My day with Oncology Pharmacy - Switzerland

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1. Introduction

Pharmacists from 16 hospitals answered the 17 questions, 6 of them are university hospitals. Their answers represent the actual situation in Switzerland. At the moment pharmacists covering the oncological production have no additional activities on the ward. They have to invest nearly their full working capacity into the manufacturing and logistical process of cytostatics. Patients care is mainly covered by special clinical pharmacists.

2. Material and method

The survey with 17 questions was translated into different languages and performed nationally using a web based application.
Up to 12 questions covered the following fields:

Manufacturing patient specific infusions, Number of produced medications per day, Validation of prescription from physicians, Form of prescription (electronically or paper based by email, fax, telephone call…,) Release of produced medications Pass on materials into work space, Usage of the ESOP database for oral drugs Patient consultation in medical properties, side effects and setting up medication schedules invested working hours in oncological activities

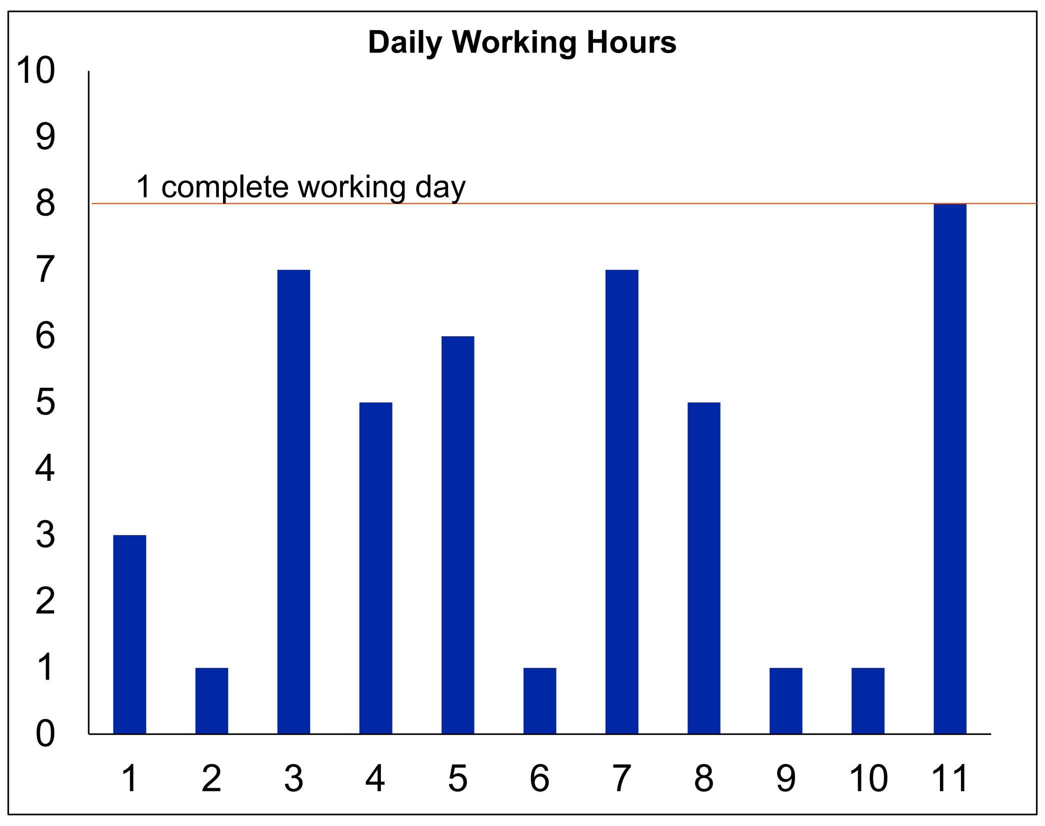

Fig.1: Daily average working hours of pharmacists from different hospitals in oncology

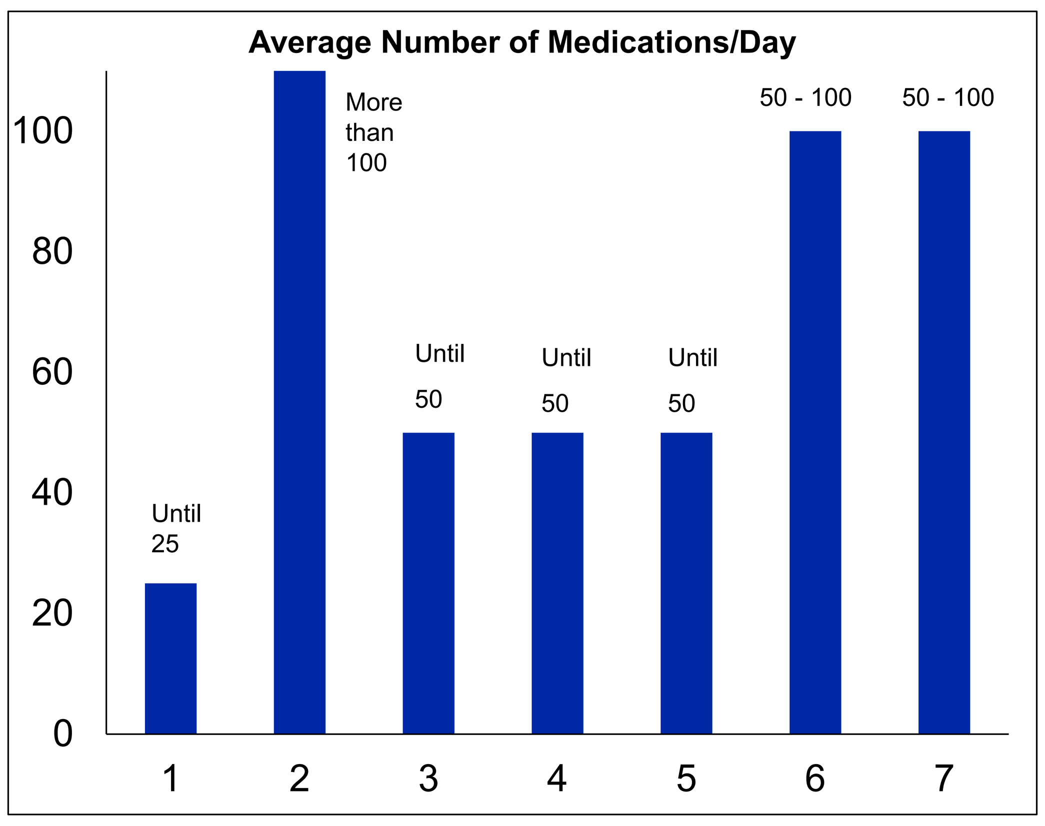

Fig.2: Average Numbe of Medications per Day

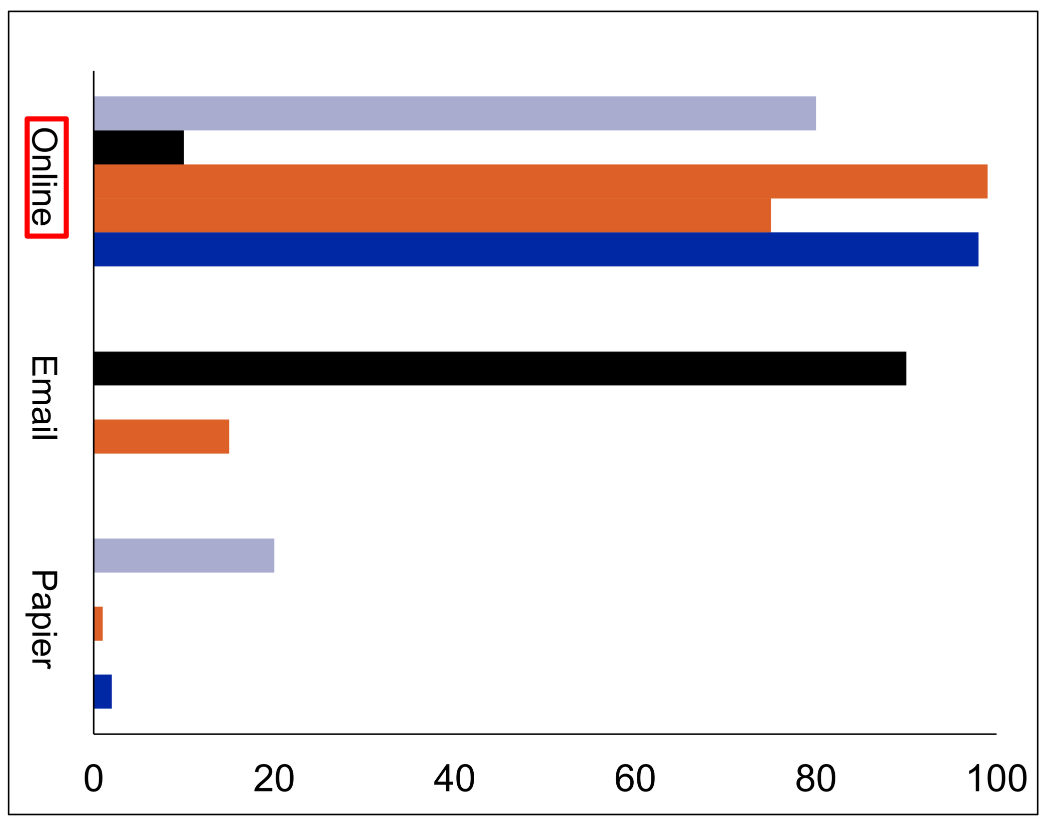

Fig.3: Percentage of communication channel of prescriptions

3. Results and discussion

1. **Working Conditions**
   All hospitals manufacture oncologic drugs mainly by gravimetric procedure. The prescptions are validated by pharmacists. All produced medications will be released by pharmacists.
   Pass on of materials into the working area by additional stuff is used by 3 hospitals to enhance capacity. 6 pharmacists spending 5 and more daily hours for oncologics. Only one pharmacist has direct contact to the patient.
2. **Number of produced i.v. medications**
   1 hospital can handle more than daily 100 medications, 2 hospital have a daily production capacity between 50 and 100, 3 produce up to 50 and 1 until 25
3. **Form of prescription**
   1 hospitals get mainly paper based prescriptons, 6 receive electronic orders. This increases patient safety significantly as the electronic system checks the whole procedure, generates alert in case of overdosing and records the whole flow in an audit-trail. All therapy schemes as templates for medical treatment are created and approved by physicians, pharmacists and members of the care unit. Through this prescribing errors can be reduced[1,2]. The hospitals in Switzerland mainly base on a common marketed software making the exchange of master data possible.
4. **Oral Medications**
   Oral medications are mainly ordered directly from the manufacturer
5. **Patient Information**
   4 hospitals are informing the patients about side effects of drugs mainly based on SmPc, 9 hospitals are sending no informations.

Fig.4: Release of medication (Check of used components, visual check for particles, check of manufacturing process and volume)

Fig.5: Gravimetric manufacturing with validated workflow-management system.
User is guided by visualization. Important messages are directly presented on the monitor. In case of dosing errors the process can´t be concluded and printing of labels is blocked

Conclusion

To bring the production experts tighter to the ward, to enable dialogs with physicians and care unit and to avoid long transportation and waiting times for outpatients, more and more hospitals directly integrate the production module into the oncological outpatient unit. This will make it possible that oncological pharmacists can combine clinical and manufacturing aspects of the therapy and inform the patients directly about medication. They also need special EUSOP training. Using electronic systems with clearly defined work-flows can help preventing dosage and prescribing errors and enhance patient safety. Hospitals in Switzerland are well connected,exchange important therapy data within the network and develop common standards.

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References

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2. Advancing Science, Pharmacy Practice, and Health Outcomes, Volume 73 | February 1, 2016, Implementation and evaluation of a gravimetric i.v. workflow software system in an oncology ambulatory care pharmacy