A Collaborative approach in utilising existing NHS digital systems in novel ways to improve timely administration of Parkinson's Medication in hospital.

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Across the UK, people with Parkinson's are not getting their medication on time within our hospitals, leading to extended hospital stays and adverse effects. The 2022 Parkinson's UK audit found that: "only 42% of those admitted to hospital always got their Parkinson's medication at the right time. People with Parkinson's face 28,860 excess bed days in hospital every year in England alone – this costs the NHS £10m a year." NHS Ayrshire and Arran (NHSAA) has had an ongoing project for some 10 years, leading to improvement in timely administration of Parkinson's medications from 41.27% in 2014 to 64.96% in 2023.

Collaboration between specialist nursing, pharmacy and digital services within NHSAA resulted in the development of several novel uses of existing digital clinical systems alongside delivery of targeted and varied staff education. Principal among the systems utilised in this work was the NHSAA Hospital Electronic Prescribing and Medicines Administration system (HEPMA) with its comprehensive records of inpatient prescribing and medicines administration. Throughout, the patient has remained at the heart of all of our developments, with the aim to improve their hospital experience, reduce adverse effects and optimise their Parkinson's control.

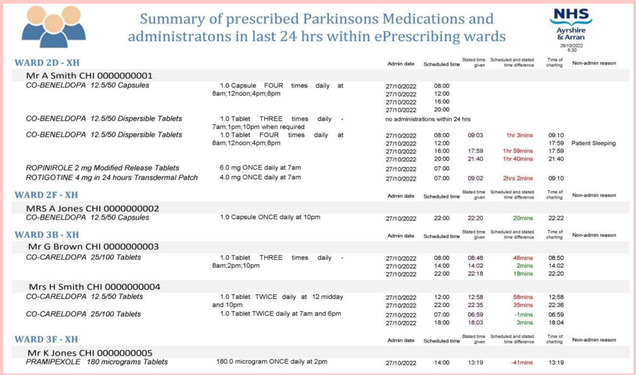
The work, over the course of several years can be split into 3 phases with the evolving capabilities of the teams and systems involved:

Phase 1: Audit (2015 onwards)

HEPMA administration records gave a detailed overview of the timeliness of administration of Parkinson's medicines to the specialist Parkinson's team. This enables the team to manage, monitor and audit Parkinson's patients' medications on a daily, weekly and monthly basis across all areas (including remote sites).

This information was used to effect timely and appropriate clinical interventions and delivery of targeted training of staff within poorly performing areas. A follow up evaluation of the impact of this training was carried out to see whether refresher training might be required.

Paula Hewat, Lead PD nurse NHSAA "The daily report has allowed for more collaborative communication between PD team and wards, to ensure better patient experience"



Summary of prescribed Parkinsons Medications and administratons in last 24 hrs within ePrescribing wards

NHS Ayrshire & Arran

3/8/2022 8:50

		Admin date	Scheduled time	Stated time given	Scheduled and stated time difference	Time of charting	Non-admin reason
WARD 2D - XH							
Mr A Smith CHI 0000000001							
CO-BENELDOPA 12.5/50 Capsules	1.0 Capsule FOUR times daily at 8am;12noon;4pm;8pm	27/10/2022	08:00				
		27/10/2022	12:00				
		27/10/2022	16:00				
		27/10/2022	20:00				
CO-BENELDOPA 12.5/50 Dispersible Tablets	1.0 Tablet THREE times daily - 7am;1pm;10pm when required	no administrations within 24 hrs					
CO-BENELDOPA 12.5/50 Dispersible Tablets	1.0 Tablet FOUR times daily at 8am;12noon;4pm;8pm	27/10/2022	08:00	09:03	1hr 3mins	09:10	
		27/10/2022	12:00			17:59	Patient Sleeping
		27/10/2022	16:00	17:59	1hr 59mins	17:59	
		27/10/2022	20:00	21:40	1hr 40mins	21:40	
ROPINIROLE 2 mg Modified Release Tablets	6.0 mg ONCE daily at 7am	27/10/2022	07:00				
ROTIGOTINE 4 mg in 24 hours Transdermal Patch	4.0 mg ONCE daily at 7am	27/10/2022	07:00	09:02	2hrs 2mins	09:10	
WARD 2F - XH		Admin date	Scheduled time	Stated time given	Scheduled and stated time difference	Time of charting	Non-admin reason
MRS A Jones CHI 0000000002							
CO-BENELDOPA 12.5/50 Capsules	1.0 Capsule ONCE daily at 10pm	27/10/2022	22:00	22:20	20mins	22:22	
WARD 3B - XH		Admin date	Scheduled time	Stated time given	Scheduled and stated time difference	Time of charting	Non-admin reason
Mr G Brown CHI 0000000003							
CO-CARELDOPA 25/100 Tablets	1.0 Tablet THREE times daily - 8am;2pm;10pm	27/10/2022	08:00	08:46	46mins	08:50	
		27/10/2022	14:00	14:02	2mins	14:02	
		27/10/2022	22:00	22:18	18mins	22:20	
Mrs H Smith CHI 0000000004							
CO-CARELDOPA 12.5/50 Tablets	1.0 Tablet TWICE daily at 12 midday and 10pm	27/10/2022	12:00	12:58	58mins	12:58	
		27/10/2022	22:00	22:35	35mins	22:36	
CO-CARELDOPA 25/100 Tablets	1.0 Tablet TWICE daily at 7am and 6pm	27/10/2022	07:00	06:59	-1mins	06:59	
		27/10/2022	18:00	18:03	3mins	18:04	
WARD 3F - XH		Admin date	Scheduled time	Stated time given	Scheduled and stated time difference	Time of charting	Non-admin reason
Mr K Jones CHI 0000000005							
PRAMIPEXOLE 180 micrograms Tablets	180.0 microgram ONCE daily at 2pm	27/10/2022	14:00	13:19	-41mins	13:19	

Phase 2: Real time alerting (2018 onwards)

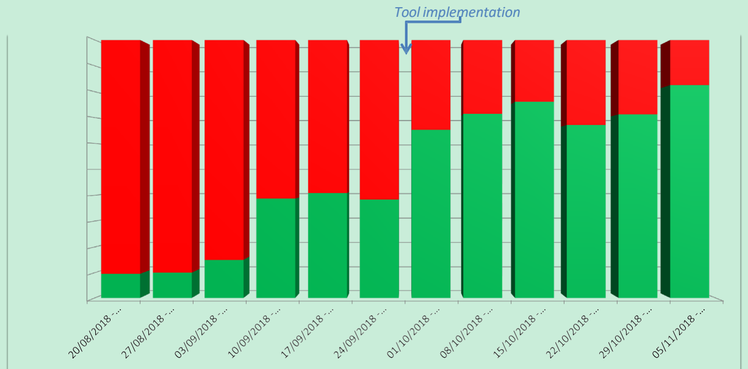
Following further work, the development of a link between NHSAA digital systems allowed for the creation of a tulip visual prompt next to the patients name on the ward electronic whiteboards. This provides nursing staff with dynamic prompts on when Parkinson's medicines are due for administration.

Introduction of real time visual prompts alongside existing surveillance and training showed a positive sustained impact on the timeliness of administration of Parkinson's medication.

Patient prescribed Parkinson's medication (not currently due for administration).

Patient due for administration of Parkinson's medication

Patient overdue for administration of Parkinson's medication



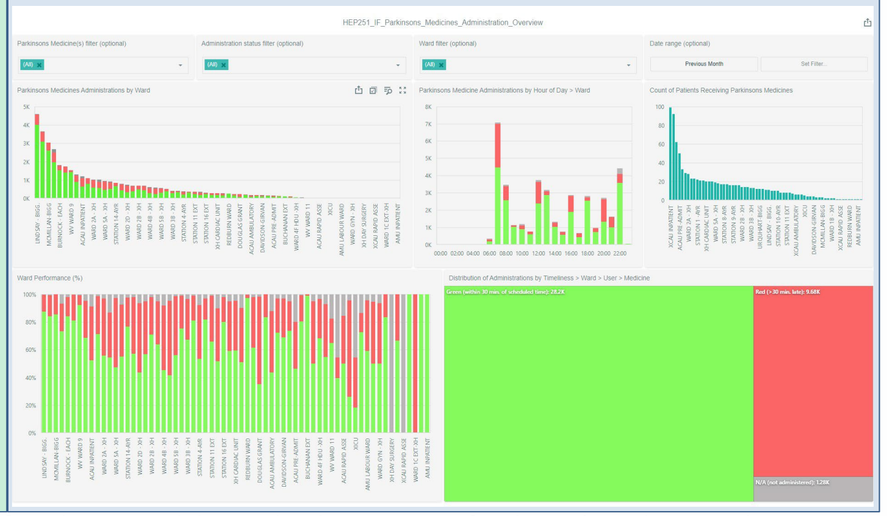
Proportion of Parkinson's medicines administered within 30 minutes of scheduled administration time (Green) versus early/late administration (Red)

Phase 3: Parkinson's medicines administration dashboard (2022 onwards)

Advances in local digital systems have opened up drug administration data to nursing management, allowing them to review their own performance.

Wider access to this information will empower nursing staff to take direct ownership and oversight of the administration of Parkinson's medicines.

The dashboard enables access to accurate audit data quickly in a way that has not been available before.



The intelligent use of digital systems and the data they hold, combined with targeted intervention and training of ward staff by specialist clinical staff has significantly improved the timely administration of Parkinson's medicines within NHS Ayrshire & Arran hospitals. Training is fexible to include on the wards training but we also provide a twice yearly all day event for 250 staff per year. Perhaps training should be mandatory on time critical medication.

These developments were possible due to the implementation of HEPMA, and its continuing roll out across NHS Scotland, we hope that this current work (or future variations) will drive further improvement in the timely administration of Parkinson's medicines to inpatients across NHS Scotland and the UK. "Craig" a patient with Parkinson's, "Local group members have spoken of not getting medication on time in hospital, I now feel more confident knowing this is in place."