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OBJECTIVES

While carrying out time motion studies, a need was identified to reduce the burden of the **data collection process** during the preparation of IV treatments in aseptic units across UK hospitals. The objective was to build a tool to harmonise the process of data collection, allowing standardisation and basic data analysis. The aim was to develop a tool that would reduce the risk of errors (i.e. data entry, transcription), that could be accessible to professionals working at different sites, and that facilitates the storage of data coming from those different sites.

METHODS

York Health Economics Consortium (YHEC) were engaged to explore solutions. At the same time, support was provided by an on-site qualified pharmacist, who co-developed data collection sheets and verified data quality. Treatment preparation stages were identified and mapped, and workflow was assessed. (example in Fig. 1)

A paper data collection sheet was designed to record times per task and errors made. A Microsoft® Excel® spreadsheet was developed to store data and perform basic data analysis, such as preparation time per medication per working day; time per task; times per working day and task. This had the advantages of in-time data collection and the facilitation of basic data analysis. However, there was heavy reliance on technicians accurately recording data, with the risk of errors during data collection and transcription phases.

To address this the spreadsheet evolved to a Google Sheets™ (Fig. 2), with the same advantages, as well as the ability to input data mimicking the paper sheet, reducing the risk of errors during the transcription phase, and being accessible from different sites to facilitate multicenter studies.

RESULTS

The tool has been developed and successfully used with data from different sites and different therapeutical fields (Chemotherapy, IV Antibiotics and Parenteral Nutrition), requiring adaptation due to variation in tasks in the three different workflows. Staff reported ease of use of the standarised paper sheets. The tool will be used to conduct economic analysis of the changes in incremental costs and outcomes from the automation of aseptic unit processes.

CONCLUSION

The tool developed facilitates the collection and analysis of data from multiple centres. Other areas of the hospital (beside the aseptic unit), such as the central dispensary and hospital wards, will benefit from the use of such tool during similar time motion studies.

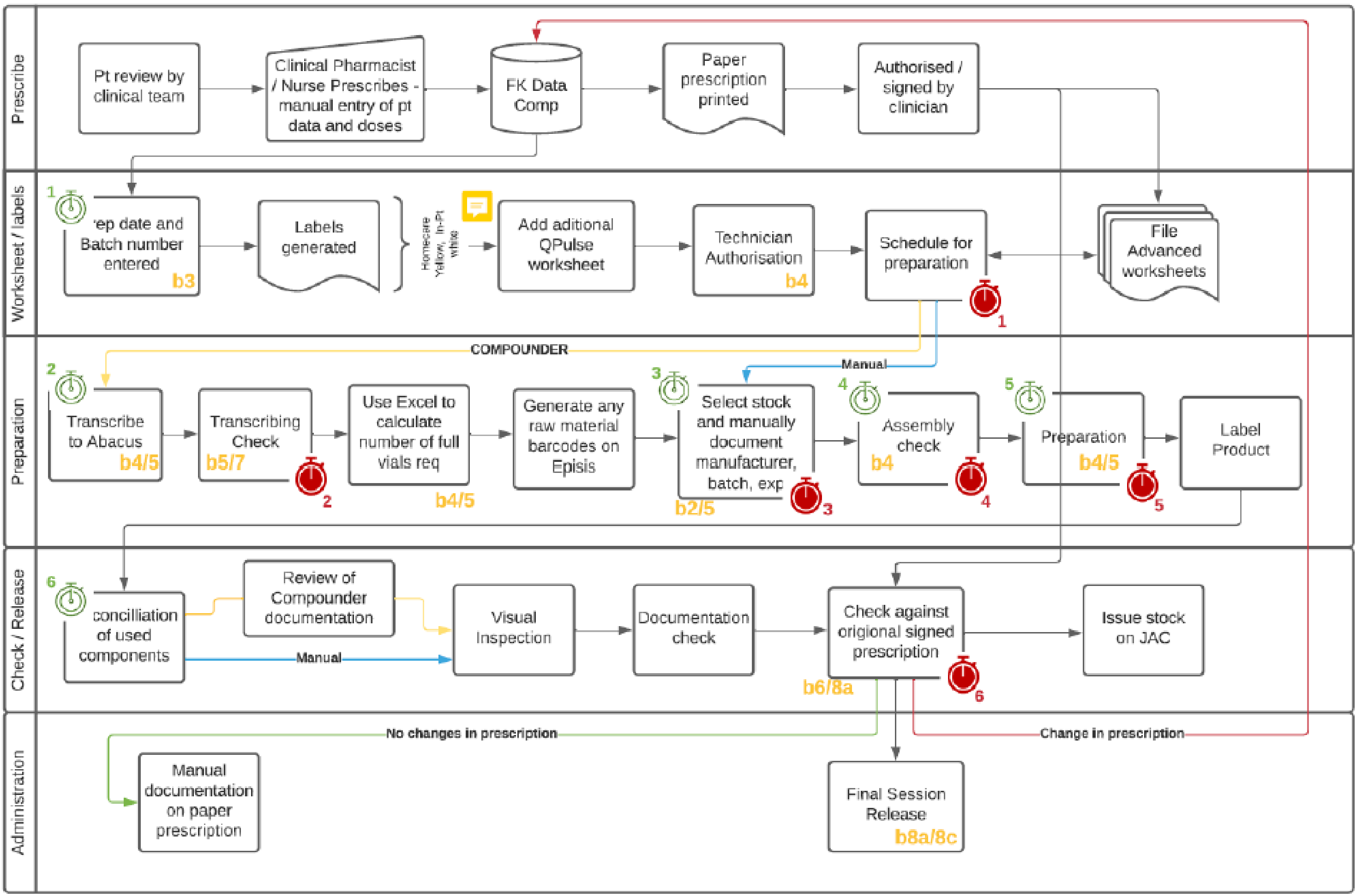


Fig.1; Example of workflow assessment

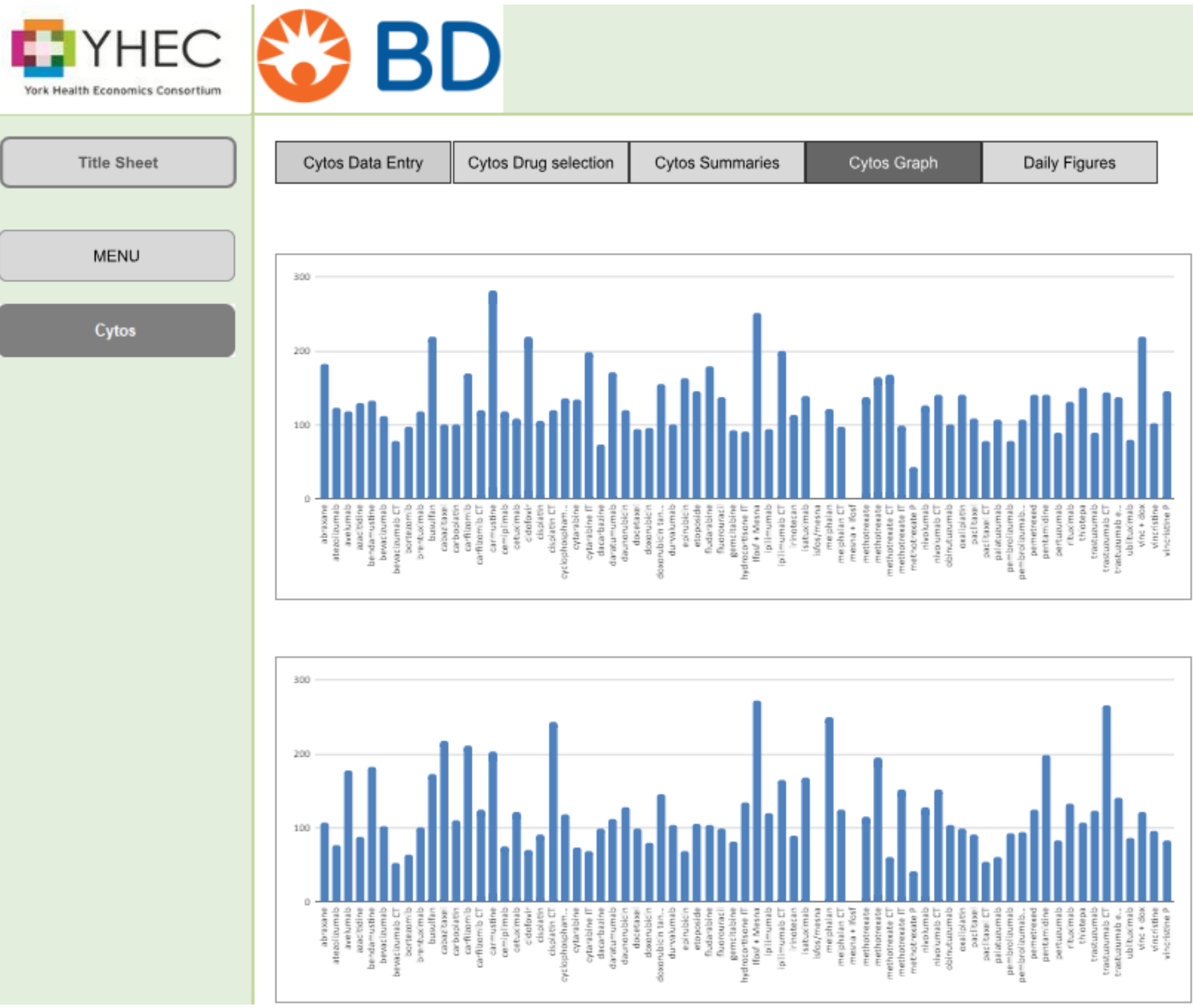


Fig.2; Google Sheet™

	Worksheet number (Date)	22/4/2022
	Weekday	Friday
	Patients on worksheet	
	Type of drug	Cytos
	Name of drug	abraxane
	Volume to compound where there is more than one drug enter volume in drug order in here and total amount in "Volume to compound"	
	Volume to compound	
	Worksheet	
	Worksheet Checking	
	Assembly	
	Assembly Checking	
	Compounding	
Errors requiring activity to be redone (yes' if this is the case)	Worksheet	
	Assembly	
	Compounding	
	Volume of product discarded by nurse or technician due to errors	
	Labelling	
	Check and release	
Errors identified requiring activity to be redone (yes' if this is the case)	Labelling only	
	Worksheet & Labelling	
	Worksheeting, recompounding and labelling	
Wastage	Volume of product discarded by pharmacist due to errors	
	Wrong stability entered	
	Wrong diluent/fluid	
	Wrong volume drawn in manufacture	
	Missing assembly item	
	Wrong batch number (assembly)	
	Wrong protocol	
	Wrong vial size chosen	
	Wrong volume entered	
	Wrong dose inputted	
	Wrong dosage form	
	Wrong/no ward	
	Missing/wrong infusion time	
	Other (please state)	
	Sum of time taken for tasks	00:00:00
	Time Rx in - start of worksheeting	
	Time Rx out- time of release	
	Comments	