Govern
de les Illes Balears
Hospital Mateu Orfila

Assessment of automated drug dispensing system performance indicators

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Objectives

Hospital Mateu Orfila has approximately 140 beds. Since 2007 it has operated an automated drug dispensing system (Pyxis®) comprising nine units, five of them linked to the electronic prescribing system (EP). The purpose of this work is to assess performance indicators of the automated drug dispensing system (ADS) that can be used to monitor the effectiveness of processes within the hospital quality system.

Methods

We defined four performance indicators and analysed data from 2011 using the Web Reporting software supplied with ADS, and compared them with the 2008 results. Data were collected from the five EP-linked units.

1. **Non-prescribed dispensing (NPD):** percentage of drugs dispensed with no prescription assigned. It reflects physicians' prescription mistakes, wards dispensing mistakes, or technical problems with EP and EP-ADS interface.

2. **Assigned Patient (AP):** NPD with assigned patient. This indicator informs us about proper use, mainly in non EP-linked ADS units.

3. **Fictional Patient (FP):** NPD assigned to the fictional patient every unit has. This indicator reports us about technical problems with the hospital patient census and with the EP. It can also inform us of misuse of the ADS.

4. **Discrepancies (DR):** stock discrepancies as a percentage of global ADS transactions. It's related to wards dispensing mistakes or pharmacy supply mistakes.

Results

	2008		2011		
	N	**%**	**N**	**%**	**PPV**
Drugs dispensed	198.946		208.957		
NPD	28.758	14,5%	25.820	12,4%	-2,1
AP	20.158	10,1%	16.311	7,8%	-2,3
FP	8.600	4,3%	9.509	4,6%	+0,3
DR	6.637	3,3%	6.250	3,0%	-0,3

PPV: percentage point variation

Conclusions

▪ ADS performance indicators have shown effectiveness in monitoring the processes.

▪ Between 2008 and 2011 we have improved in NPD, AP and DR results, but we have to work with factors that increased FP.

▪ We have found differences between some ADS units so a need for additional training in some wards has been revealed.