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VMHC300 – QIP PROJECT: add title here

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# INTRODUCTION

Cancer misdiagnosis may occur at any stage during the cancer diagnosis process. Human error, such as a doctor’s negligence or incompetence when deciding which kinds of cancer tests would be needed, can result in cancer misdiagnosis. Misdiagnosis of cancer may also occur during the testing process, such as errors in performing diagnostic imaging or poor cell sample collection for a biopsy. ? where is the reference

Our quality project's focus is on designing a clinical decision support system (CDSS) directed towards cancer patients, with adherence to Evidence-Based Medicine guidelines. According to (Dotson, 2015), evidence-based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The main objective of this system is to provide concrete medical information and aid in the diagnosis of cancer patients, in other words, improving the quality of care the patients receive.

The following aspects are currently discussed in this report, some quality standards applicable to the project, identifying the problem (with of course factors that contribute to the problem), and some clarification of the concepts. By addressing these aspects comprehensively, the purpose of this report is to provide a thorough overview and understanding, planning, and execution of a CDSS tailored for cancer patients, thereby aiming at improving patient care and clinical outcomes in oncology practice.

# CLARIFICATION OF CONCEPTS

**Clinical Decision Support System (CDSS):** A combination of Health and Information Technology which provides practitioners with knowledge and patient-specific information. It is used to make more accurate clinical decisions and improve patient safety. ?REF

**Computerized provider order entry (CPOE):** Application that allows health care providers to enter medical orders electronically. This includes sending treatment instructions and laboratory orders.?REF

**Human-Computer Interaction (HCI):** HCI is the design and improvement of interaction between computers and humans. It allows computers to be more user-friendly and efficient. It is crucial when considering the design of software involving decision-making with an easy-to-use framework. This will help improve usability in carrying out healthcare processes (*Human-Computer Interaction*, n.d.).

**Oncology:** The study and treatment of cancer, which includes the various forms of therapy and procedures used to treat cancer (*Definition of Oncology - NCI Dictionary of Cancer Terms - NCI*, 2011).

**Evidence-Based Medicine (EBM):** is the use of clinical experience and data to improve healthcare decisions. The evidence is then used and applied to evaluate the performance during clinical practice *(Tenny & Varacallo, 2024)*.

For the QIP project we will be looking at implementing CDSS within the hospital environment. Our focus would be catered towards critical decision-making when diagnosing and treating cancer patients. We will also look at how CDSS helps improve patient safety when delivering effective oncology care and how it will improve the overall quality when used in hospitals. Management of the risk in late cancer diagnosis will also be evaluated when compared to having the CDSS in place.

# QUALITY STANDARD(S) APPLICABLE TO PROJECT

Quality standards serve as vital frameworks in ensuring consistency, adherence to best practices, and international compatibility across various domains (Jerry, 2020). As we embark on the development of the Clinical Decision Support System (CDSS) tailored for cancer care, it's essential to uphold these standards. In this section, we will focus on several standards that nurses must adhere to when treating and diagnosing cancer.

1. National Cancer Control Program (NCCP)

The National Cancer Control Program (NCCP) is a comprehensive framework developed by the government to address the prevention, early detection, diagnosis, treatment, and palliative care of cancer within a country (Agency, 2023). It typically includes strategic plans, policies, and initiatives aimed at reducing the burden of cancer and improving outcomes for patients (Programme, 2023). In practice, the NCCP defines fundamental goals and priorities for cancer control, including but not limited to advocating for healthy lifestyles to prevent cancer, putting screening programs into place for early detection, guaranteeing access to high-quality medical care and supportive services, and strengthening research and surveillance initiatives to track cancer patterns. (Technicians, 2024). Overall, the NCCP serves as a guiding framework to ensure a coordinated and comprehensive approach to cancer control for healthcare practitioners, to reduce the incidence and mortality of cancer, improve the quality of life for cancer patients and survivors, and mitigate the social and economic impact of the disease on individuals and society. Perhaps add what is in place in SA…

1. South African Nursing Council (SANC) Guidelines:

The South African Nursing Council (SANC) guidelines provide a framework for nurses delivering nursing care, inclusive of cancer care, ensuring high standards of practice and patient-centred care. Nurses specializing in oncology undergo specialized education and training, adhering to the scope of practice outlined by SANC. They uphold ethical principles in their interactions with cancer patients, respecting autonomy and promoting informed decision-making. Continuous professional development is encouraged to keep nurses updated on advancements in cancer care. Collaborative teamwork with healthcare professionals ensures holistic and coordinated care throughout the cancer journey, ultimately contributing to improved outcomes for patients across South Africa (Council, 2024).

1. Evidence-Based Practice (EBP) Guidelines

Evidence-Based Practice (EBP) Guidelines serve as essential tools in nursing practice, integrating research evidence with clinical expertise and patient preferences to inform decision-making. Nurses evaluate and integrate research findings into their practice, tailoring care plans to meet individual patient needs. Implementation of EBP guidelines involves adopting standardized protocols and interventions, with ongoing monitoring of patient outcomes to ensure effectiveness. Healthcare organizations and professional bodies are responsible for developing and disseminating EBP guidelines, while nurses are expected to stay updated on current recommendations relevant to their practice. Ultimately, EBP guidelines contribute to improved quality and safety in patient care by ensuring that interventions are based on the best available evidence (Town, 2022).

Evidence-Based Practice (EBP) = how is this paragraph different to the previous one?

Evidence-Based Practice (EBP) Guidelines are pivotal in oncology nursing, guiding practitioners to integrate the latest research findings into cancer care. These guidelines inform decisions on screening, diagnosis, treatment modalities, symptom management, and supportive care for cancer patients. Nurses critically evaluate research evidence, considering factors such as treatment efficacy, side effects, and patient preferences, to tailor care plans accordingly. Implementation of EBP guidelines involves adhering to standardized protocols and interventions endorsed by organizations like the National Comprehensive Cancer Network (NCCN) or the Oncology Nursing Society (ONS) (Town, 2022). Nurses monitor patient responses and outcomes closely, adjusting care plans as needed to optimize treatment efficacy and minimize adverse effects. Collaboration among healthcare professionals ensures holistic and patient-centred care throughout the cancer journey. By following EBP guidelines, oncology nurses contribute to improved patient outcomes and enhanced quality of life for individuals affected by cancer (Town, 2022)..

Conclusion

In conclusion, the integration of quality standards into the development and implementation of the Clinical Decision Support System (CDSS) for cancer care is paramount in ensuring the delivery of high-quality, evidence-based care to patients. By adhering to standards such as those set forth by the National Cancer Control Program (NCCP), the South African Nursing Council (SANC), and Evidence-Based Practice (EBP) guidelines, nurses can uphold ethical principles, promote patient-centred care, and stay informed about advancements in cancer treatment and management.

# THE PROBLEM NOTED

**Problem**: Delay in diagnosing cancer in a patient.

**Nature of the problem**: The problem involves a delay in the diagnosis of cancer in a patient, which can lead to delayed initiation of treatment and potentially worsen patient outcomes. Delays can occur at various stages, including the recognition of symptoms by the patient or healthcare provider, referral to specialists, and completion of diagnostic tests.

**Extent and intensity of the problem**: A delay in diagnosing cancer can have a significant impact on patient health and well-being. It can lead to the progression of the disease, a need for more aggressive treatment, and a lower chance of survival. The problem affects not only the patient but also their family and caregivers.

**Factors/variables contributing to the problem**:

* **Healthcare environment**: Lack of access to diagnostic tools or specialized healthcare services, long waiting times for appointments or test results.
* **Human resources**: Inadequate training or awareness among healthcare providers regarding cancer symptoms, diagnostic guidelines, or communication with patients.
* **Patient factors**: Lack of awareness about cancer symptoms, fear or stigma associated with cancer, reluctance to seek medical attention.

**Root Cause Analysis**:

**Identify the Problem**: Delay in diagnosing cancer in a patient.

**Collect Data**: Gather information on the time taken from symptom onset to diagnosis, reasons for delays, and patient outcomes. = Has this been done? Do you have evidence?

**Identify Causal Factors**: Determine the underlying causes of delays, such as healthcare system issues, patient-related factors, or healthcare provider-related factors. = How are you going to do this?

**Identify Root Causes**: Identify the fundamental reasons behind the causal factors, such as lack of screening programs, limited access to healthcare services, or poor communication between healthcare providers and patients. As per previous heading…

**Develop Solutions**: Propose solutions to address the root causes, such as implementing screening programs, improving access to healthcare services, or enhancing patient education and awareness.

**Implement Solutions**: Implement the proposed solutions and monitor their effectiveness.

**Evaluate Outcomes:** Assess the impact of the solutions on reducing delays in diagnosing cancer and improving patient outcomes. (Brown & Johnson, 2022).

# References

Centers for Disease Control and Prevention. (2022, August 22). *What Is Clinical Decision Support? | Opioids | CDC*. Www.cdc.gov. https://www.cdc.gov/opioids/healthcare-admins/ehr/clinical-decision-support.html

Dotson, W. (2015). *Evidence-Based Practice: What It Is and Why It Matters*. https://www.cdc.gov/genomics/about/file/print/Evidence-Based\_Practice\_508.pdf

*How is Cancer Misdiagnosed - Missing the Warning Signs as a Doctor*. (2016, June 1). Paul & Perkins. https://paulandperkins.com/cancer-misdiagnosed/

*HPV and Cancer - NCI*. (2019). Www.cancer.gov. https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-and-cancer#:~:text=HPV%20vaccines%20can%20prevent%20infection%20with%20disease%2Dcausing%20HPV%20types%2C%20preventing%20many%20HPV%2Drelated%20cancers%20and%20cases%20of%C2%

*HPV Vaccination: What Everyone Should Know | CDC*. (2022, May 6). Www.cdc.gov. https://www.cdc.gov/vaccines/vpd/hpv/public/index.html#:~:text=Three%20HPV%20vaccines

*Protection from cervical cancer | UNICEF South Africa*. (n.d.). Www.unicef.org. Retrieved April 18, 2024, from https://www.unicef.org/southafrica/parents-frequently-asked-questions-hpv-cervical-cancer#:~:text=Skip%20to%20main

Stone, J. (2020, January 9). *Defining Standardization and Personalized Care*. MedicalGPS. <https://blog.medicalgps.com/defining-standardization-and-personalized-care/#:~:text=Standardization%20in%20healthcare%20is%20often>

*Evidence Based Practice Guidelines | University of Cape Town*. (2021). Faculty of Health Sciences. https://health.uct.ac.za/childrensnursingunit/EBPG#:~:text=Skip%20to%20main

*National Continued Competency Program | National Registry of Emergency Medical Technicians*. (n.d.). Nremt.org. Retrieved April 18, 2024, from https://www.nremt.org/Document/nccp#:~:text=HOME