Reduced Research Patient Wait Times Using Automated Dispensing Cabinet (ADC) Technology for Oral Investigational Drug at a NCI-Designated Comprehensive Cancer Center

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**Background:**

Many multi-campus Cancer Centers face the complex challenge of timely dispensation and administration of investigational drug from a central Investigational Pharmacy (IP). Before utilizing the Automated Dispensing Cabinet (ADC), investigational oral drug dispensation and administration averaged 96.5 mins, median 84 mins (n=122, min: 41, max 298) from provider order to administration. Before utilizing the ADC, the average time decreased significantly from 88.3 mins to 28 mins (p=0.0001).

**Solutions and Methods:**

The ADC workflow was piloted in two oncology disease groups for studies that only utilized oral investigational product. Of 13 studies, two required vial assignment and sponsors granted approval for early dispensation. The following workflow was established for safe clearance (T-0 is day of administration): signed orders in electronic health record (EHR) T-8 to T-2, dispensation email sent T-2, vials assigned (if applicable) and release of orders in EHR by infusion RNs T-1, treatment parameters—REVERT to standard if dose modification is required due to weight or other contraindications. After pt. is cleared by Sub-I/PI—CRC/CRN places EPIC clearance note before pt. arrives to infusion, treatment day (T-0)。“CTOPOIPCLEARANCENOTE” is placed in EHR by CRC/CRN and co-signed by EOD T-2. Omnichell (“Omnicell”) Workflow & Responsible Parties: A multi-disciplinary clearance and for sponsor approval of early vial assignment (if applicable) and release of orders in EHR by infusion RNs T-2, vials assigned (if applicable) and release of orders in EHR by infusion RNs T-1, treatment parameters—REVERT to standard if dose modification is required due to weight or other contraindications. After pt. is cleared by Sub-I/PI—CRC/CRN places EPIC clearance note before pt. arrives to infusion, treatment day (T-0)。“CTOPOIPCLEARANCENOTE” is placed in EHR by CRC/CRN and co-signed by EOD T-2.

**Goals:**

- A multi-disciplinary workflow was implemented for safe ADC treatment clearance and for sponsor approval of early vial assignment (if applicable)
- Utilize the satellite site ADC for dispensation and administration for oral investigational drug administration
- Reduce patient wait times

**Future Directions:**

- Stage 2: Include additional disease groups at satellite site, expand to include clinical trials that have oral IP drug combined with SOC medications***
- Stage 3: Expand project to the central IP site, as the overall wait time at all campuses is 85.5 mins (n=409)
- Step 4: Implement the process to span all campuses/sites with wait time for Oral IP under 30 minutes and perform a patient satisfaction survey

**Outcomes:**

Since utilizing the ADC workflow for dispensing oral investigational drug from October 2022-January 2023:

- Average patient wait time decreased to 27.1 mins, median 29.5 mins from the time of treatment clearance in Epic to administration at satellite site (n=12, min: 5, max: 41).
- The ADC workflow saves patients an average of 69.5 mins, and decreases wait times by 71.9 percent.
- When comparing paired data for patients that utilized both workflows, the average time decreased significantly from 88.3 mins to 28 mins (p=0.0001).
- Improving efficiency by an average of 362.7 percent (n=7, min: 52; 17, max: 105; 39).

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This was achieved with a process that maintained the integrity of the research clearance process for safety and quality.