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Development of a SmartPhrase in the electronic health record to promote chemotherapy and immunotherapy safety

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“SmartPhrase” Development for Chemotherapy-Immunotherapy Pre-Administration Documentation: A Quality Improvement Project

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BACKGROUND

- Chemotherapy-immunotherapies are high risk medications that can include multi-drug and multi-day regimens with narrow therapeutic indexes and high risk for toxicities.
- Susceptibility for errors exists if adherence to protocol is inconsistent or if pertinent patient specific information is omitted (LeFebvre & Smith, 2019).
- Prior to the creation of the “SmartPhrase” in the Electronic Health Record (EHR) pre-administration safety checks were on paper, not included in the EHR, not standardized among clinicians, and not completed every time.
- Chart audits revealed a need for consistent, centralized documentation to enhance patient safety while minimizing professional liability.
- A transdisciplinary team created a “SmartPhrase” template for streamlining relevant patient specific information and individualizing plans of care.

PURPOSE

- Create a documentation template which includes the nine components recommended by ONS guidelines for completed chemotherapy-immunotherapy pre-administration checks (Neuss, et al., 2017).
- Improve patient-centered care and transitions in care.

GOALS

- Standardization of chemotherapy-immunotherapy pre-administration documentation to promote safety.
- Foster safe and seamless patient centered care throughout inpatient and outpatient settings and service lines.
- Ensure ONS recommendations for pre-administration checks includes a documented dual verification process.
- 95% or greater compliance in use of the “SmartPhrase”.

RESULTS AND OUTCOMES

- Practitioner utilization of the “SmartPhrase” exceeded the project goal of 95% after implementation.
- Change from baseline use of “SmartPhase” documentation in the specific key areas: dual verification (↑100%), diagnosis and protocol (↑69%), drugs (maintained 100% utilization), consent (↑54%), education (↑37%), blood return (↑29%), dosages (↓6%), initial labs (↓6%), schedule (↑3%).
- Improved documentation and facilitated communication between providers within inpatient and outpatient settings and service lines.

REFERENCES

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GRAPHICAL DATA

CHEMOTHERAPY / IMMUNOTHERAPY ADMINISTRATION NOTE
Day: V for Verification note or Day # of Total Days

Cancer Diagnosis: Free Text
Hospital Admission Diagnosis: Free Text

CHEMOTHERAPY/IMMUNOTHERAPY
Protocol Deviation: No / Yes with Explanation
Treatment Plan & Dosages Verified by RN and Pharmacist: Yes / No

| Drugs | Dosage | Dose # | Route | Action | Comments (dose adjustment, reactions, rate change reason, held) |
|-----------|--------------------|-----------------------|----------------------|--|---|
| Free Text | mg mcg units | Dose # of total doses | IV SQ IM IT | Given Infusing Initial Verification/RN Check Rate Adjusted See MAR Completed | Free Text |

*Lines can be added for multiple drug regimens

Nursing Comments: Free Text

PRE-ADMINISTRATION CHECK

Consent Signed: Yes / No
Body surface area is *AUTO POPULATES* meters squared.

Review of Labs: Yes / No
Urine PH within administration parameters (if applicable): Yes / No / NA

Lab Results
Component Value Date
AUTO POPULATES

Education: Patient received drug information from Micromedex and verbalizes understanding of side effects and toxicities: Yes / No
Patient was advised to report symptoms or pain/discomfort at infusion site: Yes / No

Plan of Care Initiated/Updated: Yes / No

Condition of IV Site Pre-Treatment:

| Line Type | Blood Return | Assessment/Condition | Comments (Awaiting Tip Confirmation, tPA, etc.) |
|--|--------------|--|---|
| Pt has a port, tunneled line, PICC, non-tunneled line / short term catheter, peripheral line, peripheral inserted midline, other | Yes / No | dressing dry and intact no erythema no pain or tenderness Free Text | Free Text |

*Definition of actions available upon request
IM—intramuscular; IT—intrathecal; MAR—medication administration record; NA—not applicable; PICC—peripherally inserted central catheter; PT—patient; SQ—subcutaneous; tPA—tissue plasma activator

Note. Image courtesy of Providence Regional Medical Center Everett. Used with permission PRMCE

INTERVENTIONS

- Formulated a transdisciplinary team of multiple stakeholders, including clinical informatics and bedside providers to develop a “SmartPhrase” to promote rapid access to critical information.
- Developed pre-administration safety checks which included “hard stops” in the EHR “SmartPhrase” template.
- Formalized education: emails, posters, huddle presentations, and face-to-face classes with return demonstration and validation of comprehension and usage.
- Conducted baseline, three-month, and six-month audits to evaluate for “SmartPhrase” usage and completion of documentation.
- Solicited feedback and reported through the transdisciplinary team to identify opportunities for improvement and barriers to use, leading to template revisions.
- Re-educated users based on template modifications.
- Incorporated accurate completion of the “SmartPhrase” template via skills validation during new hire orientation.

CONCLUSIONS/DISCUSSION

- Nurses need to be actively involved in identifying barriers to care delivery to improve patient safety by initiating quality improvement projects.
- A defined location for the “SmartPhrase” made for easy access between shifts and future encounters to enhance patient centered care based on clinical status at time of treatment as well as ongoing treatment tolerance.
- The “SmartPhrase” allowed consistent documentation and dual-verification of pre-administration safeguards.
- Chart audits helped identify barriers to documentation and delays in care, providing the opportunity for continued improvement.
- Implementing tools within the EHR based on standards of care and guidelines decreases organizational liability concerns while promoting safety.

FURTHER RESEARCH/IMPLICATIONS FOR PRACTICE

- Regardless of routes or combination of treatments, the “SmartPhrase” offers a universal means of documentation in healthcare settings that utilize Epic® systems (Bakshi & Trivedi, 2018).
- Many organizations and healthcare systems utilize Epic® EHR systems which offer “SmartPhrases” that can be shared within an individual facility and/or network of healthcare delivery systems (LeFebvre & Smith, 2019).
- Ensures pre-administration safety checks are completed.
- Completing the “SmartPhase” in advance supports stewardship of resources including nursing expertise/time, delays in treatment (bed/chair availability, admission/appointment time), and medication/supply cost.
- Promotes continuity of patient centered care by having a centralized location in the EHR for ease of retrieval across oncology patient’s ongoing and follow up treatment.

