3.6 Percentage of patients receiving cytotoxic chemotherapy whose treatment is guided by a hospital approved chemotherapy treatment protocol

Purpose

This indicator addresses effectiveness of processes that encourage safe prescription and management of complex high risk medicines such as cytotoxic chemotherapy.

Background and evidence

Cytotoxic chemotherapy is commonly associated with adverse medication incidents in hospitals.[1] Use of detailed treatment protocols is one way to reduce non-evidence-based variation and to standardise care, both of which are fundamental principles for improving patient safety.[2]

A chemotherapy protocol should provide details of the cytotoxic and related medicines to be administered on each day of a particular chemotherapy cycle as well as recommendations for safe chemotherapy administration. Ideally a protocol should also specify guidelines for dose calculations, supportive therapy, monitoring parameters and criteria for dose modification.

Protocols, whether printed or electronic, are a form of decision support[2] and have been shown to improve medicine use generally.[3] With specific regard to cancer care, implementation of guidelines, pathways and protocols has reduced variation and improved quality of care,[4] reduced length of stay and complication rates,[5] and improved survival.[6]

Printed or electronic copies of the relevant protocol should be available for reference at the point of prescribing, dispensing and administration. Checklists or flowcharts may be used to guide concordance with protocols. Variations from the protocol should be documented.

Key definitions

Guided by a hospital approved chemotherapy treatment protocol means there is clear and explicit documentation of relevant protocol details available to practitioners at the point of prescribing, dispensing and administration of chemotherapy. In particular this means that:

- the name of the intended chemotherapy protocol is clearly and explicitly documented on the chemotherapy medication chart where medication orders and administration records are documented or in another predetermined place in the medical record.
- individual cytotoxic agents are prescribed in accordance with the named protocol for each specific day of the cycle.
- the patient's body surface area (BSA) or height and weight (for BSA calculation) are recorded with the medication order.
- the final prescribed doses of cytotoxic medicines are within a safe range based on patient BSA and protocol guidelines.

Hospital approved chemotherapy treatment protocol means that the treatment protocol has been developed by an expert multidisciplinary team and has been approved by the drug and therapeutics committee or other appropriate committee. Alternatively standard peer-reviewed protocols such as those from the Cancer Institute NSW[7] or National Health and Medical Research Council[8] may be approved for use.

Data collection for local use

Please refer to the section *Using the National Quality Use of Medicines Indicators for Australian Hospitals* for guidance on sample selection, sample size, measurement frequency and other considerations.

Inclusion criteria: Adult, paediatric and neonatal inpatients or outpatients who have commenced a cycle of chemotherapy.

Exclusion criteria: Nil.

Recommended data sources: Medication charts and medical records.

The data collection tool for QUM Indicator 3.6 assists data collection and indicator calculation.

Data collection for inter-hospital comparison

This indicator may be suitable for inter-hospital comparison. In this case, definitions, sampling methods and guidelines for audit and reporting need to be agreed in advance in consultation with the coordinating agency.

Indicator calculation

$$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$$

Numerator = Number of patients starting a cycle of chemotherapy whose treatment was guided by a hospital approved protocol

Denominator = Number of patients starting a cycle of chemotherapy in sample

Limitations and interpretation

Data collection for this indicator relies on documentation in the medical record. Good documentation supports quality patient care[9] and is a critical component of management with potentially toxic medicines such as cytotoxic chemotherapy. Poor communication can result in adverse medicine events.[10]

Ideally, concordance with all aspects of the protocol should be evaluated. However, complex therapy is often difficult to evaluate, especially retrospectively, and identifying deviations from protocol may require specialist clinical knowledge. This indicator therefore only measures concordance with some key aspects of chemotherapy protocol use that form the basis of a safe management process. Other components that could be assessed in a more detailed review include:

- requirements for patient monitoring before and after chemotherapy, including blood counts, biochemistry, screening tests and other protocol specific parameters are complied with and dose modifications are made according to protocol
- concordance with administration recommendations
- concordance with protocol recommendations for use of adjuvant and supportive medicines.

Further information

Cancer Institute NSW Standard Cancer Treatments (eviQ) protocols are available from **www.eviq.org.au**. Clinical practice guidelines relating to cancer are available via the National Health and Medical Research Council website at **www.nhmrc.gov.au/guidelines/publications/subject/Cancer**

Medication Safety Self Assessment for Australian Hospitals[11] (MSSA) can help identify potential strategies for improvement with this and other indicators. The MSSA encourages development of robust systems for safe prescribing, dispensing, administration and monitoring of medicines. The MSSA is available at **www.cec.health.nsw.gov.au**

This indicator can be used to assist hospitals in meeting the National Safety and Quality Health Service Standard 1 [items 1.2.1, 1.2.2, 1.5.2, 1.6.1, 1.6.2, 1.7.2] and Standard 4 [items 4.2.1, 4.2.2, 4.5.1, 4.5.2, 4.11.1].[12]

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