

Table 3: Effect of interventions on interruption rates overall reported by studies using direct observation

Outcome	Interventions	Pre-intervention		Time from intervention to post measurement	Post-intervention		Statistical test and significance of pre/post change
		No. of administered medication doses observed	Pre intervention rate		No. of administered medication doses observed	Post intervention rate	
<i>Mean No. of interruptions per medication administration (ie all medications administered to a single patient at that time)</i>							
Freeman (2012)[32]	Education, signs, vests, quiet zone, diversion strategies, process strategies	-	3.29	1 month	-	1.18	-
<i>Mean No. of interruptions per medication dose administered (ie one dose administered to a single patient)</i>							
Tomietto (2012)[38]*	Education, vests, medication location	945	0.32	18 months	895	0.43	Student's t-test: p=0.041
Anthony (2010)[26]*	Education, quiet zone	218	0.32	1 week	179	0.18	2-tailed independent t-test: p=0.03
Kliger (2012)[34]*	Multiple interventions of which only some targeted interruptions	2,331	0.34	Immediately post	2,016	0.10	2-sample t-test: p<0.01
				12 months	2,223	0.09	2-sample t-test: p<0.01

Nguyen (2010)[36]*	Education, signs, diversion strategies	100	0.19	6 months	100	0.01	-
				12 months	100	0.01	-
Kliger (2009)[33]*	Multiple interventions of which only some targeted interruptions	604	0.40	6 months	623	0.23	-
				18 months	614	0.16	
Median No. of unnecessary[†] interruptions per medication administration (ie all medications administered to a single patient at that time)							
Conrad (2010)[31]	Education, signs, medication location, diversion strategies	-	4	Not given	-	1	-
Mean No. of interruptions & distractions per medication round hour (A medication round was defined as the administration of all medications to all patients at a scheduled time.)							
Relihan (2010)[37]	Education, signs, vests, checklist	-	26.0	1 month	-	11.4	Poisson regression: p<0.001
Mean No. of distractions per medication administration round							
Pape (2003) [‡] [22]	Control	60.5					
	Diversion strategies	22.5					Tukey's HSD test (vs. control):

			p=0.014
	Vests, checklist, diversion strategies	8.0	Tukey's HSD test (vs. control): p=0.000

* Authors' calculation from data reported by study.

† Necessary interruptions were defined as "those interruptions that added value to patient care, customer service, or nurse satisfaction, and could not wait until after medications were administered".[31]

‡ This study was a quasi-experimental three group design comparing outcome in control group and two different intervention groups.