TESTING VERSION

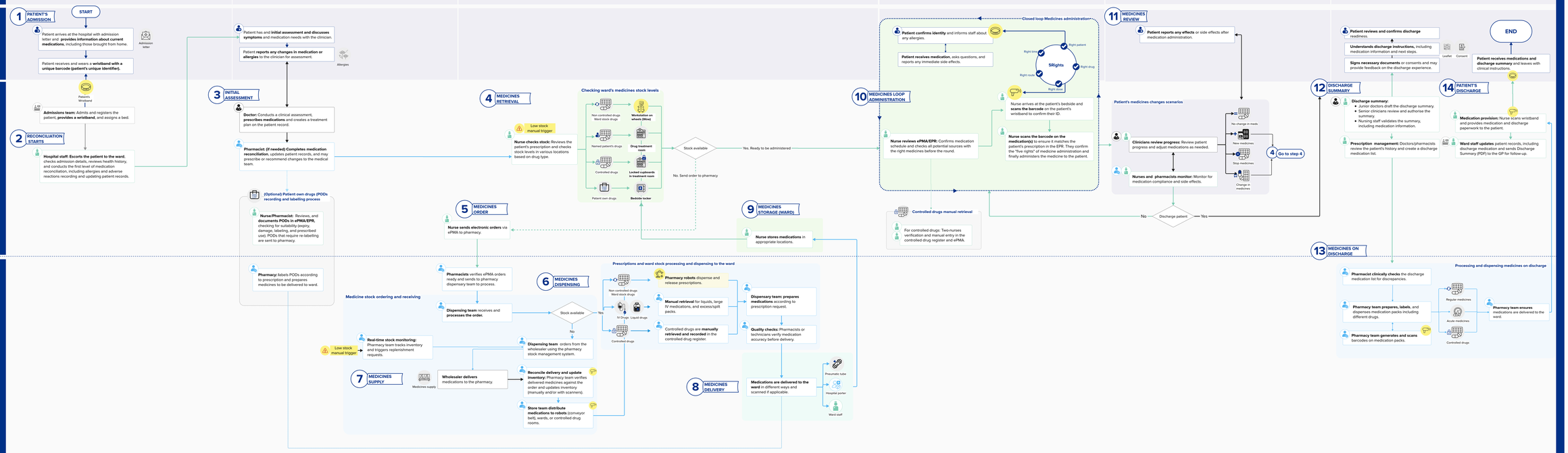
Closed Loop Medicines: Intermediate Automation without ADC Service Blueprint

Visualising the medication administration process with intermediate technology from admission to discharge

NHS England Digital Medicines

STAGE	HOSPITAL ADMISSION AND INITIAL MEDICATION HISTORY	INITIAL ASSESSMENT AND PRESCRIBING	MEDICINES RETRIEVAL, DISPENSING AND STORAGE	MEDICINES ADMINISTRATION	ADMINISTRATION RECORDING AND MONITORING	HOSPITAL DISCHARGE
STAGE GOAL	Ensure accurate patient identification, record creation, and initial medication reconciliation for a safe and informed start to the hospital stay.	Conduct a comprehensive clinical evaluation, prescribe medications accurately using ePMA, and ensure multidisciplinary review and (second level) reconciliation of medications .	Ensure efficient and accurate retrieval, dispensing, and storage of medications, incorporating home medicines (Patient's own drugs) and maintaining optimal inventory.	Secure safe and accurate medication administration using CLMS technology, confirming the "five rights" and maintaining patient communication.	Verify accurate documentation of medication administration, monitor patient outcomes, and adjust treatment plans as needed.	Achieve a safe and coordinated discharge process, including medication reconciliation, patient education, and transfer of prescriptions.

PATIENT ACTIONS



FRONTLINE ACTIONS BY CLINICIANS AND ADMIN STAFF

BACKSTAGE ACTIONS: BY PHARMACY TEAM (DISPENSING AND SUPPLY)

SUPPORTED SYSTEMS

HOSPITAL ADMISSION AND INITIAL MEDICATION HISTORY

- **PAS: Updated** with patient demographics, next of kin details, and admission information.
- **EPR: Updated** with patient details and admission location.
- **Barcode System:** Generates and prints the barcode wristband, linked to the EPR for accurate patient identification.
- **PDS:** Retrieved from PAS/EPR to verify demographics and contact details. **NCRS or SCR: Accessed** to review the patient's full medical history, including medications, allergies, and adverse reactions. (Future State) **GP Connect:** Direct retrieval of GP data for a more comprehensive medication history.

INITIAL ASSESSMENT AND PRESCRIBING

- **ePMA: Interfaces with EPR** to log prescriptions with accurate patient information.
- **EPR: Updated** with medication details and PODs information.

MEDICINES RETRIEVAL, DISPENSING AND STORAGE

- **ePMA: Sends prescription orders** and allows pharmacists to verify and reconcile medications.
- **EPR: Records new or changed medications** and integrates patient records with ePMA.
- **Pharmacy stock management system**: Manages medicine ordering and inventory.
- **Barcode generation and labelling system:** Generates barcodes with patient and medication details.
- **Pharmacy dispensary robot:** Dispenses medications and integrates with the stock management system.
- **Controlled drug register:** Maintains a dual record of controlled drug transactions

MEDICINES ADMINISTRATION

- **EPR: Checks scanned wristband against** medication barcode to confirm the "five rights."
- **Barcode Scanner:** Ensures accurate medication matching.
- **ePMA/EPR: Real-time updates** and alerts for mismatches, with data analysis tracking of mismatches.

ADMINISTRATION RECORDING AND MONITORING

- **EPR: Updated with patient progress,** medication changes, and adverse effects.
- **Clinical Decision Support Systems (CDSS):** Provides clinicians with evidence-based recommendations.
- **ePMA/EPR: Records** new prescriptions or changes in medications.
- **Digital alerts: Notifies** staff of discrepancies or potential medication errors.

HOSPITAL DISCHARGE

- **Medicines reconciliation:** Pharmacists/doctors complete a second-level medication reconciliation using manual and digital sources (e.g., patient input, drug charts, ePMA, EPR).
- **ePMA/EPR:** Records discharge prescriptions and updates patient records.
- **Discharge letter / summary:** Consolidates discharge-related medication information and populates the discharge letter and it is sent to the GP through MESH.
- **EPS:** Prescriptions are sent electronically to the community pharmacy (only for Discharge Medicines Service -enabled cases).

SUPPORTED PROCESSES AND STANDARDS

HOSPITAL ADMISSION AND INITIAL MEDICATION HISTORY

GTIN: Global Trade Item Number, used for identifying trade items.
GLN: Global Location Number, used for identifying locations within a supply chain.
DAPB0108: Automatic Identification and Data Capture (AIDC)
DCB1077: AIDC for patient identification
DCB0160: Clinical Risk Management: its Application in the Deployment and Use of Health IT Systems
DAPB4013: Medicine and Allergy/Intolerance Data Transfer

INITIAL ASSESSMENT AND PRESCRIBING

GSRN: Global Service Relation Number, used for patient and staff identification.
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SCCI0052: Dictionary of medicines and devices (dm+d)

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eDischarge Summary Standard (PRSB)