

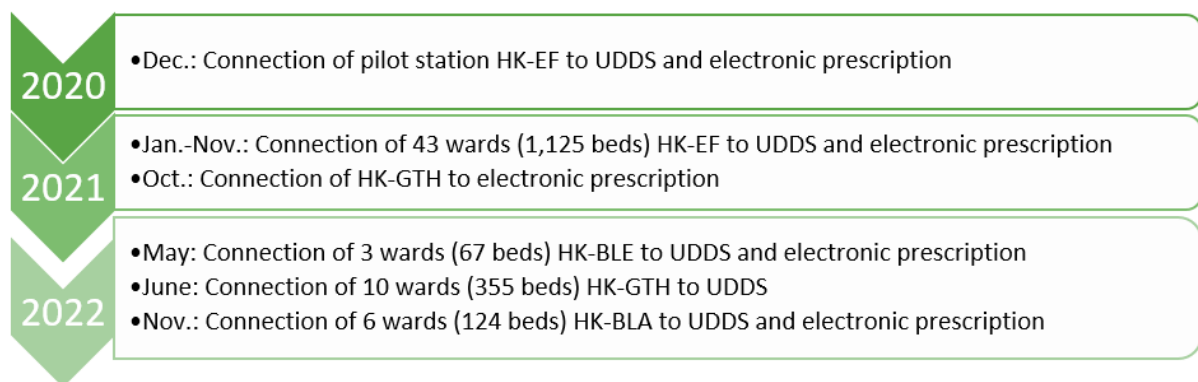
Introduction of unit-dose care in the 1,125 bed teaching hospital: Practical experience and time saving on wards

Supplementary file

Supplementary Figure 1 Rollout of UDDS and prescription software in the clinic group.

The rollout began in December 2020 with the connection of a pilot ward at the maximum care hospital in Erfurt (HK-EF). This was followed in 2021 by the connection of further wards in the maximum care provider and the introduction of the prescription software in the basic/regular care provider Gotha (HK-GTH). In 2022, it was possible to introduce the UDDS in May, first in the orthopaedic special clinic Bleicherode (HK-BLE) at the same time as the electronic prescription, followed in June by the introduction of UDDS in the basic/regular care provider Gotha and finally in November by the parallel introduction of unit-dose and the prescription software in the basic/regular care provider Blankenhain (HK-BLA).

UDDS = unit dose dispensing system



Time required to dispense medication on the ward

Survey form

The survey is anonymous and voluntary. Please do not enter any names!

Contact details for questions:
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Ward: _____

Date: _____

Number of patients on the ward at night: _____

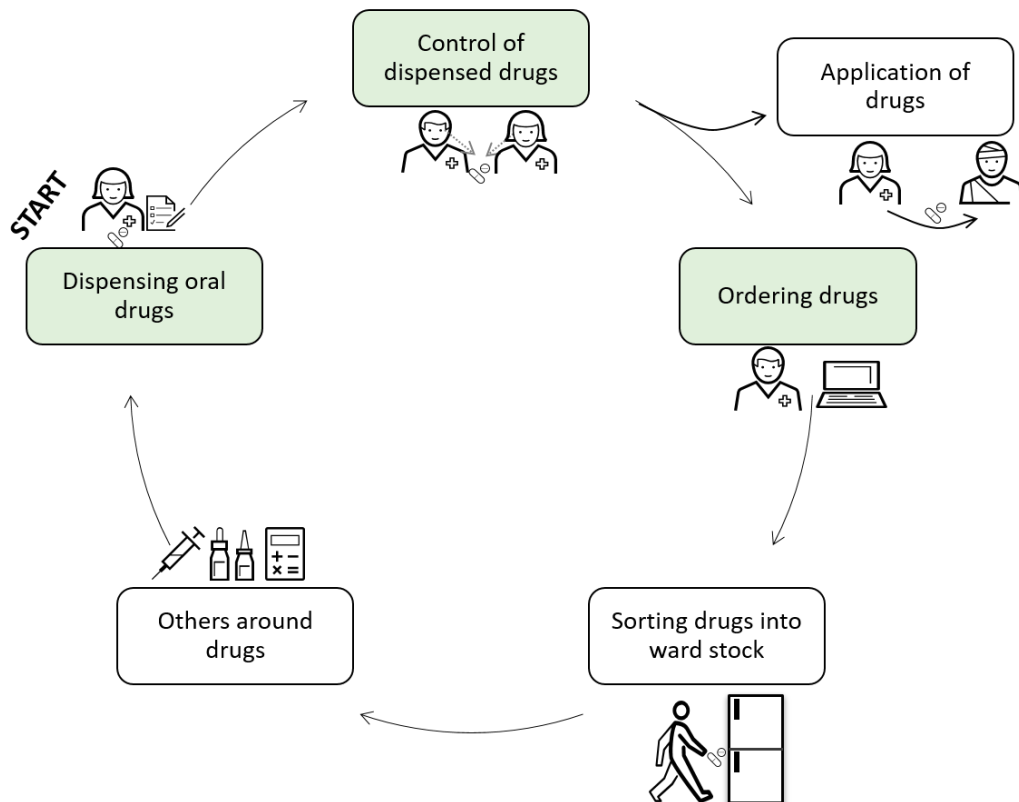
Please enter each employee once per shift	Current number of patients on the ward	Which shift are you currently working? Please tick the appropriate box	Ordering drugs		Sorting drugs into ward stock		Dispensing oral drugs		Control of dispensed drugs		Others around drugs	
			For example - Stock control of medicines on the ward - Reordering used medicines - Ordering missing medicines - Ordering of medicines used in the future	For example - Acceptance of the delivery - Checking the delivery (comparison with order) - Sorting into the cabinet	Capsules, tablets, coated tablets	For example - Gathering the required medicines - Fetching missing medicines from other wards - Looking up information (divisibility) - Dispensing medicines in dosettes	For example - Reconciliation of dispensed medications with prescribed medications - Correction of dispensing errors - Correction of medication changes since prescription and dispensing	Please name the activity and enter the minute value.				
Employee x (example)	10 patients (example)	Early shift Evening shift Night shift	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)	00:00 minutes (example)
Employee 1												
Employee 2												

Supplementary Figure 3 Medication-related process steps on the ward.

In traditional care, the process begins with the dispensing of drugs by the nurse for the patient. The medication is checked by a second nurse according to the principle of dual control and then handed over or given to the patient. For the nursing staff, the process then continues with ordering the medication from the pharmacy and sorting the drugs delivered by the pharmacy into the ward stock. "Other around drugs" includes, among other things, the dispensing and administration of on-demand medication in all dosage forms, the handling of anaesthetics as well as processes regarding liquid and semi-solid medicines.

A direct influence of UDDS on individual sub-steps of the process can be assumed (fields highlighted in green).

UDDS = unit dose dispensing system



Supplementary Table 1 Survey on satisfaction with the UDDS introduction and the respective response frequencies in absolute and relative numbers

Question	Number of responses	Agree whole-heartedly	Agree rather	Agree rather less	Do not agree at all	No answer
Dispensing drugs on the ward is an essential activity of my job.	86	50 (58%)	25 (29%)	10 (12%)	1 (1%)	0 (0%)
Do you have any fears of a loss of competence if the dispensing of drugs is outsourced through UDDS?	82	8 (10%)	14 (17%)	29 (35%)	31 (38%)	0 (0%)
UDDS represents a time relief for the nursing staff.	86	7 (8%)	13 (15%)	31 (36%)	35 (41%)	0 (0%)
The times of delivery of UDDS agreed with the pharmacy fit well into our processes.	84	19 (23%)	32 (38%)	19 (23%)	14 (17%)	0 (0%)
The amount of rework due to drug changes in the course of the ward's daily routine is quite reasonable and comprehensible for us.	86	9 (10%)	29 (34%)	31 (36%)	17 (20%)	0 (0%)
The stock of solid dosage forms is reduced on the ward due to UDDS.	85	17 (20%)	43 (51%)	20 (24%)	5 (6%)	0 (0%)

UDDS = unit dose dispensing system

Supplementary Table 2 Number of days filled in according to time of recording and number of wards surveyed

	HK-EF		
	t ₀	t ₁	t ₂
Ordering drugs	70	39	54
Sorting drugs into ward stock	67	19	27
Dispensing oral solid drugs	136	71	117
Control of dispensed drugs	90	64	99
Total time	140	75	121
	Wards supplied	Wards supplied	[%]
Wards	15	43	35

t₀ = before UDDS; t₁ = 4 weeks with UDDS; t₂ = from 6 months with UDDS; * = time survey not carried out at this time.

HK-EF = teaching hospital Helios Klinikum Erfurt; UDDS = unit dose dispensing system