

QIP: AMU PATIENT LIST GENERATION. FROM JUNIOR SCRIBE TO JUNIOR DOCTOR

BACKGROUND

- Unlike other electronic health record systems, Cerner Millennium's Unity/Powerchart (used at SWBH) does not generate automatic 'To be clerked' lists for accepted medical referrals, 'To be reviewed by medical consultant' lists for post-take ward round (PTWR), or automatic lists for post-post-take ward round (PPTWR).
- The high turnover of patients in the acute medical unit (AMU) necessitates the nightly creation of a patient list by the on-call junior. The patient list should state which patients are for Clerk/PTWR/PPTWR/WR, alongside hospital number, location, and an empty column for notes.
- We had conducted a retrospective pilot study which found junior **doctors were spending ~1 hour per night on manual list creation** [Table 1]. This finding is consistent with a QIP conducted in Royal Devon and Exeter Hospital which found that doctors were spending hours on surgical list creation¹.
- The pilot study ensured that the pre- and post- intervention PDSA cycles were sufficiently powered, at 80%, for the weekday outcomes.
- The pilot study also identified a significant difference ($p=0.0209$) in the time taken to generate the list between weekdays and weekends. During weekdays, only patients on AMU need listing. For weekends, this list must include 'outliers' (patients who have been transferred from AMU to other wards where there is no resident weekend team, and so, who may not be seen). Therefore, weekday and weekend data was segregated for analysis.

OUTCOMES

1. Time taken to generate list.
2. Attitudes towards list generation.



METHODS

PDSA CYCLE 1 (01/10/21 – 12/11/21)

PRE-INTERVENTION STUDY:

Prospective data on weekday and weekend list generation collected from doctors via Google Forms. Automated list generator produced via Visual Basic for Applications (VBA) on Excel. Uses length of stay to assign patients for clerk/PTWR/PPTWR/WR.

PDSA CYCLE 2 (01/01/22 – 20/06/22)

POST-INTERVENTION WEEKDAYS:

Dissemination via nightly texts to doctors and via Google Drive (containing generator & demo video) hyperlinked to the AMU intranet.

PDSA CYCLE 3 (01/01/22 – 17/07/22)

POST-INTERVENTION WEEKENDS:

Presented at AMU QIHD across Sandwell and City Hospitals. Advertised to juniors at both sites via WhatsApp and the e-newsletter.

PDSA CYCLE 4 (ongoing) INTRODUCTION TO BIRMINGHAM CITY HOSPITAL...

Data collection ongoing.

RESULTS

N	WEEKDAYS		WEEKDAYS		WEEKENDS	
	PILOT	PILOT	PRE	POST	PRE	POST
Mean in minutes 3 s.f. (\pm SD)	53.3 (25.0)	90.0 (21.2)	66.8 (26.0)	22.5 (22.6)	90.0 (39.8)	60.3 (37.8)
95% CI for T distribution (3 s.f.)	26.3	22.3	11.5	11.2	49.5	21.8

Table 1. Average time taken to produce the AMU patient list per night shift before (pre-) and after (post-) the automated list generator.

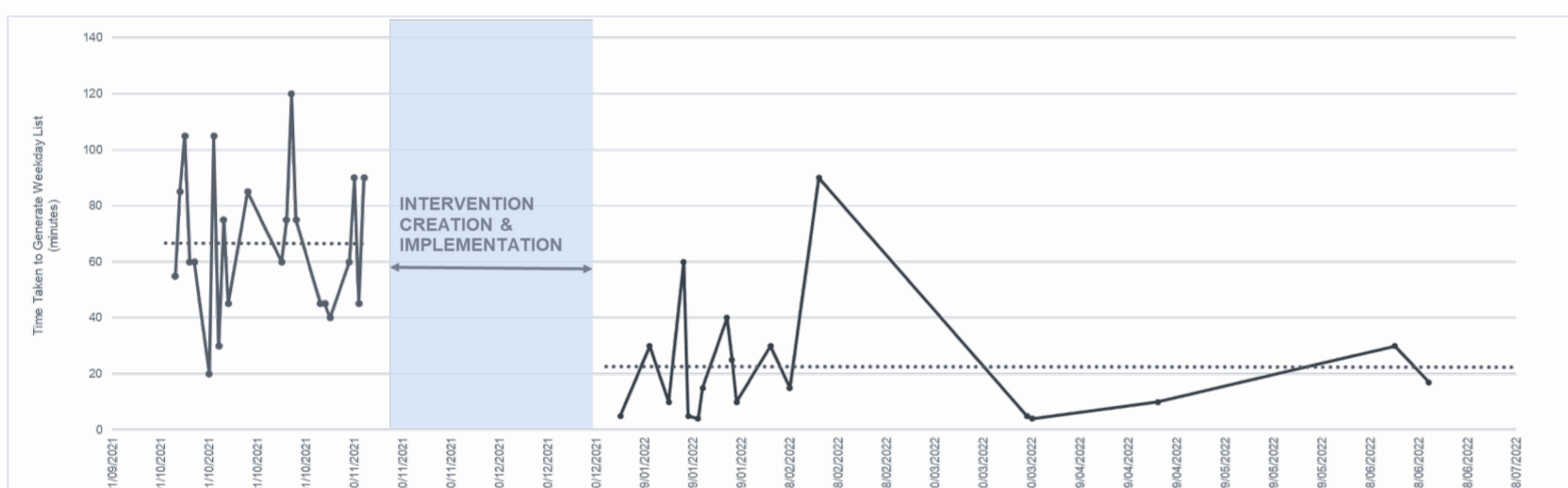


Figure 1. Line graphs showing time taken to generate the patient list as recorded during the night shift.

- Top – weekday night shifts;
- Bottom – weekend night shifts; (outliers encircled)

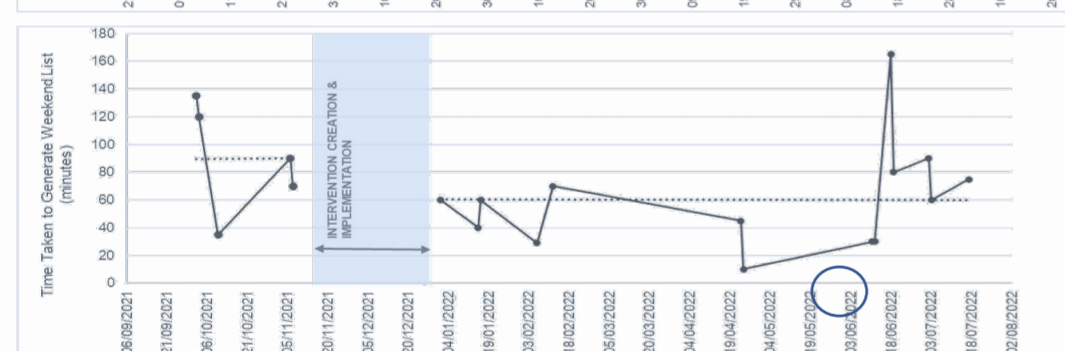


Figure 2. 100% stacked bar charts showing the attitude profile of doctors before and after the intervention. Doctors were asked to select three items which best describe their attitudes towards list generation (figures on the bars represent the frequency of selection).



CONCLUSION

The introduction of an automated patient list generator at SWBH has **significantly reduced the time taken** for list generation and **significantly improved the attitudes** of doctors. The intervention reduced the time taken to generate the list by an average of 44.3 minutes (66.3%) during weekdays ($p<0.00001$), and an average of 37.8 minutes (42%) during weekends after exclusion of the circled outlier ($p=0.0116$). Both weekdays (63% decrease, $p<0.00001$) and weekends (49.7% decrease, $p=0.0009$) had highly significant reductions in total negative attitudes. This QIP shows how the **automation of labour-intensive admin tasks** can increase the time available for doctors to provide patient care. The generator also has time-saving potential for the coming MMUH merger.

References

1. Khan H, Flesher E, Marshman J, et al (2020). 'I've got a little list'—the scourge of a surgical junior. A quality improvement project to change the surgical patient list in a district general hospital. *BMJ Open Quality*. 9:e000829.
2. Keasberry J, Scott IA, et al (2017). Going digital: a narrative overview of the clinical and organisational impacts of eHealth technologies in hospital practice. *Australian Health Review*. 41(6), pp. 646-664