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PATIENT SAFETY GOALS, AFRICA: DEVELOPMENT OF A CONTEXT FITTING TOOL FOR PATIENT SAFETY AND CARE QUALITY ASSESSMENT IN AFRICA USING THE DECIDE(HUMAN FACTORS) MODEL.

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Patient safety Goals, Africa: Development of a context fitting tool for patient safety and care quality assessment in Africa using the DECIDE(Human Factors) model.

Introduction

Patient safety practice refers to processes or structures which when applied, reduce the probability of adverse events resulting from exposure to the healthcare system across a range of diseases and procedures. It aims at making health care safer for both clients and staff (Kohn, Corrigan, & Donaldson, 2000). It is "A framework of organized activities that createcultures, processes, procedures, behaviours, technologies and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make errors less likely and reduce the impact of harm when it does occur." (WHO, 2021).
Quality of care is "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (IOM, 1990 and *ahrq.gov*., 2016). Healthcare quality is a level or value provided by any healthcare resource, as determined by some measurement *(Maxwell, 1984).*As with quality in other fields, it is an assessment of whether something is good enough and whether it is suitable for its purpose. Other definitions of healthcare quality include: "the degree of conformity with accepted principles and practices (standards), the degree of satisfying the patient's needs, and the degree of attainment of acceptable outcomes, while making appropriate use of resources." The Joint Commission defines care quality as "the optimal achievement of therapeutic benefit and avoidance of risk and minimization of harm". Care quality is also referred to as freedom from deficiencies and therefore less costly because deficiencies which often lead to customer dissatisfaction require additional costs to manage them. Quality care conforms to relevant requirements or standards - the needs and expectations of clients or patients.

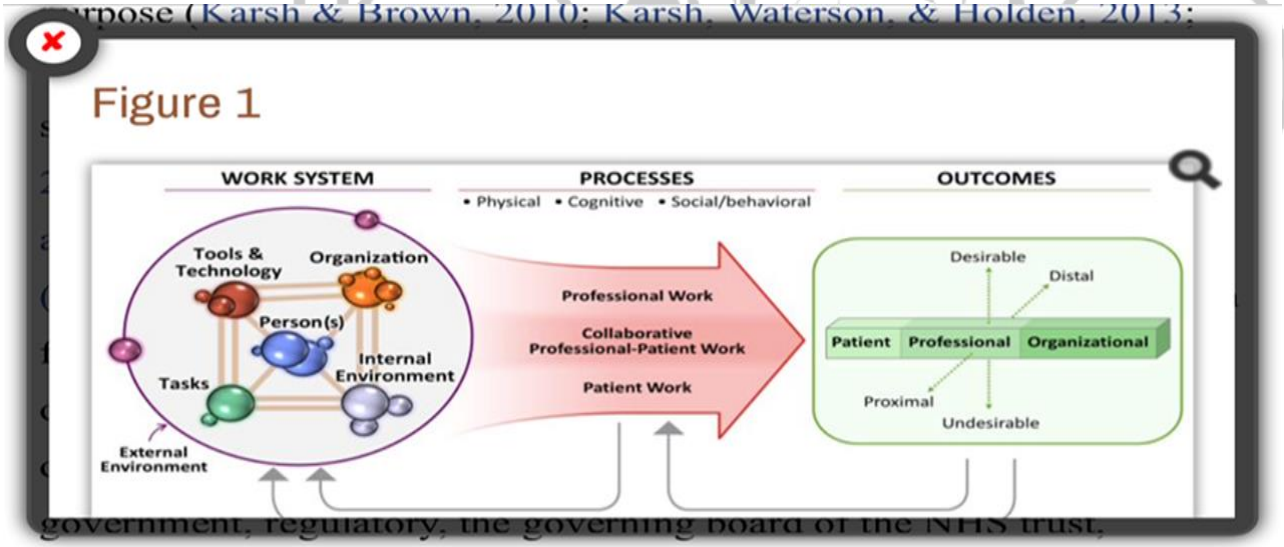
A recurrent denominator in the definitions and descriptions of care quality above is the assumption of objective measurement against requirements or standards, that is: (measurement-conformity-standardisation) which is lacking in most clinical settings because of the uniqueness of the commodity healthcare.Furthermore, Dale et al., 1997,

p. 3, opined that while many people say that they know what is meant by quality, it is in fact quite difficult for many people to grasp and understand the concept. This makes the development of objective and formal care quality measurements and benchmarking (standardisation) for patient safety assessments and continuous care quality improvements. To meet this goal of objective assessment (measurement) of patient safety and care quality in Africa, Patient Safety Africa embarked on the development of a SMART - *Specific, Measurable, Attainable. Relevant and Time bound*tool for care quality and patient safety assessment using the DECIDE (Human Factors) model.
Problems or Research Questions:
Can Patient Safety and Care Quality be measured or assessed?
How can Patient Safety and Care Quality be measured or assessed?

Methodology
DECIDE model is a human factors modelused as a pedagogic stratagem to develop a process of risk management for making informed decisions (Guo, 2018). DECIDE is an acronym of six activities involved in the decision-making process to analyse adverse events and risks in order to formulate an action plan to minimise future risks.
D = define the problem, E = establish the criteria, C = consider all the alternatives
I = identify the best alternative, D = develop and implement a plan of action and
E = evaluate and monitor and feedback.

Problems or Research Questions - can patient safety and care quality be measured or assessed? Or how is patient safety and care quality measured or assessed?

Criteria: SMART – Specific, Measurable, Achievable, Relevant and Time bound.



SMART: The Specific, Measurable, Achievable, Relevant and Time bound criteria were determined from comprehensive reviews of Systems, Processes and Outcomes/SPO by Donabedian (1978), the System Engineering Initiative for Patient Safety (SEIPS), by Carayon et al. (2006), Carayon et al. (2014), Carayon et al. (2020) and a review of human performance factors for elementary work and servicing (Dupont, 1993) in:Persons (Patients/Staff), Tasks (use of care bundles, data management), Tools & Technology (medical devices, ICT), external environment (legal and regulation), Organisational culture (infection prevention and control (IPC), transfusion safety, medicines safety, surgical safety), Clinical Governance (leadership, communication and learning) provided the alternatives for considerations.

Domains of quality in IOM, 1990 and AfiHQSA, 2021, provided a useful base for this study on the concept of care quality - Safety, Timeliness, Efficiency, Effectiveness, Equity, Person centeredness, Integration, Integrity and Sustainability–STEEEP-IIS. Best alternatives for managing common challenges in all the above domains (patient safety and care quality) are set out with total score of 100.
Results: Best alternatives developed into 10 domains with total score of 100.

2024 Patient Safety Goals, Africa 2024.

The purpose of this Care Quality and Patient Safety Goals is to improve care in Africa. The goals focus on common challenges of healthcare quality and safety in the African care environment and how to solve them through the development of policies, standard operating procedures and training.

PSGAfr.24.01 **Identification: Staff and Patients including allergy status [**5]

- Staff Photo ID [1] [ ]
- Patients ID/wrist band [2] [ ]
- Colour coded Patient ID band for allergy [1] [ ]
- Allergy status on medical notes [1] [ ].

PSGAfr.24.02 **Medical Records** [10]

- Collection, analysis and publication of care services statistics (monthly) [2] [ ]
- Timely and efficient Outpatient appointment system [2] [ ]
- Information Governance (IG) training [2] [ ]
- Patients have access to records and pregnant women are offered copies of their notes[2] [ ]
- A named lead to manage all of the above including data confidentiality and feedback[2] [ ]

PSGAfr.24.03 **Acute/Emergency Care -** Track and Trigger patients to safety [10]

- Maternal Early Warning Scores tool training and use (MEWS) [2] [ ]
- Early Warning Scores tool raining and in use (EWS) [2] [ ]
- Basic Life Support (BLS) Training for staff [2] [ ]
- Availability/Rapid access to blood/blood products for transfusion [2] [ ]
- Call 4 Concern policy in use [1] [ ], And named lead for emergency care [1] [ ]

PSGAfr.24.04 **Diagnostic & Blood Transfusion Safety** [10]
(Patient ID policy should be followed*)

- Correct labelling of samples at bedside policy [2] [ ]
- Availability of essential Lab equipment and safe environment for samples and work [2] [ ]
- Internal quality assurance & confidentiality policies -processing & reporting of samples [2] [ ]
- Transfusion safety training [2] [ ]
- SHOT Audits and a named lead to manage the above [2] [ ]

PSGAfr.24.05 **Infection Prevent & Control (IPC)** [10]

- Water available for WASH (hand hygiene) [3] [ ]
- PPEs, Sanitizers and Clinical sharps safe boxes available [3] [ ]
- Staff routinely offered vaccination against Hepatitis B & relevant VPDs [2] [ ]
- Local antibiotics guidelines [1] [ ]
- A named IPC lead to coordinate hand hygiene and above IPC audits and education [1] [ ]

PSGAfr.24.06 **Medicines Safely** [10]

- Drug prescription, dispensing and administration continuous audit [2] [ ]
- Medicines storage, labelling and checking guidelines (SASHOM) [2] [ ]
- Insulin Pens - availability and use for insulin administration [2] [ ]
- Incidents management and education – communication and learning system [2] [ ]
- A named lead to coordinate medications safety [2] [ ].

PSGAfr.24.07 **Surgical Safety** [10]

- Surgical and invasive procedures consenting guidelines [2] [ ]
- Five steps to safer surgery –
  - WHO surgical safety checklist [1] [ ],
  - Surgical team communication (safety huddles – team brief and team debrief) [1] [ ]
- Perioperative antibiotic guidelines[1] [ ], Perioperative pain assessmt & mgt. protocols[2] [ ]
- Monthly data of surgical case numbers and incidents [2] [ ].
- A named lead to coordinate audits of the above and manage learning from events [1] [ ].

PSGAfr.24.08 **Medical Devices Safety** [8]

- Database of all medical devices in the organisation – including service history [2] [ ]
- Availability of essential equipment (phototherapy, suction & sterile services machines [2] [ ]
- Availability of power 4 equipment and critical supplies such as temp sensitive vaccines [2] [ ]
- Access to national and international Medical Devices Alerts (MDA) [1] [ ]
- A named responsible person for the above [1] [ ].

PSGAfr.24.09 **Safeguarding and Teamwork Communication** [15]

- Falls prevention: protocols, training and named lead [2] [ ],
- Safeguarding Children: training and named lead [2] [ ],
- Safeguarding women, the elderly and vulnerable people: training an named leads [3] [ ],
- Team handover guidelines [1] [ ], Patients' referral guidelines [1] [ ], Training and use of SBAR [1] [ ]. Patient satisfaction and complaints (feedback) team using satisfaction surveys such as Friends and Family Test (F&FT), etc. to manage feedback for learning & improvements [2] [ ]. Excellence Reporting and Excellence Awards for staff [2] [ ].
- Investments and progress towards digitalization (ICT for Health) [1] [ ].

PSGAfr.24.10 **Leadership (Clinical Governance/CG)** [12]:

- Functional CG led by the CEO or his/her delegated associate that reports to the Board [2] [ ]
- Evidence of registration of the facility with authorities – LGA, State Govt. & FGN/HSR[1] [ ]
- Evidence of registration & Licensing of facility – in a unique identifier on signage [1] [ ]
- Risks: Incident reporting (IR) system and evidence of progress towards Just Culture [2] [ ].
- Data collection/Audits: data collection, monthly analysis, communication and LfE [2] [ ].
- Co-development of care quality policies (patients, professionals and management) [1] [ ].
- Education – Essential training including safeguarding (multi-professional teams) to support staff appraisals and revalidation [2] [ ]
- Clear QI vision and mission that are well communicated to staff and patients [1] [ ].

Organization: Service Level - Primary care [ ] Secondary care (Surgical procedures under general anaesthetic included) [ ], Tertiary centre (ICU services included [ ]. **Organization: Type** – Public (Government) [ ], Private [ ], Missionary/Voluntary [ ].

Quality Improvement (QI) Score: …/100 Date: dd/mm/yyyyy.
*VPD – vaccine preventable diseases, LfE – learning from events, CG – Clinical Governance

SMARTQI: *Specific, Measurable, Attainable, Realistic and Time bound*/patientsafetyafrica.org/Isemede2024.
References: AfiHQSA (2021), Donabedian (1978), Guo (2018), JCI (2019), Isemede (2020), SEIPS/Carayon (2006).

Discussion

2024 Patient Safety Goals, Africa 2024.

The purpose of this Patient Safety Goals/Africa is to improve Patient Safety in Africa. The goals focus on common challenges of healthcare safety in the African care environment and how to solve them through the development of policies, standard operating procedures and training – to ensure:

Correct Staff and Patients' Identification

PSGAfr.24.01 **Healthcare Staff** should be correctly identified by names and roles, photo ID should be displayed.
Patients: Use at least two ways to identify patients, ideally, three methods - use the patient's names and date of birth. A unique patient care number is recommended in addition to the above two. (This is done to make sure that

each patient gets the correct medicine and treatment) (WHO, 2019).

Timely Access to Medical Records

PSGAfr.24.02 and 01. Patients and their nominated family doctor should be offered written summary ofclinical interactions – diagnoses, test results and treatments (including a list of common side effects) for their information and to aid continuity of care when they visit other healthcare organisations. This is especially important for pregnant woman who should be given copies of all relevant records, test and scan reports.

Acute/Emergency Care Safety

PSGAfr.24.03. MEWS and EWS for Tracking and Triggering escalation of acutely deteriorating patients to Safety should be available and in routine use. All relevant staff should be trained in the use of the Maternal Early Warning Scores (MEWS) and Early Warning Scores. All relevant staff should be trained in the ABCDE approach to emergency care and in the use of SBAR tool for handovers and referral communication. Call for Concern policy should be in place(Isemede et al., 2020).

Diagnostic & Blood Transfusion Safety

PSGAfr.24.04 (Incl.01 & 02). The right Patient gets the right test and result and the right blood products (if needed) by following standard patient ID and blood products collection and administration standards. All clinical staff should have regular blood transfusion training (UKBT/NICE, 2021).

Infection Prevent & Control (IPC)

PSGAfr.24.05. Availability of water for hand hygiene, clinical sharps safe boxes and the segregation and disposal of clinical wastes according to written protocols. Hand hygiene posters to be displayed to aid staff, patients and visitors(WHO, 2021).

WHO guidelines for PPEs and vaccination for staff. A local antibiotics policy should be available to guide clinicians.

IPC lead to coordinate regular audits and learning for continuous improvements.

Medicines Safely

PSGAfr.24.06 (Incl. 01 & 02). Drug labelling: before administration – label medicines in syringes, cups and bottles, do this in the area where Medicines and Supplies are set up. Double check drugs with a colleague (where possible) before administration.

Insulin Pens: Special caution should be taken with insulin dosing. Ensure availability and use of insulin pens for insulin administration to avoid errors.

Record and pass along Correct Information about a Patient's Medicines. Find out what Medicines the patient is taking. Compare those medicines to new Medicines given to the patient. Make Sure the patient knows which medicine to take when they are at home and to bring

their up-to-date list of Medicines every time they visit a clinic(Gluyas H, 2018).

Surgical Safety

PSGAfr.24.07 (Incl. 01 & 02). Surgical procedures consenting guidelines and forms should be available and in use. The Five steps (Team Brief, WHO -3 parts and Team Debrief) to safer surgery protocols including guidelines for correct surgical site marking, pause before invasive procedure and acute pain management protocols should be available and used at all times to ensure that the correct Surgery is done on the correct patient at the correct site of the patient's body and that pain is assessed and appropriately managed (Haynes et al 2008, Vickers 2011, Isemede and Beckley, 2021).Peri-operative antibiotic guideline to support scientifically proven antibiotics prescribing for the prevention of infection after Surgery should be available. Surgical safety audits should be regularly led by a named lead.

Medical Devices Safety

PSGAfr.24.08. Have and keep a database of essential medical devices including their service histories. Ensure access to national medical devices alerts. Named lead for essential medical devices& sustainability and ensure compliance to national alerts.

Safeguarding & Team Communication

PSGAfr.24.09. Have in place - policies, training (mandatory) and visible leadership for preventing falls, safeguarding children and vulnerable adults. Develop a robust incident reporting system (IR) through a Just Culture(Dekker, 2010). Ensure professional analysis of events and learning (from events/LfE) through effective communication. Ensure support systems for patients (First victim) and the Second victim(s) (Dekker, 2012) when incidents occur. Recognise and reward excellence in staff and teams.

Have a robust co-development programme for Quality Improvement (QI) policies - patients, professionals and management partnership.

Governance (Leadership)

PSGAfr.24.10. Establish a formal Clinical Governance (CG) system to coordinate hospital quality improvements (QI) programme. Ensure compliance of all professional staff with annual statutory and professional registration and licensing. Ensure all support staff have up to date background checks. Ensure registration of facility(hospital) with authorities – demonstrate this on hospital signage. The QI programme should be led by the CEOor his/her delegated director who should be known to all staff – well communicated vision, mission and visible leadership for QI(Donaldson, 1998).

SMARTQI: *Specific, Measurable, Attainable, Realistic and Time bound*/patientsafetyafrica.org/Isemede2023.

References: AfiHQSA (2021), Donabedian (1988), Guo (2018), JCI (2019), Isemede (2020), SEIPS/Carayon(2006).

This toolholds promise for improving the understanding and assessment of patient safety and care qualityin Africa by adding to the body of knowledge on these concepts. It is hoped that increased awareness of care quality and its objective assessments will help to speed up the development of Patient Charter from Patient Bill of Rights in Nigeria (Patient Bill of Rights, Nigeria, 2018) and similar national documents in other African countries. It is also hoped that this tool will contribute to raising awareness on Sustainability Value (SV) in healthcare (SV = outcomes for patients and populations/Environmental + Social + Financial Impacts) - the triple bottom line (Mortimer et al, 2018).

Evaluation of this tool has begun in centres across Africa. Early reports from workshops and pilots show promise from the free messages of participants - "it is great to see that a common language to communicate care quality is eventually emerging, hope this gets accepted by all".

Conclusion

Whilst the framework of organized activities that create cultures, processes, procedures, behaviours, technologies and environments in health care that can consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make errors less likely and reduce the impact of harm are identifiable, their measurements have been a huge challenge. Similarly, although the domains of quality – safety, timeliness, effectiveness, efficiency, equity, person centeredness, integration, integrity (candour) and sustainability can be identified, their measurements have posed a challenge for clinicians and researchers. The development of this specific, measurable, achievable, relevant and time bound (SMART) tool using a human factors model (DECIDE), holds promise for more objective and easier assessments because it supports decision-making and risk management which are critical elements of any strategy to reduce cognitive errors andadverse events (Thabane et al., 2012; Vincent, Taylor-Adams, and Stanhope, 1998).These authors hope to present and publishresults of wider evaluation of this tool when the study is completed.

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