of these contributions estimated the cost-benefit ratio of the clinical pharmacy service, providing compelling support for the extension of this service throughout the hospital.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-185 ADMINISTRATION OF ORAL ANTICANCER DRUGS FOR PATIENTS WITH SWALLOWING DIFFICULTIES

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Background and importance Administration of oral anticancer drugs (OAD) can be problematic in patients with swallowing difficulties. The inability to swallow solid dosage forms can compromise compliance and may lead to poor clinical outcome, representing a challenge for pharmacists.

Aim and objectives To identify alternative administration options for OAD in patients with swallowing difficulties.

Material and methods We conducted a systematic review with paired reviewers. All OAD used in our hospital were included. Our search was made in the following databases: Micromedex, Drug Information Handbook of Oncology and Medline. We also searched in every summary of product characteristics (SPC) and consulted with each laboratory when no information was obtained.

Results Sixty-three active substances were included in the systematic review, 40 were formulated as tablets. In 13 drugs there was information in the drug information document about alternative ways of administration. Information on alternatives in administration was found for 46/63 drugs: 15/46 had a galenic formulation (alectinib/busulfan/cyclophosphamide/erlotinib/etoposide/hydroxycarbamide/imatinib/lapatinib/methotrexate/mitotane/pomalidomide/thalidomide/tetrastine/tioguanine/topotecan); 5/46 had commercially available oral preparations (dabrafenib/dasatinib/eltrombopag/temozolomide/trametinib); 1/46 had both galenic and commercial preparations (mercaptopurine); and 25/46 had an alternative method of manipulation (see table 1) following recommendations for manipulation of hazardous drugs (NIOSH, group 1) and providing the necessary material from the pharmacy service.

Any alternative was found in 17/63 due to: lack of information (10/17), pharmacokinetics/physicochemical parameters (4/17) and high risk of manipulation (3/17). Unified OAD recommendations (repeat the process twice to ensure the entire drug).

Conclusion and relevance For most OADs, official information (SPC/laboratory) regarding swallowing difficulties is not

Abstract 4CPS-185 Table 1

Drug	Method proposed	Oral liquid vehicle	Process time (min)
Afatinib			
Capecitabine			
Ceritinib			
Chlorambucil			
Osimertinib			
Procarbazine			
Ruxolitinib		Water	15
Vandetanib			
Venetoclax			
Palbociclib	Disperse	Hot water	5
Vismodegib		Semisolid food	
Lomustine			
Nilotinib		Apple sauce	2
Axitinib			
Everolimus			
Gefitinib			
Ibrutinib		Water	
Melphalan			
Sorafenib*	Dissolve		10–15
Vemurafenib*	(*previously crushed)		
Crizotinib		Hot water	10 (+15 min cold water)
Lenalidomide			15
Imatinib		Apple juice/water	15
Lenvatinib			10
Sunitinib		Apple sauce	2

available. Therefore, this type of systematic review can be useful for pharmacists to provide an alternative which is equally safe and effective for the patient.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-186 DESCRIPTION OF PHARMACEUTICAL INTERVENTIONS IN AN INTENSIVE CARE UNIT

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Background and importance Several associations of scientists and clinical pharmacists have developed the specialty of critical care pharmacists, among them the American College of Clinical Pharmacy, the American Society of Health System Pharmacist and the Operating Room Satellite Pharmacy Association. Patient safety and clinical outcomes are enhanced when clinical pharmacists participate proactively as a member of the multidisciplinary intensive care unit (ICU) team.

Aim and objectives To describe the pharmaceutical interventions (PIs) carried out by a resident pharmacist and its acceptance in a tertiary referral hospital.

Material and methods A prospective and descriptive study was carried out in an ICU of 30 beds in a tertiary referral hospital for 2 months, from July to August 2019. Pharmacist interventions, both proactive recommendations and resolution of question by the rest of the care team, were considered. Variables included were number of ICU admissions, number of PIs,