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- APPSA is a non-profit organisation which exists for the benefit of its members. This is accomplished by way of congresses, local meetings and travel grants, with the express goal of raising the standard of peri-operative practice in South Africa

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  PO Box 13073,
  Noordstad 9305
  Email: congress@internext.co.za

- **Banking details:**
  SA Theatre Nurse
  Absa Bank
  Account No: 4040952627
  Branch code: 632005
  Email: congress@internext.co.za
  Please email or fax the deposit slip to the above

- **website: http://www.theatrenurse.co.za**

EDITOR:
Mrs Madeleine Hicklin

PRESIDENT:
Mrs Marilyn de Meyer

VICE-PRESIDENT:
TBC

TREASURER:
Mrs Marianne Oosthuizen

LAYOUT:
Carma Design
Tel: 072 825 3124
email: carma@gonet.co.za

CHAPTERS:

Mrs G Botha Freestate/Northern Cape
Mrs S Rohit KwaZulu Natal
Mrs L Schutte Western Cape
Ms J Prince Port Elizabeth, Eastern Cape
Mrs M de Meyer Gauteng/Mpumalanga
Mrs D Kisten Pta/Limpopo/North West

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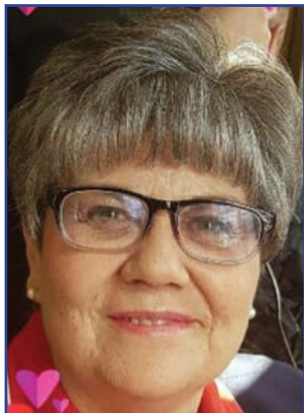

From The President

As we reach the end of 2024 and reflect on how fast another year has absolutely flown by, I hope that you will have made wonderful memories with special people in your life, those who made a difference, and those who make life worth living. Wouldn't it be wonderful to know that YOU were that Special Person in somebody else's life? Certainly, something to include in your New Year list of things to be – and do!

On behalf of the APPSA President, the APPSA Executive Board, and the Gauteng Chapter Board, we would like to thank you all for your on-going commitment, support and membership of our organisation. We are grateful for the year that was, and very excited about the progress that a new year holds. Many challenges await us, but they are not challenges we should be afraid of. We welcome them as opportunities for growth and evolution - as an organisation and personally, in our own lives. Growth and progress are the backbones of any profession - and in healthcare, we really need to embrace everything that that means. The challenge will be whether we embrace these opportunities with dignity, knowledge and skill, or whether we turn our backs on them and remain silent in our comfort zone … letting life and advancement pass us by.

I challenge you to be part of history in the making. I challenge you to grab every opportunity that comes your way – and make the most of it. Only then will you truly benefit from all that life, and a new year, has to offer. I don't know what the future holds - for any of us - but I know that, as peri-operative practitioners we never give up, we never turn away from a challenge, and we never allow others to take away our decision-making power. So let's ALL rise to the challenge and meet 2025 head on: positively and ready to make a difference! Between 23 and 25 May we will all be gathering at the OR Tambo Hotel in Johannesburg for another STUNNING APPSA Congress, so please put that in your diary and plan accordingly. You don't want to miss out!

In closing, I would like to thank you to all of you for your support, care, commitment and loyalty. We wish you a safe and blessed festive season. If you are going on holiday, make the most of it. If you are not and are working to keep those of us who need it, be restored to good health in safe hands, thank you for making a difference in all our lives. Special thanks to Madeleine and Carole Hicklin from Carma Design for the Journal; Marianne Oosthuizen and her team from Congress Services for all the administrative work as our treasurer and membership co-ordinator; and APPSA Honorary President, Villi Pieterse for re-writing the APPSA Constitution which will be distributed to you all in the new year.

Best wishes for a Blessed Christmas to all who celebrate; and warmest wishes for a joyful and an abundant new year to us all!

Be safe and God bless.
Marilyn de Meyer
APPSA President

From The Editor

I don't often discuss politics in my Editor's Letter - well certainly not US politics - but I have to, ahead of Donald Trump's inauguration in January 2025 ... because of the potential risks this move can have to not only to healthcare in the USA, but also in our own backyard. Donald Trump and his 'intended specialist' in healthcare, Robert F Kennedy Jr, are both vaccine sceptics and conspiracy theorists, and this could spell disaster in the healthcare arena, worldwide. Former US President Joe Biden committed to providing Africa - including South Africa - with millions of dollars in funding to fight mpox, as well as over 1-million doses of the vaccine. All of this could now be at risk! This is something we cannot afford to happen, because once Trump stops one vaccine or medicine reaching our shores, it will not stop there. His anti-vaccine stance is well known and his mantra of 'Making America Healthy Again' has many worried about COVID-19 vaccines and ... POLIO and MEASLES vaccines as well.

A recent report in *MedicalBrief* exposed that Kennedy said he 'was promised' control over health policy in return for terminating his running as an independent in the 2024 Presidential race. Kennedy does not believe HIV causes AIDS (sound familiar?) and promotes that the US government 'speak out against vaccines'.

Dr Michael Osterholm, the director of the Centre for Infectious Disease Research and Policy at the University of Minnesota said the 'first issue on the table is vaccines' and his concern was that this: " ... discourages people who might otherwise be vaccinated ... which is as bad as not having a vaccine at all". In early November, the Centres for Disease Control (CDC) in the US released a report that found 'fewer than one in six healthcare workers had received updated COVID-19 vaccines in the 2023/2024 respiratory virus season, and fewer than half had received flu shots. Childhood vaccinations have also dipped since the pandemic. In the US, for children born in 2020/2021, **the rates of children under two who had received all of their vaccinations fell, as the percentage who had received NONE, grew.** Vaccination hesitancy and misinformation were cited as major reasons by researchers. Said Osterholm: "We forget what this country was like 50 years ago - how many children died every year from polio, pertussis, measles. We're going to see the return of diseases we have controlled for decades and with that, many additional severe illnesses in hospitals and deaths - and that's just from the rhetoric, not even withdrawing vaccines."

According to news agency Reuters, Africa's main public health body said it was seeking assurances that Trump's administration would provide the funding and mpox vaccines promised by his predecessor. In September, $500-million and 1-million vaccine doses were pledged to an mpox response plan led by the Africa CDC Prevention. While mpox cases continue to spread on the continent, donors have been slow to translate their promises into money and vaccines needed to accelerate the response. Africa CDC director, John Kaseya, said he would push the new administration to honour existing promises. "As we start to discuss with some of the officials ... we'll continue to talk to them and to engage them to fulfil their commitment. If they don't do that, the mistrust that we have today in Africa will lead to a major issue between the USA and the continent." And THAT can only lead to disaster! But we live in hope that this eventuality will not happen. On behalf of Carma Design, I would like to wish you all a Blessed Festive Season. Stay safe, don't drink and drive - and we'll see you all in 2025.

Editor
Madeleine Hicklin

Surgical Care Practitioner Practice: One Team's Journey Explored

By Adrian Jones: RGN, ENB 176/998, Cert SCP, Orthopaedic Surgical Care Practitioner/Lecturer; Homa Arshad: MB BChir, MA, MRCS Specialist Registrar in Trauma Orthopaedics; and John Nolan: MBBS, FRCS, FRCS (Orth) Consultant Orthopaedic Surgeon.

BACKGROUND

Surgical practice in the UK changed in 1993, when Suzanne Holmes and her cardiac surgical colleagues introduced the surgical care practitioner (SCP) role. Within a consultant-led, extended surgical team, SCPs work alongside a variety of healthcare practitioners to provide safe patient care, meet service demands, and educate the future surgical workforce. This article reviews the history of this development over the last 15 years in the context of a busy orthopaedic department, and discusses some unforeseen consequences

INTRODUCTION

Operating theatre/room (OR) teams are nothing if not adaptable. In an emergency or during times of staff shortages, OR practitioners have always turned their hands to holding a retractor, a leg, or camera, without this actually being a 'legal' part of their role (Peysner 1996). Often this has led to misunderstanding, tension and at times the threat of censure (Hunt 1995) from within differing professional groups who make up the OR team.

The reform of specialist surgical training: The New Deal (NHS Management Executive 1991), The Calman Report (Calman 1993), and the implementation of The European Working Time Directive (DH 1998a), provided significant pressure on the consultant-led surgical team's ability to deliver and maintain national surgical service. The use of OR staff to fill in gaps was no longer sustainable (NATN 1994) and raised concerns.

In 1996 the orthopaedic department of the Norfolk & Norwich Hospital - under Edwards & Keely's leadership (Edwards & Keeley 1998) - took the first tentative steps to alleviate this foreseen pressure by employing two non-medical surgical assistants. A degree-level academic course was provided to educate them to a standard of surgical competency expected of a junior surgical trainee. Their role was initially to provide directly supervised, safe and timely assistance to the operating surgeon (consultant or surgical registrar level), while adhering to the Bolam principle (Bolam v Friern Hospital Management Committee 1957) judged for professionals of equal standing.

There must be an equivalent standard of assessment for both doctors and trainee and qualified surgical care practitioner's (SCP) (DH 2006) who perform similar procedures. Three established perspectives guide this assessment:

- Assessment of knowledge and reasoning
- Performance
- Personal and professional awareness

Such local, below-the-horizon developments had clearly become a concern to The Royal College of Surgeons of England (RCSENG), who have a duty to maintain national surgical standards. The RCSENG initiated a consultation (1999) of its own membership, non-medical surgical assistants and other professional associations. The purpose of the consultation was to:

- Assess the present and future role of non-medically qualified or non-dentally qualified personnel in the surgical team
- Advise on the development of multi-disciplinary teams, with particular reference to defining career patterns, roles, training, assessment and supervision of those involved in surgical care, with a view to producing college guidelines
- Consider whether this practice development was safe

A positive outcome was achieved. In 2005, Mr Hugh Phillips, the then president of RCSENG encouraged SCP roles within extended surgical team practice in the NHS, and extended them to all four national devolved health services.

A Department of Health-led public consultation (DH 2005) that led to a national role title and the publication of the *Curriculum Framework for the Surgical Care Practitioner* (DH 2006). It also established graduate-level qualification and a two-year education programme to enable core and surgical speciality knowledge and skills to be acquired in NHS clinical settings, in partnership with educational institutions.

A surgical care practitioner was finally defined as: *'A non-medical practitioner, working in clinical practice as a member of the extended surgical team, who performs surgical intervention, pre-operative and post-operative care under the direction and supervision of a consultant surgeon.'*

This definition has drawn upon the experience of the health departments of UK devolved governments, professional bodies and of the SCP's newly-formed association: The National Association of Assistants in Surgical Practice (NAASP 2003). Consultation evidence exposed justifiable opposition from associations representing surgical trainees, as discussed by Freudmann and Aning (2005). The outspoken witch doctor blogger's most significant concern was that SCPs would undertake independent operating procedures and they would further compromise future consultant surgeons' training.

Continuing surgical education changes (DH 2004) and government waiting list initiatives (DH 1998b, Armstrong 2003) have resulted in a reduction of overall training periods with reduced working hours. Chambers *et al* (2010) calculated that a 56-hour week on full or partial shift to provide night duty cover, reduced total hours of surgical training from the pre-Calman figure of 25 000 to 30 000 hours, to 8 000 hours for current trainees. The figure fell as low as 6 000 hours when the 48-hour week became a reality in 2009, in order to provide safe, alert and supervised surgeons. Any further reduction in the numbers of surgical procedures available to trainees to qualify/complete their education – the Certificate of Completion of Specialist Training (RCSENG 2011) - was deemed totally unacceptable. Under Jackie

Younger's leadership, one of the aims of 2007 National Practitioner Programme: *The New Ways of Working in Surgery* project (Younger 2006) was to investigate whether the SCP could/should be trained to undertake independent minor procedure operating lists, as part of government's 18-week targets plan (DH 2011). Our department's SCPs were invited to participate, but on reflection we decided that the bundle of procedures under consideration for this project were those considered as key supervised procedures for our core surgical trainees (CT 1 & 2) to undertake within our department.

Some surgical departments have developed SCP-led services, notably Malcolm Clarke's carpal tunnel surgery service (Newey & Clarke 2008), Shirley Martin's minor ops/'see and treat lists' (Martin *et al* 2007). These should be seen as exemplars in clinical settings that support this activity. Senior trainees' fears have not been justified (Dehn 2005), and support for the SCP role has been enhanced by surgical leaders (Kneebone & Darzi 2005), academics and associations (Bruce *et al* 2006).

ASSISTANT PRACTICE DEVELOPMENT

From a confused period of consultation, clear parameters were defined for the SCP role. Or were they? A literature search reveals no clear definition of a first or second assistant role and function. May I suggest one?

'The assistant to the surgeon undertakes supervised manipulation of tissues and surgical instruments to enable safe surgical approach, surgical field exposure, operative procedure(s) and repair of anatomical structures, as ordered by the operating surgeon. Assistants are able to respond to emergency situations, responding to surgeon's lead. As part of on-going training, elements of surgical procedure may be delegated to assistant(s), who then become co-operators.'

The SCP participates as co-operator (not surgeon) during an operative procedure and undertakes surgical interventions as delegated to them by the operating consultant or surgeon. A surgeon may be a non-consultant, medically-qualified member of the surgical team (such as a specialist registrar (SPR) or surgical trainee ST3 - ST7) who has been delegated the role by a consultant surgeon (DH 2006). For the first time, a non-medical team member is able - legally - to undertake full wound closures during hip arthroplasty surgery.

Delegation and supervision of these tasks has been developed through three distinct phases (NAASP 2003):

1. **The Direct Phase**. This occurs during initial SCP training. The consultant surgeon, ST3 - ST6 surgical trainee, or qualified experienced SCP (mentor) is directly opposite or alongside the SCP.

2. **The Indirect Phase.** This occurs when the operating surgeon, having delegated the task, may step down from the surgical site, but remains either in the OR itself or the OR environment. Their location is identified: 'I will be next door in the trauma OR', or they are contactable in person or on a mobile and are able to return to the OR without delay.

3. **The Proximal Phase**. This phase applies to qualified SCPs who have demonstrated that they are able to practice without direct or indirect supervision. The consultant or surgeon may leave the OR,

and the OR environment and may proceed to a known location such as their office or clinic, but remains contactable by phone at all times.

Our department's five SCPs support 22 surgical teams and routinely perform the following surgical interventions:

- Placement of hand-held and self-retaining retractors
- Use of power tools as directed by the surgeon
- Soft tissue/bone dissection, debridement and haemostasis
- Preparation of auto/allograft used in revision surgery
- Preparation of anterior cruciate hamstring/bone patella/femoral grafts
- Wound local anaesthetic infiltration and placement of peri-articular cannulae
- Placement of intra-operative drains
- Full wound closure for routine joint replacements and dressing application(s)
- In the absence of consultant: Teach, support and re-enforce junior surgical trainees' (Foundation years 1 & 2 to CT/ST 1 & 2) basic surgical skills
- Verification of final swab and instrument checks
- Safe transfer of patient from operating table to bed, post transfer/operation clinical check including: joint stability, circulation and neurological checks

For the repair stages of surgery, a close working relationship has evolved with the patient's anaesthetist, as all medications are prescribed and their use is supervised by them. Although this article has concentrated on the operative phases of the patient's journey, the SCP team has also developed independent peri-operative roles. These include: pre-operative and post-operative assessment clinics, telephone review clinics, audit/research and teaching responsibilities, the characteristics of which match the Skills for Health template for advanced practitioner roles, including leadership, innovation, mastery and excellence (Skills for Health 2009).

SCP SUPERVISION AND DELEGATION

Every team needs a leader, and here I may lose some friends by suggesting that only the consultant surgeon has the clinical authority, responsibility and accountability for all surgical procedures performed on patients in his or her care. Sam Nashef as a cardiac consultant surgeon training SCPs (Nashef 1999) who suggested that ' ... what makes a surgeon is the competence to know when a surgical operation is indicated, its attendant risks and benefits, the optimal timing of intervention, the precise methods by which it is carried out, the likely complications and how to deal with them: Beyond this, who holds what instrument at what stage of the procedure becomes secondary'.

Taking this argument further, I suggest that all surgical patient care is indeed a delegated cascade of function and performance. Decisions made as lead clinician directly affects delegated care provision through other care delivery professionals, who as individuals or in teams, follow his or her prescription or instructions to affect patients' recovery of health, function or a timely death! None more so than who is to assist them during surgery!

AN UNFORESEEN PRACTICE DEVELOPMENT

In supporting the surgical activities of our department, one emerging consequence of an SCP practice is recognition of their emerging ability to support ST4 - ST6 trainees as they make the transition from requiring direct/indirect consultant supervision, to proximal consultant supervision only ... in other words, independent operating.

A trainee's performance while operating is assessed by procedure-based assessment and direct observation, which leads to a judgement of competency on the levels set by Intercollegiate Surgical Curriculum Programme: Orthopaedic curriculum (ISCP 2010a, b) as below:

For each procedure undertaken, in this case a primary total hip arthroplasty, defined competencies and definitions for assessment are indicated. Competencies and definitions for Section 5 - intra-operative technique:

1. Follows an agreed, logical sequence or protocol for the procedure
2. Consistently handles tissue well with minimal damage
3. Controls bleeding promptly by an appropriate method
4. Knots and sutures demonstrate a sound technique
5. Appropriate and safe use of instruments
6. Proceeds at appropriate pace with economy of movement
7. Anticipates and responds appropriately to variation
8. Deals calmly and effectively with untoward events/complications
9. Uses assistant(s) to the best advantage at all times
10. Communicates with scrub nurse clearly and professionally
11. Dislocates hip safely
12. Cuts femoral neck appropriately to match design of implant
13. Demonstrates familiarity and understanding of acetabular preparation including osteophyte trimming medially and at the rim
14. Broaches the femur properly and prepares the bony surface
15. Uses trials and checks component orientation properly
16. Fix acetabular components appropriately
17. Implants femoral components appropriately
18. Performs final reduction and checks for stability.

Global summary (based on the observed/relevant parts of this procedure only)

Level 0 Insufficient evidence observed to support a judgment
Level 1 Unable to perform the entire procedure under supervision
Level 2 Able to perform the procedure under supervision
Level 3 Does not usually require supervision but may need help occasionally
Level 4 Competent to perform the procedure unsupervised (can deal with complications)

Each element of the observed intra-operative technique is assessed by the mentor as:

N = Not observed or not appropriate
U = Unsatisfactory
S = Satisfactory

Once a trainee's performance has been observed by their consultant as achieving level 3 - 4 competency, an SCP may then be asked to 'look after' the trainee, providing direct supervision. The consultant remains available in the department, however towards the end of a six-month attachment during consultant study/annual leave, cases may be left for the trainee to complete, with cover available from another consultant operating in the department.

Using the current ISCP (2010a, b) assessment definitions, a traffic light decision model based on Schön's (1983) reflective practitioner modelling, was developed to allow early intervention should a SCP 'feel-in action reflection' that a patient is at risk and that the trainee is not coping. The code is as follows:

- **Green indicates positive behaviour.** The trainee is doing what should be done. The trainee follows a logical sequence or protocol for the procedure as normally undertaken by the consultant. Minimal verbal reminders may be required.
- **Amber indicates negative passive behaviour.** The trainee is not doing what should be done. The trainee appears to have forgotten the sequence, and surgery is disrupted.

1. A verbal warning/cue is given 'Would Mr N do that now?/Have you forgotten to do this?/Are you sure that looks/feels right?'
2. The trainee may realise that they have missed the intervention and may need reassurance 'How does this look to you?/Am I doing this right?'
3. If three such events occur the consultant is called

- **Red indicates negative behaviour.** The trainee is doing what shouldn't be done. An unsafe proposed action will be stopped by direct intervention.

1. Verbal warning: 'Stop – what are you about to do!' For example, you are about to put a stay suture through a nerve
2. Physical action: Instruments are removed from trainee and placed on the Mayo table. The error is pointed out to the trainee
3. The consultant is called to the OR and the situation is discussed

A 90-minute operating rule is enforced for trainees undertaking trauma list surgical cases, after which senior theatre staff may contact the on-call consultant.

A SURGICAL TRAINEE'S VIEWPOINT

'Since the widespread implementation of the European Working Time Directive (EWTD) most surgical departments have experienced greater pressures. There are frequently fewer junior doctors working during normal working hours, with implications for training as well as service provision. The impact on surgical training has been variable, with some units struggling to provide high-quality training.

'There is concern among trainees regarding the use of surgical care practitioners (SCPs) and a further impact on training. However, here at the Norfolk & Norwich University Hospital SCPs can play an essential part in promoting opportunities for training to progress. There is little doubt that contemporary trainees

are generally less capable than they used to be at the start of their specialty training programme. They need help if they are to make the most of their training time. In an ideal world we would be rolling out superb training for all. More realistically, as the Royal College of Surgeons' guidance makes clear, operative training really must be focused on the higher surgical trainee.

'Where time in the OR is limited for the FYs and CTs they stand to gain more from supervised operating than from assisting. Much has been discussed about continuity of care on the wards and for patient care in general, but this is also applicable to the OR environment. Here it is consistency as well as continuity which can be difficult. The SCP has a central role in maintaining the consultant's way of working in his absence. Repetition is a key mechanism of learning and if this can continue uninterrupted, it is to the benefit of the trainee.

'A six-month attachment must include annual leave, study leave and periods while the consultant is away. This limited training time can be further truncated where shift working patterns are used (not applicable in our unit) and where trainees from several sources rotate in at different times of the year. This is the case at the Norfolk & Norwich Hospital, with registrars coming from East Anglia, London and the United States. My most recent attachment was with Mr John Nolan for a total of four months. It followed on from the scheduled end of an attachment from my London-based Percival Pott training programme. Supervised operating with the consultant forms an essential part of the surgical training experience. Then there comes a time where trainees can gain greater insight into their limitations but also confidence and competence from operating without the trainer directly present.

'Working with a SCP allows for all of this with a guaranteed, skilled assistant. It is not without stress and we would freely admit that both registrar and SCP feel the burden of responsibility far more while doing our own lists. This is perhaps as it should be and also an extremely valuable part of training to be a consultant.'

CONCLUSION

In 1993, Suzanne Holmes (Holmes 1994) was appointed as the UK's first non-medical cardiac surgical assistant (Beecham 1993). This confirmed Seifert and Rothrock's (1999) later observations on similar practice developments in the USA that: 'Teamwork can be achieved only when ... ALL PARTIES … decide that working together in the interest of consistent, quality patient and family care will bring them to their fullest potential'.

Such teamwork is the interaction of the operating surgeon with other members of the surgical team, which affects his/her surgical performance and patient outcomes (Undre *et al* 2009). As all levels of surgical trainees continue to undertake their nomadic education, disruptive work patterns and frequent team changes affect the continuity of patient care.

Mr John Nolan, consultant surgeon and orthopaedic clinical director believes that the experienced SCPs provide a reassuring continuity in the OR environment for both the consultant and the trainee. They bridge the gap between consultant supervision and independent operating, enhancing the trainees' educational exposure and ensuring patient safety, as the chick prepares to fly the nest.

References:

Armstrong L. 2003. Taking the pain out of waiting. *Nursing Times 99 (18) 36-7*

Beecham L. 1993. Medico political digest: Consultants give qualified approval for surgeon's assistant. *Available from: http://www.bmj.com/content/307/6914/1286.extract [Accessed October 2011]*

Bolam v Friern Hospital Management Committee 1957 2 All ER 118

Bruce C, Bruce I, Williams L. 2006. The impact of surgical care practitioners on surgical training. *Journal Royal Society of Medicine 99 (9) 432–3*

Calman K. 1993. Hospital doctors: training for the future The report of the working group on specialist medical training*. London, DH*

Chalmers CR, Joshi S, Bentley PG, Boyle NH. 2010. The lost generation: impact of the 56-hour EWTD on current surgical training. *Annals of Royal College of Surgeons of England 92 (3) 102-6*

Dehn T (Ed). 2005. Controversial topics in surgery. *Annals of Royal College of Surgeons of England (Suppl) 5 (87) 239–43*

Department of Health 1998a. Working time regulations: implementation in the NHS. *London, DH*

Department of Health 1998b. A first class service: quality in the new NHS. *London, DH*

Department of Health 2000. The NHS plan. *London, DH*

Department of Health 2004. Modernising medical careers: the next steps. *London, DH*

Department of Health 2005. The curriculum framework for the surgical care practitioner. A consultation document. *London, DH*

Department of Health 2006. The curriculum framework for the surgical care practitioner. *London, DH*

Department of Health 2011. Guide to waiting time. *[Online]*
Available from: www.nhs.uk/choiceintheNHS/Rightsandpledges/Waitingtimes/Pages/Guide%20to%20waiting%20times.aspx [Accessed October 2011]

Edwards C, Keeley O. 1998. Competency-based learning for the surgical assistant. *Nursing Standard 12 (20) 44-7*

Freudmann F, Aning J. 2006. Surgical care practitioners are having a detrimental effect on surgical training. *Available from: http://careers.bmj.com/careers/advice/bmj.333.756.s97.xml [Accessed October 2011]*

Holmes S. 1994. Development of the cardiac surgeon assistant. *British Journal of Nursing 3 (5) 204-10*

Hunt L. 1995. For doctor, read nurse Independent. *London Ed 27 January 1995 Available from: www.independent.co.uk/news/uk/for-doctor-readnurse-1569965.html [Accessed October 2011]*

Intercollegiate Surgical Curriculum Programme 2010a. Trauma and orthopaedic speciality syllabus. *Available from: www.iscp.ac.uk/home/SpecialtySyllabus.aspx?spec_id=33 [Accessed October 2011] Procedure-Based Assessment Validation*

Intercollegiate Surgical Curriculum Programme 2010b. Procedure-based assessment validation: competencies and definitions (trauma and orthopaedic speciality syllabus)*. Available from: www.iscp.ac.uk/home/SpecialtySyllabus.aspx?spec_id=33 [Accessed October 2011] Procedure-Based Assessment*

Kneebone R, Darzi A. 2005. New professional roles in surgery. *British Medical Journal 330 (9) 804*

Martin S, Purkayastha S, Massey R, Paraskeva P, Tekkis P, Kneebone R, Darzi A. 2007. The surgical care practitioner: a feasible alternative. Results of a prospective 4-year audit at St Mary's Hospital Trust, London. *Annals of Royal College of Surgeons of England 89 (1) 30–5*

Nashef S. 1999. Personal view: What makes a surgeon? Knowledge, judgement, accountability. *Annals Royal College of Surgeons of England (Suppl) 89 44-5*

National Association of Assistants in Surgical Practice. 2003. Surgical care practitioner core syllabus. *London, NAASP*

National Association of Theatre Nurses. 1994. The nurse as surgeon's assistant. *Harrogate, NATN*

Newey M, Clarke M. 2008. Getting patients back to work after carpal tunnel surgery. *Journal of Peri-operative Practice 18 (2) 60-3*
NHS Management Executive. 1991. Junior doctors: the new deal. *London, Department of Health*
Peysner J .1996. The nurse as a surgeon's first assistant. *Journal of the Medical and Dental Defence Unions 11 62-3*
Phillips H. 2005. Surgical care practitioner: not another surgical profession. *Annals of Royal College of Surgeons of England (Suppl) 81 44-5*
Royal College of Surgeons of England. 1999. Assistants in surgical practice. A discussion document. *London, RCS (Eng)*
Royal College of Surgeons of England. 2011. Patient information. The training of surgeons. *Available from: www.rcseng.ac.uk/patient_information/faqs/training_surgeons.html [Accessed October 2011]*
Royal College of Surgeons of England Society of Cardiothoracic Surgeons. 1993. Cardiac surgeons' assistant: guidelines for heads of department. *London, RCS (Eng)*
Seifert P, Rothrock J. 1999. The RN first assistant and collaborative practice In: Rockock J (ed) The RN first assistant: An expanded peri-operative nursing role. *Philadelphia, Lippincott*
Schön D. (1983). The reflective practitioner. How professionals think in action. *London, Temple Smith*
Skills for Health. 2009. Nationally transferable roles: Template for advanced practitioner roles. *Bristol, Skills for Health*
Undre S, Sevdalis N, Vincent C. 2009. Observing and assessing surgical teams: The observational teamwork assessment of surgery. *(OTAS) In: Flin R,*
Mitchell L (ed). Safer surgery: Analysing behaviour in the operating theatre. *Farnham, Ashgate Publishing*
Witch Doctor. 2007. The National Practitioner Programme: Do you understand where the National Practitioner Programme sits within medical care? *Available from: http://witchdoctor.wordpress.com/2007/06/01/thenational-practitioner-programme/ [Accessed October 2011]*
Younger J. 2006. Surgical care practitioner role outlined. *The Clinical Services Journal January Ed 23-24*

Adrian Jones: RGN, ENB 176/998, Cert SCP Orthopaedic Surgical Care Practitioner/Lecturer/Nurse Practitioner, Trauma and Orthopaedic Department, Norfolk & Norwich University Hospital NHS Foundation Trust.

Homa Arshad: MB BChir, MA, MRCS; Specialist Registrar in Trauma Orthopaedics, Norfolk & Norwich University Hospital.

John F Nolan: MBBS, FRCS, FRCS (Orth) Consultant Orthopaedic Surgeon, Norfolk & Norwich University Hospital NHS Trust.

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Greening Surgery - Key Strategies: Part I

By Kate Woodhead, RGN, DMS

INTRODUCTION

One of the greatest challenges of our life is with us now - and that is climate change. The association of rising temperatures, uncertain weather and climate effects causing fires, floods and many storms together with the spread of different vector diseases including Ebola and COVID-19 increases the risks of harm to society. As responsible professionals and citizens we need to ensure that our work environment is able to make as much difference as we do at home to contribute towards the net zero target.

The World Health Organisation (WHO) says that the climate crisis is the major threat to human health. Delivery of healthcare is also part of the problem - so what can we do to assist? Health systems are thought to contribute 4.4% of global emissions in comparison to 2.5% from aviation. Surgical practice is one of the largest single causes of resource use in health systems which, in England, accounts for around 27% of the financial spend and an estimated 5.7-million tonnes of CO_2 per year[1].

There is a need to contribute to greater levels of information available on the topic so that individuals can make their own assessments of where they can reduce or re-use. This will be one of three articles that I will write for the *APPSA Journal*, as the *Green Surgery Report* is long - with many facts and recommendations and hundreds of references for teams, individuals, hospital leadership and governments to help towards the reduction in harmful emissions. The first two appear in this *APPSA Journal*, and the third article will appear in the February/March 2025 issue of the *APPSA Journal*.

The *Green Surgery Report* study is the result of a two-year effort to reduce the impact of surgical care headed by the UK Health Alliance on Climate Change, Brighton and Sussex Medical School and The Centre for Sustainable Healthcare. The project was carried out with a range of different stakeholders representing every stage of the surgical pathway. Initially we will review the need for sustainability in healthcare and then focus further on surgery.

ESTABLISHING THE NEED FOR SUSTAINABILITY

Healthcare Without Harm estimated that the healthcare sector is responsible for 4.4% of global net emissions and that if healthcare were a country, it would be the fifth largest emitter[2]. That is shocking enough, but add to this fact that the NHS in England generates an estimated 25-million tonnes of CO_2 each year which includes three 'scopes' of greenhouse gas emissions (GHG)[3].

EN13795 - Do your surgical drapes and gowns comply to the right quality standards?

Drapes and gowns provide an essential barrier to help preserve the sterile field during surgery. They protect healthcare workers' exposure to body fluids and potential infectious material, while preventing bacterial contamination of the surgical site.

With Hospital-Acquired Infections (HAI) affecting many patients at high cost to the healthcare system, it is vital to ensure that surgical drapes and gowns offer the best possible barrier protection.

How do we ensure this?

EN 13795 is the European standards relating to general requirements, testing methods and specific performance levels for single-use and multiple-use surgical drapes, gowns and clean air suits. The standard is designed to ensure that a basic level of performance has been achieved in order for a surgical gown or drape to be classed as fit to use for a surgery.

EN 13795 consists of three parts:

Part 1: General requirements for manufacturers, processors and products

- The scope includes testing requirements as follows:

CHARACTERISTICS TO BE TESTED	GOWNS	DRAPES
Resistance to microbial penetration - Dry	✓	✓
Resistance to microbial penetration - Wet	✓	✓
Cleanliness - Microbial	✓	✓
Cleanliness - Particulate matter	✓	✓
Linting	✓	✓
Resistance to liquid penetration	✓	✓
Adhesion for fixation for the purpose of wound isolation		✓
Busting strength - Dry and wet	✓	✓
Tensile strength - Dry and wet	✓	✓

Part 2: Test methods

- This section stipulates the test methods that manufacturers or processors will have to complete in order to ensure that the device will comply with the requirements in parts 1 and 3 of the standard.

Part 3: Performance requirements and performance levels

- The levels of performance are selected as **'standard'** or **'high performance'** and are differentiated by critical and less critical areas on drapes or gowns.
- Standard Performance addresses the minimum performance requirements of medical devices, while High Performance addresses elevated performance requirements. These differ according to levels of mechanical stress, fluid levels and durations of surgical procedures.

How is EN13795 relevant in choosing a theatre textile?

This European standard lists uniform testing methods enabling you to compare material performances from the testing report and make an informative pre-selection of the available fabrics.

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Scope	Definition	Example	Responsible for % of NHS England GHG emissions
Scope 1	GHGs directly emitted from and controlled by an organisation	Anaesthetic gases Hydrofluorcarbons or chlorofluorocarbon propellants from metered dose inhalers	5%
		Direct emissions from combustion of petrol or diesel from NHS owned or leased vehicles	4%
		Combustion of fossil fuels on site such as within gas boilers	
Scope 2	GHGs indirectly emitted due to energy purchased	Purchased as electricity, steam , heating or cooling	10%
Scope 3	All other GHGs	Supply chain including62% Pharma and chemicals Medical equipment Non-medical equipment	
		Patient, visitor and staff travel	10%
		Water and waste disposal	5%
		Commissioned services	4%

It seems that the areas where greatest effort should be made for reduction of GHGs is in the supply chain for healthcare. In addition, nitrous oxide and halogenated anaesthetic gases such as isoflurane contribute to ozone depletion. Detailed analysis will be made in a future article, particularly regarding the supply chain issues. However, it is clear from the above table that there is much work to do - not only to increase awareness but also to make changes to the delivery of healthcare, especially where it is known to be harming the planet and contributing to ill health.

REDUCING THE NEED FOR SURGERY

Reducing the need for surgery is a huge challenge, which unless more professionals are aware of

the actions we must make, will not be met. Before COVID-19 interrupted normal service, the volume of surgical procedures in the world was increasing and was estimated in 2012, to be 313-million procedures[4]. The reasons for this were largely down to increasing trauma and cancers in the global south in the developing world, as well as demand from an elderly demographic in the developed healthcare systems.

One of the principles of sustainable surgery identified by Rizan and colleagues devised by the Sustainable Healthcare's *Four Principles of Clinical Practice*[5] suggests that society needs to get a great deal better at disease prevention and this includes traditionally 'surgical' disorders. There is already considerable emphasis on healthy behaviours in the media, but little serious evidence that it is having a huge impact on reducing red meat eating, more exercise, less alcohol and smoking which may affect population health. Checking compliance with medications is also cited[6] as well as medication rationalisation to reduce interventions with the potential to reduce the need for surgery.

Reducing unnecessary visits to out-patients and the GP has already changed in some areas and telemedicine has been developed - which patients like - and it has the collateral benefit of reducing unnecessary transport emissions. These are all helpful when the backlog of necessary surgery still continues to stress surgical teams with sicker patients and greater workloads.

LEAN SURGERY DELIVERY

Lean surgery involves streamlining surgical pathways to assist with the development of optimising resource utilisation. This involves equipment, time, space, financial and workforce capacity. The streamlining largely focuses on reducing consumables and to avoid opening items which may only be needed occasionally. I realises that times must have changed in clinical practice - we only ever opened things when they were deemed necessary, but not due to planetary health but to operating room (OR) costs which were always under pressure. There are many activities which could be listed which help the streamlining process but are not often undertaken by surgical teams due to lack of time, leadership and motivation. Choosing which interventions to implement is possibly the greatest current challenge given the paucity of time and energy available.

OPERATING ROOM DESIGN

ORs are three to six times more energy intensive than clinical wards in the hospital. Most of this is down to heating, ventilation and air conditioning. Gas scavenging systems (AGSS) also get a frequent mention in the literature as being very heavy on energy use, with the remainder on lighting, IT and medical equipment, which is probably the many different monitoring machines and others such as electrosurgical devices, harmonic scalpels and increasingly robotic devices. AGSS can be switched off if Intravenous Anaesthesia (TIVA) is in use, which many theatre teams would not consider. It is helpful to have excellent relationships with EBME (medical engineering) in hospitals so that when complex equipment develops a fault, it can be effectively remedied on site.

However, there are also many major infrastructure items which can be retrofitted which can reduce the energy use of ORs such as the lighting, which is far more efficient if motion sensors are installed.

There should be protocols devised to ensure that heating, lighting and ventilation is switched off at the end of each day to reduce energy consumption. This too goes back to the old days where this was part of 'closing theatres' at the end of surgery, we used to 'set back' the power usage. Advanced ventilation systems **can** be installed, but due to their cost, are unlikely to be changed once installed. For instance, there is an energy-mitigated type of ventilation called a Temperature Controlled Airflow which uses cool HEPA filtered air above the operating table which can achieve ultra-clean air conditions. It is not known if this newest type of ventilation has yet made it's way into the Operating Theatre Building Note for new theatre builds or not. All teams involved in the design and build of new ORs now need to refer to the NHS England Net-Zero Building Standard, which provides technical guidance on development of sustainable, resilient and energy efficient buildings[6].

BARRIERS AND FACILITATORS

While evidence of implementation of successful sustainable interventions has been available for some time, generally there is a lack of quality evidence and even less information on their cost- effectiveness. The implementation of single elements of sustainable surgery will not gather the support required by hospital leadership, other surgical team members and patient groups if there is only poor quality research. Results will need to be ingrained into the surgical pathway and behaviours of all staff involved, if there is to be any lasting effect on the net-zero target.

Aboueid *et al* reviewed the barriers and enablers of implementing environmentally-sustainable practices in healthcare[7]. They surmised from the current literature that barriers and enablers relating to the individual were knowledge, skills and attitude; of institutions were budget, strategy and readiness; and geographical issues related to infrastructure and awareness; while political factors were regulations and incentives; and finally, patient awareness and knowledge was also very important. They highlighted that for the healthcare sector to implement sustainable practices it was important to map the complexities that these facilities had had to contend with. Challenges particularly to do with the issues hanging over from the COVID-19 pandemic were highlighted. It was noteworthy that throughout their work, they found a theme of key importance which was a top-down approach in successfully implementing sustainable practices across an institution.

An article said to be from the UK - but un-identifiable - showed that barriers to implementation of green initiatives in the OR were lack of leadership, perceived infection risks, lack of data, concerns about increased workload, staff attitudes and resistance to change. The same issues might be related to any change in behaviours and practices especially if it requires a considerable effort. However, enablers for individuals were found to be engagement, motivation, perceived benefits and continuing professional education[8]. Enablers for institutions were said to be a learning organisation, budget, resources, staff, transformational and supportive leadership, resilience, buy-in from key stakeholders, reporting and monitoring systems, performance systems, waste management system, resilience, internal protocols, dedicated personnel, learning from other hospitals, action alerts and policy statements.

From this long list it can be seen that the whole institution has to be on message and that support needs to exist across the board. A recurring theme was also found that the onus should not be on the health professionals, but on the institution they work in, to make a practice success and that the hospital should

empower environmentally-sustainable practices to become second nature. Clinical Practice guidelines also need to reflect sound environmental practice.

EDUCATION AND TRAINING

The surgical workforce needs to be supported in it's educational needs by the addition of theoretical knowledge and theory on the environmental impacts of surgery and the principles of sustainable practice to support their ability to drive change[9]. Online training is available through the Centre for Sustainable Healthcare as well as NHS England. Useful resources are also available via the Greener NHS Knowledge hub on the Future NHS Collaboration Platform. The Intercollegiate Green Theatre List is a very helpful list of recommendations developed by four surgical Royal Colleges separated into sections to reflect the surgical pathway which could be used as a checklist for teams wishing to make progress along a more sustainable route[10].

CONCLUSION

Clinical ideas for developing sustainable theatre and surgical practices will be covered by the next in the series of articles.

References:

1. Green Surgery – reducing the environmental impact of surgical care. *2023 Accessed at CSH contributed to the new Green Surgery Report setting the groundwork for reducing the carbon footprint of surgical care|Centre for Sustainable Healthcare*

2. Health Care Without Harm. Health care's climate footprint: climate-smart health care series green paper number one. *[Internet]. 2019. Available from: https://noharm-global.org/sites/default/files/documents-files/5961/HealthCaresClimateFootprint_092319.pdf*

3. Green Surgery Report

4. Ibid

5. Rizan C Reed M, Mortimer F et al 2020. Using surgical sustainability principles to improve planetary health and optimise surgical services following the COVID-19 pandemic. *Accessed at Using surgical sustainability principles to improve planetary health and optimise surgical services following the COVID-19 pandemic (rcseng.ac.uk)*

6. NHS England Net Zero Building Standard 2023. Accessed at NHS England » NHS Net Zero Building Standard

7. Aboueid S, Beyene M, and Nur T 2023. Barriers and enablers to implementing sustainable practices in healthcare: a scoping review and proposed roadmap.

8. Accessed at Barriers and enablers to implementing environ*mentally sustainable practices in health-care: A scoping review and proposed roadmap (sagepub.com)*

9. Ibid

10. Royal College of Surgeons Edinburgh, Royal College of Surgeons England, Royal College of Physicians & Surgeons of Glasgow and Royal College of Surgeons in Ireland. 2022 Accessed at Green Theatre Checklist|RCSEd

Kate Woodhead qualified in 1978. She has worked in peri-operative care since then and runs her own business as an Operating Theatre Consultant. Kate was Chairman of NATN from 1998 to 2001. She is the former President of the IFPN (2002 to 2006) and now works as an Advisor to WHO on the Safe Surgery Saves Lives Campaign. She is the Chairman of Trustees at Friends of African Nursing. For more information on FoAN please go to www.foan.org.uk

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Optimising Greening Surgery - Clinical Considerations: Part II

By Kate Woodhead, RGN, DMS

INTRODUCTION

Climate change is having a devastating effect on our world already and is accepted as being one of the greatest challenges of the modern era. With floods, fires and frequent storms - not to mention the threat of vector borne diseases such as Lyme disease and Dengue fever - we must take significant action to reduce or mitigate it as far as possible, to reduce it's increasing impact. It is generally accepted that the current use of resources globally is unsustainable for the health and well-being of future generations.

Healthcare and surgical practice in particular comprises a significant proportion of global emissions - estimated at 4.4% when aviation only contributes 2.5%[1]. Operating Rooms (ORs) are the greatest users of resources in each hospital and therefore should have the greatest opportunity to reduce emissions and aid the target towards net zero by 2040 for the direct emissions that the NHS controls, and a wider target for indirect emissions by 2045. This aim to reduce the carbon footprint of the NHS is now law. It is not just a 'nice to have' but now a statutory requirement embedded into legislation in the Health and Care Act 2022. The report delivering a Net-Zero National Health Service is now issued as statutory guidance[2].

The provision of high quality surgical care and patient safety must be maintained while reducing the carbon footprint of each surgery in order to reduce the high cost to the environment. Surgical teams should devise activities for their ORs with all professions signed up to the strategy and needing leadership from within the hospital at board level as well, as there will be collateral actions. A typical operation is estimated to create 150kg to 170kg of CO_2 equivalent, the same as driving 450 miles in an average petrol car[3].

SURGICAL CARE PATHWAYS

The wider impact of surgery and it's activities on the hospitals' carbon footprint can also be affected by streamlining surgical care pathways[4]. Identifying steps in the surgical pathway that do not add value to the process, or to the patient, are a good place to start the review prior to applying sustainability criteria to the process.

Many hospitals undertook this exercise years ago, but an excellent starting point is to examine whether patients can be moved to being a day surgery patient as opposed to a full in-patient, thereby freeing beds for more complex surgery cases. During COVID-19, many out-patient appointments were undertaken using telemedicine which patients like, saving them travelling to and from the facilities, and the consequent emissions. This could be increased across the elective surgical preparation process, and has been implemented by many Trusts seeking to reduce their footprint. However, this adds an extra burden

on primary care as all the pre-surgery tests on bloods and X-Rays, for example, will need to be undertaken via the GP. However, Telehealth tends to dis-enfranchises some elderly patients and those who have no access to the necessary digital services as well as some disabled people with sensory impairment, and for these reasons, it needs to be carefully implemented with other options still being made available.

One of the other activities which has evidence-based quality enhanced benefits for the surgical patient and can lead to slimmer patient care pathways is pre-habilitation. Pre-habilitation comprises of multi-disciplinary healthcare interventions which included exercise, nutritional optimisation and psychological preparation which aims to reduce the metabolic shock of surgery, shorten the recovery time, reduce complications and improve the quality of post operative recovery[5]. In addition, advice may be given on smoking cessation, alcohol moderation optimising weight and nutrition in order for the patient to get the best possible outcome of their surgery. During the course of preparing the patient for surgery, careful assessment of what necessary tests and investigations are required by the surgical team, should be undertaken to optimise surgery outcomes. Many organisations have a raft of routine tests to which they subject every patient. Many are unnecessary and numerous studies and guidelines recommend against routine pre-operative tests for healthy patients undergoing low-risk surgery and suggest instead that investigations are targeted to patient co-morbidities and the risks of the specific surgical procedure.

Where the procedure takes place is also potentially open to consideration. As a peri-operative practitioner, I finds this is a difficult topic for consideration. The optimum degree of safety is in the OR rather than an out-patient cubicle or a ward procedure room, together with the knowledge of the staff for the procedure. However, the OR is the most expensive option and may not be necessary for specific procedures. The *Green Surgery Report* suggests that carpel tunnel decompression, grommet insertion and trans-perineal prostate biopsy (as examples) could all be undertaken elsewhere. Local decisions by a multi-disciplinary team could list those procedures which could be done in other spaces, but this will rely on the local conditions being appropriate.

This argument to move procedures away from ORs, as used by the *Green Surgery Report*, seems a little hollow, however as we know, many of the above were reviewed over the last 20 years for cost-based reasons and changes were made. Many patients preferred the changes which suited them, their time, and their return to 'normal' life sooner. The hospital 'won' because it freed the potential of additional surgery in ORs and team availability for more complex surgery. The budget was also better served.

Post-operatively, one of the movements of the last years has been the development of enhanced recovery after surgery (ERAS). It is a multi-disciplinary treatment regime which has shortened the stay in hospital for the patient and the recovery period. It largely comprised involving the patient in their own progress and recovery as well as early mobilisation and reducing dependence on hospital services[6]. This obviously has benefits all round and is becoming common practice in the UK. Day-case surgery is expanding too, and the basket of procedures which are suitable for day surgery is increasing all the time leading to a more efficient use of NHS resources. Further to the aim to streamline surgical pathways is a reduction in post-operative visits to out-patients or possibly let the patient decide. If they feel their recovery is good, and there is no need to attend out-patients (OPD), then it could be their choice. This would significantly increase the capacity of OPD appointments to plan new surgeries.

	OR SETTING	NON-OR SETTING
Energy	High energy consumption (3 to 6 times the rest of the hospital)	Lower energy consumption
Anaesthesia	Any modality. May be a tendency to opt for general anaesthesia even when unnecessary	Procedures under local or none
Products	Re-usable products more likely available. Tendency to use sterile products even if not necessary	Option of re-useables not always available
Healthcare staff	Likely to be more staff involved, increasing use of PPE, staff travel	Often fewer staff involved
Time	Longer wait for theatre availability, increased time in theatre and length of stay	Faster process due to immediate availability, fewer resources and short length of stay

ANAESTHETICS

It is said that anaesthetic gases account for 2% of all NHS emissions[7]. Among anaesthetic gases, desflurane is one of the most common, but also one of the most harmful. It has 20 times the environmental impact of less harmful greenhouse gases and using a bottle has the same global warming effect as burning 440kg of coal. That is equivalent of driving between 200km and 400km compared to driving between 5km to 10km for sevofluorane, a lower carbon alternative.

Scotland's NHS became the first national health service in the UK to stop using desflurane which has a global warming potential 2 500 times greater than carbon dioxide. Removing it from use in hospital theatres across NHS Scotland saved emissions equivalent to powering 1 700 homes every year[8].

Other actions which may be taken by anaesthetists have been devised by the Association of Anaesthetists[9]:

1. Avoid nitrous oxide whenever possible, and use oxygen/air as the carrier gas; the effect of the increased use of volatile agent to achieve an adequate depth of anaesthesia is more than offset by the benefit of eliminating nitrous oxide
2. Avoid use of desflurane except for rare occasions when its use is really necessary
3. Use low flow anaesthesia (maximum 1.5 l/min) during maintenance in all cases
4. Consider swapping volatile agent-based anaesthesia for a TIVA technique
5. Consider use of central neuraxial block or regional anaesthesia

There is also considerable emphasis in the *Green Surgery Report* that using local, regional and intravenous anaesthesia may be associated with lower carbon footprint compared to inhalational anaesthetics. Capture of waste gases is also a strongly emphasised activity as currently waste gases are vented to the air somewhere above the hospital, but there is insufficient research or technology at present to enable any change in practice. It is being actively worked on. The report also suggests that care should be taken not to open any supplies or drugs unnecessarily, which remains (as previously stated) an aim of every surgery which takes place as consideration of costs is essential at all times[10].

A further controversial issue is that of omitting to build anaesthetic rooms in new hospitals, as has become more common practice in Europe and North America. This practice suggested by the *Green Surgery Report* which saves space in the OR complex build is controversial because induction of anaesthesia requires a calm environment for the patient and may also take some time especially if regional anaesthesia becomes more common. Inducing the patient in the OR which saves a second anaesthetic circuit being filled with gases, means a noisy environment for the patient and also potentially an undignified one. There are suggestions too, that the manifold containing nitrous oxide should be discontinued, and the supply fed by cylinders on the anaesthetic machine instead due to the amount of NO_2 which leaks from the piped supply.

PRODUCTS USED IN PERI-OPERATIVE CARE

Discussion regarding a circular economy for products used during surgery is an important aspect of choosing a product to purchase. A circular economy involves maintaining manufactured products in circulation, distributing resource and environmental costs throughout the lifetime of the item. In contrast, in a linear supply chain the product is single use and disposed of. Healthcare over the last 30 years has become far more reliant on single-use items managed by just-in-time principles to reduce stock holdings and to rely on frequent deliveries. This often shows frailties when there are disruptions and fluctuations such as to PPE supplies during the COVID-19 pandemic. There are barriers to circularity such as difficult to clean items, infection prevention and control, as well as behaviours of medical device manufacturers. The law has something to contribute to the general disregard of re-using single-use disposable items, which is common practice in the USA.

That single use of a vast range of different products is making surgery greener and more sustainable, is not good use of global resources and we must re-think this activity. We create a great deal of waste from single-use products, some of which contain rare metals or items which have a longer life than we use them for. An example of this is the lithium-ion batteries in single-use vaping products. Testing has shown that the batteries have a life far longer than the product is used for and is discarded - it is estimated that 1.3-million are discarded each week in the UK creating toxic waste[11] but not saving the precious lithium which is a finite global resource. Complex medical products may also contain rare resources often unknown to their users and discarded often with a cost to waste disposal and the planet.

However, there needs to be capacity for switching back to re-usable products in the cleaning and sterilisation processes, making them fit for re-use. It is not simple moving from single use to re-usable products. Many products are not available as re-useable, or are a second-rate product for the patient or patient safety. Take for example a single-use port for laparoscopic surgery. Those in use at present are

single use. They are sharp to pierce the skin, causing the patient as little damage as possible. Those they replaced were re-usable but were, after frequent use, difficult to get through the patient's skin and potentially ready to cause harm to the bowel or other structures due to handling difficulties. They also leaked gas into the faces of the team using them as the only replaceable part of the port was a small washer, and it did not always get replaced between uses.

The *Green Surgery Report* cites average reductions in carbon footprint of 38% to 56% achieved through switching from single-use to re-usable equipment.However, I believe there is traction to be gained but much more research is required especially on difficult to clean items such as cannula, needles and small lumened items, as well as many other modern instruments and medical device equipment.

The report suggests we use the 5Rs when considering a product as part of the circular economy - which may also be labelled as the 'whole life' of a product: Refuse, Reduce, Re-use, Renew and Recycle.

The Association of British Healthcare Industries suggests that when considering new products to purchase, that the price is the main element for choice. The environmental impact of a product needs to be part of the overall consideration in order to contribute to long term net zero. Carbon Reduction Plans are to be introduced which will indicate that all suppliers will be required to publicly report targets, emissions and publish a Carbon Reduction Plan for their Scope 1, 2 and 3 emissions[12].

SURGICAL SPECIALITIES

Many surgical specialities have a range of instruments that have, over the last 20 years, been replaced with a single-use product. These are what are need to be considered in the light of carbon reduction and the 5Rs. Some pairs of scissors, particularly those used in laparoscopic surgery, for example, have become single-use items, replacing less sharp scissors which were re-usable. Surgeons have gotten used to the scissors being sharp and cutting the first time and it would be difficult to go back. In addition, poor or interrupted insulation on some diathermy products during laparoscopic surgery as well as open surgery, caused arcing or tissue burns. Single-use diathermy handpieces were substituted for re-usable ones when the insulation also became an issue of patient safety. There are many fine suction tubes used in many different specialities and these are very difficult to clean effectively, and so have been replaced with single-use items. Infection prevention has to take a prime position where these instruments are concerned. A further product, in use by many different specialities now, are robotic instruments which - by their very nature - are long and thin and difficult to clean.

In general, an aseptic set up on a trolley has many different items which have become single-use due to the capacity of autoclaves in sterile services (CSSDs). Bulky items such as bowls and kidney dishes create considerable bulk for disposal after each surgery and it would be difficult to return to re-usable items although this would be an obvious change. The same applies to single-use drapes, although there is more of an infection prevention argument here, but the capacity of hospital laundries to take on the vast volume of gowns and drapes which they coped with in the past is an unlikely change to occur.

Teams must review all of their current products and uses to see what might be possible to change. There is no doubt that procedure packs with vast numbers of single-use items included need to be on

regular observation to see if products can be removed. This also goes for instrument sets (but this should be being undertaken, anyhow) and indeed, preference cards. These enquiries are just good management, but are often left undone due to all the other stresses which happen.

EDUCATION AND LEADERSHIP

Keeping busy teams up-to-speed with changes that are occurring around them is hard enough, but it is becoming more and more essential that each and every professional is ahead of the curve. The professional associations have many opportunities to educate their members online and in the development of useful tools. The recommendations of the Intercollegiate Green Theatre Checklist[13] are a case in point, and should be helpful to all surgical teams to reduce the environmental impact of surgical practice.

Leadership from within the hospital is needed at every level, but particularly at Board Level. There will be one Director in each Trust - or Integrated Care Board - who will be assigned a leadership role in this area to help teams to make some difficult decisions.

CONCLUSION

One of the key barriers to these changes coming into place is a raft of different problems. There is the small issue of the backlog which is causing many teams extra time in their working week. This has an effect on time for other changes which need to be made. Many teams are motivated to improve sustainability, but have some suffer from a lack of awareness, lack of information, feeling disempowered, financial costs, inadequate facilities or resources as well as a lack of guidance and leadership.

We must not leave this to industry to take a lead. Every healthcare board needs to enable their teams (and in particular their OR teams) to examine their practice so they can reduce their carbon footprint.

References:

1. UK Healthcare Alliance on Climate Change 2023 Green Surgery Report Accessed at Green Surgery Report – UK Health Alliance on Climate Change

2. Ibid

3. NHS England Greener NHS » Delivering a net zero NHS (england.nhs.uk)

4. Lobo D, Skorepa P, Gomez D and Greenhaff P 2022. Prehabilitation: high quality evidence is still required. *BJA Accessed at iss-04-20190017.pdf (nih.gov)*

5. ERAS 2024. Accessed at ERAS (Enhanced Recovery After Surgery)|Clinical Surgery

6. NHS England accessed at ttps://www.england.nhs.uk/ greenernhs/whats-already-happening/putting-anaesthetic-generated-emissions-to-bed/

7. Green Surgery Report

8. Making the NHS more environmentally friendly - gov.scot (www.gov.scot)

9. Guidelines undated Guide to green anaesthesia|Association of Anaesthetists

10. MacNeill A, Hopf H, Khanuja A, Alizamir S et al 2020. Transforming the medical device industry: map to a circular economy. *Accessed at Transforming the Medical Device Industry: Road Map To A Circular Economy|Health Affairs*

11. Hamish T. Reid, Arthur Fordham, Lara Rasha, Mark Buckwell, Daniel J.L. Brett, Rhodri Jervis, Paul R. Shearing. Up in smoke: Considerations for lithium-ion batteries in disposable e-cigarettes. *Joule, 2023; DOI: 10.1016/j.joule.2023.11.008*

12. Woodhead K. Greening the surgical process – overarching strategies. *Clin Serv Jnl June 24.*
The Royal College of Surgeons of Edinburgh, Royal College of Surgeons of England Royal College of Physicians and Surgeons of Glasgow. 2022 Intercollegiate Green Theatre Checklist Accessed at The Intercollegiate Green Theatre Checklist|The Bulletin of the Royal College of Surgeons of England (rcseng.ac.uk)

Kate Woodhead qualified in 1978. She has worked in peri-operative care since then and runs her own business as an Operating Theatre Consultant. Kate was Chairman of NATN from 1998 to 2001. She is the former President of the IFPN (2002 to 2006) and now works as an Advisor to WHO on the Safe Surgery Saves Lives Campaign. She is the Chairman of Trustees at Friends of African Nursing. For more information on FoAN please go to www.foan.org.uk

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16 to 18 May 2025
Premier Hotel OR Tambo

A TIME FOR EXCELLENCE IS COMING TO A CONFERENCE VENUE IN GAUTENG – AND IT'S GOING TO BE EPIC!

The APPSA National Executive Board is thrilled to announce that it will be hosting an APPSA Congress in Johannesburg between 16 to 18 May 2025 at the Premier Hotel, OR Tambo, Johannesburg. We missed out on having a congress in 2024 so, to make up for it, we will be introducing a wonderful concept that is not only visionary in application, but inspirational to be part of ... especially for you!

Our trade partners, in conjunction with the National Executive Board, have devised a series of instructive trade talks for delegates to attend as part of the innovative academic programme on offer. The talk will be hosted by the members of the trade where detailed explanations of products on offer, or methodologies to be used, will be explained (in detail) and questions answered. This will be your 'one-on-one' introduction to the latest technology available on the African continent - and you wil get first-hand knowledge of the benefits and advantages this can offer patients in your care.

APPSA is the foremost voice of peri-operative practitioners in the country, and we need both old and new members to join us at congressess and study days at all times. **Those APPSA members whose membership is paid up between 01 January 2024 and 30 April 2025 will qualify for a discounted member registration fee for the 2025 APPSA Congress, provided that full membership payment is effected before 15 April 2025.** If you are unsure as to whether you qualify, or if you have any other questions or queries, please contact the APPSA office at: congress@internext.co.za and we will clarify your queries.

As has been the tradition in the past, the APPSA Congress is a highlight of the peri-operative calendar in South Africa - from both an academic and a social point of view. We are hoping that this congress will be no different, but confirmation of the social programme will only be made known closer to the date, once exact numbers have been finalised.

Dates: Friday 16 May 2025 to Sunday 18 May 2025
Venue: Premier Hotel, OR Tambo, Johannesburg
Theme: A Time For Excellence

CONGRESS SCHEDULE

Friday, 16 May 2025

08:00 to 12:00	Stand build-up for exhibitors
12:00 to 15:00	Delegate registration at Premier Hotel
15:00	Official Opening of the APPSA Congress 2025
18:00	Welcome Function

Saturday 17 May 2025

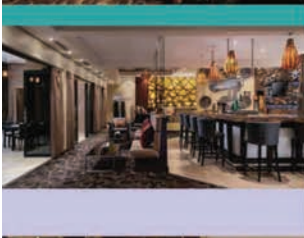
07:00	Breakfast
08:00 to 16:00	Lectures (lunch break approximately 12:00 to 13:00)
19:00	APPSA Dinner

Sunday 18 May 2025

07:00	Breakfast
08:00 to 12:00	Lectures. Packed lunch will be available for delegates to take with them
12:00	Delegates depart and exhibitors break down

ACCOMMODATION AND TRANSPORT

NOTA BENE: ACCOMMODATION IS STRICTLY ON A 'FIRST COME, FIRST SERVED' BASIS. THE RATE IS **R1 750.00 PER PERSON PER ROOM**, OR **R2 000.00 PER ROOM FOR TWO PEOPLE SHARING**, BED AND BREAKFAST ONLY. **THE CUT OFF DATE FOR EARLY REGISTRATION AND HOTEL BOOKING IS 15 APRIL 2025.** IF THE HOTEL IS FULL, NO OTHER HOTEL ACCOMMODATION WILL BE OBTAINED. DELEGATES WILL THEN BE RESPONSIBLE FOR THEIR OWN ACCOMMODATION AND TRANSPORT TO AND FROM THE CONGRESS VENUE.



AIRPORT TRANSPORT

The Premier Hotel has a fleet of coaches and microbuses used for airport shuttles. Transfers to and from OR Tambo International Airport are free of charge. The Premier Hotel Shuttle can be found outside at the designated Hotel 'pick up' and 'drop off' point situated outside the terminal and Car Rental buildings. This point can be found opposite the Airport Intercontinental Hotel.

The shuttle times are as follows:

From the Premier Hotel to the Airport	From the Airport to the Premier Hotel
05:00	05:15
05:30	05:45
06:00	06:15
Etc	Etc
Last bus: 23:45	Last bus: 00:00

Directions to get to the shuttles:

1. Guests need to make their way to the entrance of the Car Rental Agencies
2. From there, you must look for the INTERCONTINENTAL HOTEL (It can be seen from across the parking lot from outside the Terminals where the flagpoles are)
3. Guests need to make their way past the Intercontinental Hotel
4. Immediately behind the hotel, delegates will find a parking area where the shuttle parks

Immediately after the congress ends on Sunday 18 May, 2025, a shuttle service will be available to transport delegates from the congress venue to the OR Tambo Airport. Please arrange your return flights to leave after 15:00 on the Sunday.

SHOULD YOU WISH TO MAKE USE OF ALTERNATIVE ACCOMMODATION OPTIONS, YOU WILL BE RESPONSIBLE FOR YOUR OWN TRANSPORT TO AND FROM THE ACCOMMODATION TO THE CONGRESS VENUE AND SOCIAL FUNCTIONS.

APPSA CONGRESS 2025 REGISTRATION DETAILS

FULL REGISTRATION:

	EARLY BIRD *Before 15 April*	**STD REGISTRATION** *After 15 April*
APPSA Members	R3 200.00 (only paid up members 2024/25)	R3 700.00
Non/New-members	R3 700.00	R4 200.00
Students*	R2 500.00	R3 000.00

*To qualify for student rates, a certified statement attesting to your student status is required from your academic institution

Full registration fee includes:

- Attendance of all academic sessions
- Congress bag, including the Trade Feature and programme
- Lunch on each day of the congress
- Tea and refreshments
- Welcome function and Dinner

DAY REGISTRATION

Friday	R1 100.00
Saturday	R1 500.00
Sunday	R1 100.00

Day registration fee includes:

- Admission to all academic sessions on the day of choice
- Congress bag, including the Trade Feature and programme
- Lunch on the day of attendance
- Tea and refreshments
- **EXCLUDES** the social function of the day on which you attend, the additional cost of the Welcome function is R500.00 and the additional cost of the Dinner is R600.00

On the accompanying APPSA Congress Registration Form, please indicate which day you will be joining us.

REGISTRATION PROCEDURE:

- The Registration Form must be completed in full
- The Congress Organisers will issue an invoice - in your name - upon receipt of your Registration Form. Payment must be effected against this invoice

- If you want the congress office to make out the invoice in your company/institution name, please supply the full details of how the invoice must be made out
- To avoid errors, please write your account number (which appears on the invoice) or initials and surname in the deposit reference block on the deposit slip or bank transfer
- Once you have submitted your Registration Form, you will receive email confirmation of your registration. You will also receive an invoice, for your records
- Any amendments to registration must be made in writing and directed to the Congress Organisers

NO registration will be confirmed until the completed Registration Form and FULL payment has been received. Electronic transfers should be made in favour of APPSA Congress trading as SATS Congress. Please note: The bank account details are the same as for the previous congresses and will appear on the invoice.

Unfortunately we DO NOT accept Government orders.

BANK ACCOUNT DETAILS:

Account name:	APPSA trading as SATS Congress
Bank:	ABSA Bank
Account number:	405 982 5362
Branch code:	632 005
Type of Account:	Cheque

CANCELLATION POLICY:
When effecting payment, please use your name and surname or account number (which appears on the invoice) as the reference. Only 50% of the registration fee will be refunded in the case of cancellations after 01 May 2025. No refunds will be made after 08 May 2025.

Please Note: **If your accommodation and registration is not paid by15 April both your registration and accommodation will be cancelled without further notice.**

We look forward to welcoming you

APPSA

Managing Critical Care Setting: A Qualitative Study Of South African Nurse Unit Managers And The Psychological Contract

By Linda Ronnie, PhD, Med, MSc (Psych) University of Cape Town

INTRODUCTION

Little is written about the management of psychological contracts by nurse unit managers (NUMs) in critical care settings and their perspectives on the obligations they feel towards their job and their nursing team. Critical care nursing describes the care of patients with life-threatening injuries and illnesses. It is complex care often offered with technological assistance by highly skilled clinical practitioners (SANC, 2020), with nursing personnel typically assigned on a nurse:patient ratio of 1:1. Critical care settings have been described by NUMs as stressful places of work with numerous obligations and responsibilities and minimal time available to build meaningful relationships with their teams (Nazari *et al.*, 2016). NUMs report not feeling adequately prepared for their managerial roles (Townsend *et al.*, 2012) and feeling under-valued through a lack of involvement in decision making (Intas *et al.*, 2021). The work of critical care nursing staff - both nurse and manager - is regarded as intensely emotional with various psychological stressors in a high-risk situation (Mealer *et al.*, 2007). In this environment, where staff face the continual challenges of patient suffering and death, their psychological states can be adversely impacted by these stressors. Prior research has found that behaviours of NUMs - such as establishing trusting relationships, showing progressive leadership styles, support of professional development, acknowledgement, and inclusion in decision-making - impact the wellbeing of critical care nurses and thus influence nurses' ability to provide quality care (Adams *et al.*, 2019a; 2019b).

REVIEW OF LITERATURE

The psychological contract is a construct widely used to examine and understand social exchange relationships in the workplace (Conway & Pekcan, 2019). These exchanges contribute to "an individual's beliefs regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party" (Rousseau, 1989, p. 123). The concept of the psychological contract was first used to describe the mutual expectations that occur between employer and employees (Argyris, 1960) and is considered implicit (Schein, 1965) as it is influenced by both the beliefs and behaviours of all the parties involved. It is therefore a significant regulator of the employment relationship. Line managers are key to managing the psychological contract as they are a critical source of knowledge, support, and resources for their employees (Baccili, 2001; Janssen & Van Yperen, 2004). The manager, acting as organisational representative, is also ideally positioned to share their expectations and deliver on promises (Herriot & Pemberton, 1997; Rousseau, 2004). Employees are similarly likely to position their

manager as the key person for establishing and then maintaining the psychological contract (Shore & Tetrick, 1991). Line managers, therefore, play a central role in managing the psychological contract that is directly relevant to their team (Petersitzke, 2009). Consequently, the manager's own set of obligations and expectations are a significant lens through which the relationship between their team members and themselves can be viewed.

Line managers have been found to play a significant role in building trust in the relationship between management and nurses in hospitals (McCabe & Sambrook, 2014). Empowerment - through more flexibility over care provision and job flexibility - has also emerged as contributory factor to improved organisational commitment and performance among nurses (Peltier *et al.*, 2013). Positive relationships in the workplace, which are created and shaped by NUMs in the hospital setting, are vital to ensuring that nursing teams are more cohesive, giving nurses a greater sense of value in their work (Laschinger, 2010), and ensuring that patients receive quality care (Purdy *et al.*, 2010). Empowerment and positive relational experiences create more autonomy for nurses, endow their work with deeper meaning, and engender greater job satisfaction.

Although challenges within the healthcare sector, and critical care units in particular, are evident (Christian & Crisp, 2012; Pillay, 2009; Rispel, 2010), it is the duty of managers to foster a work environment where the psychological contract can be fulfilled (Cheung *et al.*, 2016). An authentic leadership style creates greater trust from nurses, which increases their involvement in their job and improves the quality of care for patients (Wong *et al.*, 2010), and also engenders a level of independence in nurses. Stronger trust in leaders also leads to an environment with more open communication and where information sharing is more likely, which can contribute to more effective teamwork (Dietz *et al.*, 2014) and reduce the likelihood of clinical error (Goel & Yang, 2015).

Leaders are responsible for modelling the values and ethos of the profession in order to inculcate them in employees (Tanaka *et al.*, 2016). In the nursing context, where there is a large relational component to the work and a strong emphasis on professional values, modelling and practicing of these values provide important indicators of the psychological contracts of nurses and by extension, NUMs. The relationship between critical care nurses and NUMs as their line managers is therefore instrumental in shaping the psychological contract as direct supervisors come to 'personify' the employer in the eyes of employees (Suazo *et al.*, 2009).

Pertinent to the management of the psychological contract is its type, of which there are three: transactional, relational, and balanced (Robinson *et al.*, 1994; Rousseau, 1995). While transactional contracts tend to be unambiguous in their mutual expectations around a prescriptive set of duties and require less loyalty to the particular organisation of individuals, relational contracts indicate a deeper commitment between parties related to the responsibilities of the job and goals within the organisation. Balanced contracts take a more dynamic view of employee and employer interface, with parties seeing opportunities to advance the performance of the individual (both at the organisation and with future employers) and the organisation (both in current duties and increasingly more demanding duties), over time. As Bunderson (2001) outlined, the psychological contracts of professionals are likely to be relational as the contract should contain elements such as provision of a collegial work environment, upholding of professional autonomy and standards, and sense of identification, loyalty, and fulfillment of the

obligations of the role. However, this is contrasted by the more transactional nature of the role, in other words, the administrative element or exchange ideology where the focus is on fulfilling more formal obligations, such as working within hospital budgetary frameworks and completing administrative tasks such as resource planning. This 'tension' may reflect in the perspectives of the NUMs in this study as nurse managers - like supervisors in other settings - hold a position where the complexity of the role means being responsible for implementing (in their case) hospital policies and processes while shaping role expectations and monitoring the performance of their staff.

OBJECTIVE OF THE STUDY

This study sought to investigate the obligations and expectations implicit in the psychological contracts of NUMs and their nursing teams, the nature of the contract, and how NUMs manage these aspects on their teams. The research answers the call by Adams *et al*. (2019b) for further studies on NUM perspectives to explore the supportive role that these managers can play in reducing critical care nurse burnout and improving well being, as these may - in turn - reduce nurse attrition and improve patient outcomes. The psychological contract therefore provides an ideal framework for examining the management practices of NUMs and how they may or may not support the well being of critical care nurses and quality of care for patients.

METHODS

Design

The study took an interpretative, qualitative approach. Interpretative methodologies aim to understand the significance and intentions of people's actions and interactions based on their own descriptions of those events and experiences (Elliot & Timulak, 2021). Using a purposive sampling approach, nurse managers in a critical care setting at a local tertiary hospital were selected to participate in the study. The experiences of nurse managers were sought as the manager:nurse relationship is known to be significant in creating beneficial psychological contracts that influence healthcare delivery, patient care outcomes, and lower turnover (McCabe & Sambrook, 2014). It is further argued that a context where decisions have the potential to impact patient survival allows for a far richer and deeper mapping of managers' views of the psychological contract.

Research Questions

Interviews with NUMs were used to answer the following research questions:

RQ1: What obligations and expectations do Nursing Unit Managers (NUMs) have for their nursing teams?
RQ2: How do they manage those obligations and expectations on their teams?

Sample

The setting for this study was a public, tertiary hospital in the Western Cape, South Africa, with critical care units comprising neuro-surgical, trauma, cardio-thoracic, and patients with high anaesthetic or respiratory risk. The full complement of 14 NUMs meeting the selection criteria in the critical care units of this hospital was contacted to participate in the study, with one declining due to workload and three due to concerns regarding confidentiality. The final sample consisted of 10 NUMs across the four critical care units that

were similar in size and staffing. Information about participants' departments was not collected to ensure confidentiality. As Table 1 shows, the participants' nursing experience ranged between 10 and over 35 years, with their management exposure ranging from less than 1 to over 20 years' experience as a critical care NUM. Beyond their on-the-job training and nursing experience, no participant had received any formal management training. All had been recruited for their NUM roles from the pool of Registered Nurses on the critical care units and held a formal, accredited qualification in the critical care field[1].

Table 1. NUM Participants: Gender, Years of Nursing Experience, and Management Experience[2]

Name	*Gender*	*Nursing experience (years)*	*Management experience (years)*
Alex	Male	>25 and <30	>1 and <2
Serena	Female	>30 and <35	>10 and <15
Delia	Female	>20 and <25	>15 and <20
Buhle	Female	>15 and <20	>3 and <4
Grace	Female	>35	>10 and <15
Pule	Male	>10 and <15	>0 and <1
Lena	Female	>35	>3 and <4
Susie	Female	>35	>10 and <15
Thuli	Female	>20 and <25	>4 and <5
Cathy	Female	>25 and <30	>20

Inclusion/Exclusion Criteria

All NUMs employed in the critical care units and who were full-time employees at the hospital site were included in the study. The research excluded those who were temporary NUMs or who held managerial roles in traditional wards.

Ethical Considerations

Ethical clearance to conduct this research was obtained from the relevant university. The participation of NUMs was initially negotiated directly with the hospital. In a subsequent meeting facilitated through the Head of Critical Care, the purpose of the study was explained, confidentiality was highlighted, and NUMs assured that they were under no obligation to participate. All participants provided verbal recorded consent at the start of their interview when the voluntary nature to participation was re-iterated. Participant names have been anonymised and some identifying information removed in the reporting of the data to ensure privacy of the individuals and organisation.

Data Collection

Interviews were conducted on a once-off basis to ensure minimal disruption to work. The interviews took place in a quiet private setting away from the critical care wards in late February 2020. The interview schedule consisted of open-ended questions. Following the critical incident technique (Flanagan, 1954, cited in Bryman & Bell, 2018), managers were asked about specific situations or experiences that they found significant ('critical') while managing and supporting their nursing staff. The average recorded interview - later transcribed - took 28 minutes, and ranged between 21 minutes and 42 minutes.

The in-person interviews consisted of two segments:

(a) Demographic questions about the NUMs overall nursing and critical care management experience, and their qualifications
(b) Semi-structured questions regarding their role and relationships with their nursing staff in their critical care managerial role

To give them the opportunity to relate their story, each NUM was asked: 'What have been your experiences of managing in your unit?'. To obtain more detail, follow-up prompt questions were used: 'Provide an example of that' or 'As a nurse manager, how did that make you feel?'. In addition to recording the interviews for later analysis, the interviewer took handwritten notes to capture keywords and descriptions in real time.

For a qualitative interpretive study, the number of interviews needed for data reliability is determined by the saturation point in the interview schedule, which is reached once the information and descriptions from participants become redundant (Trotter, 2012). Although 10 interviews were scheduled, a reduction in new ideas was observed after eight interviews and data saturation was reached after the ninth interview. The 10th interview was therefore used for additional verification purposes.

Data Analysis and Trustworthiness

The critical incidents from the interviews were analysed using an inductive thematic analysis. Following the methodology by Braun and Clarke (2006), the analysis involved the researcher reviewing her interview notes, familiarising herself with the data, generating initial codes, searching for themes in the incidents, reviewing the themes, and defining the themes. The thematic analysis was conducted by the researcher, while two colleagues supported data validation by reviewing and checking the interpretations of the researcher. During the code generation, theme identification, and review processes, exact phrases and words of participants were extracted from their descriptions of 'critical' experiences for use in the findings and analysis.

The researcher reviewed these incidents for common themes or recurring phrases, sentiments, ideas, and concepts. An iterative coding procedure was used to confirm the meaning of the extracted excerpts. Trustworthiness and authenticity of the research process were essential. To this end, best practices for qualitative research were followed to establish credibility (Spencer *et al.*, 2014). Dependability was supported through careful recording of interviews via digital means and note-taking, and through safeguarding of data and associated records. The reliability and credibility of the data analysis were re-inforced through the practice of peer debriefing with two colleagues as a form of 'member checking' (Bazeley, 2013). The peer debriefing process also mitigated any risk of researcher bias in interpreting the interview responses as it enabled alternative perspectives to be voiced and, where appropriate, for further clarifications and changes to be made (Leedy & Ormrod, 2019).

Findings

NUMs in critical care units, which provide treatment for patients with life-threatening injuries and illnesses, are responsible for managing critical care nurses, as well as providing care themselves. Management duties include scheduling nurse shifts and facilitating teamwork within the unit; training and mentoring nurses, and assisting with their career development; assuring quality of care provided by nurses; and overseeing the safety and hygiene of the work and patient care environment. In their capacity as nurses,

NUMs work alongside their teams to treat patients, clean equipment, and perform other tasks necessary to the care of patients. The critical incidents that NUM participants described in terms of their work obligations and expectations focused on five main themes: professional commitment and obligation; leading by example; trust and support; teamwork; and on-the-job training and further development. Certain participant experiences often reflected an overlap of multiple themes, demonstrating the ways the elements of the psychological contract are interconnected for NUMs.

Professional Commitment and Obligation

All NUMs expressed overwhelming commitment to their critical care patients. It appeared that, even though the NUMs had moved into managerial roles, their nurse identity remained an integral part of who they were. As Lena explained: 'I am here to do a job and, because I'm appointed to do that job, this is what I want to do, and this is how I work. It's not for me, it's for the patient.' Serena concurred, saying that her overarching role was, 'to observe safety for the patient - to create a safe environment for the patient and quality care for the patient'. Buhle's view was that in a critical care setting you were dealing with the most vulnerable of all: 'I'm always an advocate for the patients. That is one thing since my training that I've learned, you have to be the spokesperson for your patients because the patients on the ventilator they can't speak for themselves. Nurses must treat a patient the way they'd want to be treated.'

Pule noted how he gave his nursing team the utmost respect, 'but when it comes to work, I can't be seen to be doing the wrong thing. I understand that we have different ways of doing things. And as long as we serve our patients, then I'm okay with it, as long as what [the nurses] are doing won't come back to us or won't harm the patient.' Delia provided an example of how poor work standards would have an effect on everyone, not just on a specific unit.

She described what she had found when she had come on duty earlier that evening: 'The patient's endotracheal tube was so dirty. I said to the team, 'Before I do anything else let's change the tapes and redo the tube.' Because if this person has a visitor now, that is going to reflect on all of us as nurses because people are going to say the nurses of [this hospital], they're not going to name a specific nurse that was allocated to the patient (Delia)'. Other NUMs echoed this sentiment through constantly reminding their teams that their work must be kept up to standard so that each nurse could, at the end of the day, leave the bedside, knowing the patient was safe and that they had done their best. This commitment and interest in the patient extended outside of the critical care unit.

Thuli described her feelings regarding a patient's recovery: 'The thing I like most about my job is when your patient is getting out of ICU to the ward, and they come back to say thank you. The family sometimes brings them in to show us how they look and that they're walking. That is something that really steals your heart' (Thuli).

Susie shared the progress of a patient who has been in the critical care unit for 96 days. 'On a daily basis, when [I] come into the unit and see him still alive, it was so encouraging. And the other day when he walked in here, just before he went home, everybody was so excited to see him. We felt we had been part of the success – using our experience and our knowledge" (Susie).

Leading by Example

NUMs conveyed a clear and uniform understanding of their professional obligations in terms of their units. With regard to their staff, they felt they needed to lead by example. As Cathy noted: 'I must be a role model. There should be good communication. You must know all the patients. You must see that your stock is here, the place is clean and a safe environment to work in. If you interact with your staff and work with them together, hand-in-hand, they will respect you and your unit will be run smoothly' (Cathy).

This view was echoed by Serena: 'You must set a good example. You can't expect people to do a sterile procedure and then you do it in an unsterile way. You must set high standards for the unit as far as possible.' Susie felt that a good NUM should work with their staff: 'To be in the struggle with your staff and not to manage from your office, but to manage with them and to give them that space to grow, allow them their opinions and for me to accept criticism.' Alex noted that if his team had worked with him for a few months, they would 'know exactly what you want, what you like for your patients, how you're going to do things and they will catch up and they will keep that standard. You can trust them because that is how you trained them.' Delia also described visibility as a key factor: 'You should have an open-door policy so you must be visible in your area. You can't be behind closed doors, and not know how your staff is doing inside in the unit. You have to show interest.'

Grace provided an example of role modelling in respect of sanitising medical equipment. 'We have to keep the equipment clean, but nurses feel it should be the cleaners' work. The cleaners don't want to do the equipment because they're scared that they're going to break it. So, we're at the stage now where nobody wants to do anything. Then I said 'okay, I'll do it'. Hopefully by doing those kinds of things, you can get them on board' (Grace).

Trust and Support

Trust between nursing staff is essential in a critical care setting. NUMs have various ways of showing their trust in their staff or building a trusting environment. Lena shared her method: 'I leave the unit so that they can see that I do trust them. But I don't know if they see that for what it is. However, I know that they will come and ask me if there is something that they need to be done, then I will go inside and assist.' Cathy preferred to watch from a distance and then 'go and check because the moment you show you don't trust a person or you are on top of that person, things can go badly wrong because they're stressed, or they're worried because you're on their tail all the time.' A good NUM, in Buhle's opinion, was 'somebody that can listen. Somebody that can trust the staff. Somebody that can recognise that there are different personalities and support them appropriately'.

In terms of providing support, Susie explained her view: 'I'm here to support my nurses too and for me, although I'm a manager, I'm still a nurse. I'm still part and parcel of the workforce and I always do all my admin work in the unit. The only time when I use my office is when I interview somebody or when I do something on the computer, but most of the time, I'm in the unit and I support my staff. They know they can come to me whenever they want to' (Susie).

Further examples of support were expressed by Serena and Delia. However, these were statements of professional support, such as. support that strictly pertained to medical care and professional duties in the work environment.

'Communication is very important. When you listen, you will find a problem area that needs attention. You can see if you can do something. But I can't be a people pleaser also, hey? I will have to stick to the regulations of the hospital - staying within the regulations of the hospital at all times, but where possible, I help' (Serena).

'You have to be sympathetic with your staff and you have to give them space. Ask them if anything is bothering them or if they feel okay. Sometimes you also have to be strict especially if they want to take short cuts. Then you have to be strict and say, 'Listen you don't, you can't, take short cuts in nursing'. It's either you're doing the right way, or you ask somebody for help' (Delia).

'There are never arguments because if somebody's doing something wrong, we have a moment where we discuss, and I will tell them this was something I didn't like, where procedures weren't followed. It's important to say things to people when they're around. That is how I build my relationship with the staff, and I also praise them. If, like last night we worked hard, this morning I will say to them, 'Thank you all because although it was a tough night we pulled through'' (Thuli).

Teamwork

In terms of teamwork, there was a clear sense that everyone in the unit is in the situation together. The term 'family' was used by six of the participants. Some examples of how this might be seen in the critical care units were as follows: 'We're working very well as a team; it's like a family. We're more at work than we're at home and we try to understand each other or know each other's moods. We know each other's shortfalls, help each other along, and see that the work gets done with no negative outcome' (Cathy).

'It's not like I'm the manager, you work under me. We all are one. We all work as one' (Buhle).

'We work as a family. We are colleagues. We know when to support each other and we know, listen, leave it for today. The staff in the unit is very motivated. They are really hard working. I always say to them, 'See [the unit] as the kingdom. Because this is where we spend most of our time and we have to give our best and we have to support each other'' (Susie).

Serena strongly felt that 'if you've got a good healthy team spirit and a healthy environment, then they are all happy - they want to help. Somebody offers their help and says, 'Is this supposed to be done? I'm available. I'll be prepared to help you there'. It's beneficial for everybody in the unit.' For Buhle, admitting new patients was a frantic time. 'When there's a lot of work, then we team together up. When the unit is very, very busy, we're not getting on top of things, then we just help one another with everything. 'Is your part done? Okay, not done. What can I do for you?' And so that's how we do it.' The reality of the critical care context means that there is a lot of sustained pressure but 'at the end of that pressure, everyone here is honest. They will tell you, 'This is not right. We should fix that' in a positive way. All of us, we know what's expected of us and we try by all means to live up to that' (Pule).

On-the-job Training and Further Development

As the research context was a teaching hospital, the theme of providing training to nurses was quite prominent. As Serena explained: 'Every moment is a training moment or opportunity. So, you'll make use of all the opportunities to train your staff, encouraging them to go on courses. There are a lot

of opportunities which you can give them. And if there are those who are a little bit reluctant, you can encourage them to go' (Serena).

The notion of sharing knowledge is critical to the nursing profession, and more so within the critical care unit. Alex felt strongly about knowledge sharing and that his role was as follows: 'To communicate with everybody [so that they] feel free to ask any question. If the person is unsure about something, don't do it. Come to me, I will show you how to do it. It doesn't matter how many times I am going to show you because this is life. What if it's your mother, your father, your sister, your brother?' (Alex).

For Cathy, it was about building the leadership pipeline as well. She explained that she would assign specific nurses to run the shift: 'Because everybody must learn. Tomorrow if someone is not here or sick and then at least that person knows what to do. I think that also, they see that trust when I say, 'You take this shift today, it's your turn'. It's sharing that responsibility and training them ' (Cathy).

This was echoed by Pule: 'I allow them to mentor and train others, for example, the student nurses. It makes them feel important and also gives them a sense of belonging so they can feel 'there's a space for me in the unit. I am appreciated'.'

Not all on-the-job training proceeds smoothly and NUMs have to be vigilant and observant at all times. As Serena explained: 'If you delegated a task, you would have to go and check if it is done because quite often you will find something isn't done properly. That is part of delegation. I can't eave it at that because it's a risk in terms of the patient's life.' Delia agreed: 'Part of my responsibility is to sort out problems especially if the staff nurses or junior nurses are allocated to a patient. You have to make sure that they know what they're doing around the patient's bed. You have to be observant and see to the needs of the patient, otherwise proper patient care won't be given' (Delia).

Susie had been a micro manager in the past and explained: 'If you were slow, I would take things out of your hands. But I've said to myself - I'm actually doing harm to that person. Now I will monitor them and if I see, this is moving in a direction where a disaster is going to happen, I'll jump in, but I will let people take the initiative and do things for themselves' (Susie).

As Serena had alluded to earlier, further education is available to less experienced nurses. In Buhle's case, she said to one of her junior nurses, ''When the colleges are open, go for further education. You can be a Sister, a good Sister. I feel when you get there, you won't struggle because most of the things you were helping us with'.' This was re-iterated by Susie, who also supported nurses to further their studies: 'I encourage and help the nurses here with their studies so that they can improve themselves to be registered nurses, ICU trained. That makes me proud. There are opportunities and people don't grab it. I will help - even if I have to come in over a weekend when we can discuss' (Susie).

DISCUSSION

Professional identity is at the heart of the obligations and expectations NUMs hold for their nursing team. Their insistence on upholding high professional standards, which they expressed repeatedly when discussing all aspects of their work, may be particularly acute given their location in the critical care units

where patients are especially vulnerable. The concept of professional commitment has been described as a psychological state that triggers employees to maintain their membership of a professional group (Jourdain & Chênevert, 2010; Meyer & Herscovitch, 2001). According to Meyer and Allen's framework (1991), the psychological commitment of individuals is based on their emotional attachment to their profession (Blau, 2003; Lee *et al.*, 2000). As can be seen in the NUMs' experiences, not only do they exhibit loyalty to the profession, but they attempt to inculcate that in their interactions with their team through role modelling and setting an example. This is encouraging as prior research found links between nurses' professional commitment and the motivation of teams (Galletta *et al.*, 2019), an intention to improve and upgrade professional competence and capability (Chang *et al.*, 2021), job satisfaction (Carcati *et al.*, 2014), and patient care (Teng *et al.*, 2019). The focus of the NUMs on the provision of quality healthcare and ensuring professional care of critical care patients is a central element of a relational type of psychological contract (Jones & Sambrook, 2010). Through leading by example, NUMs in this study played a critical role in creating an inclusive culture that sought to promote a healthy psychological contract. The expressions of interest, being visible, and role modelling show further elements of a relational contract (Rousseau, 1989).

Nurses expect NUMs to demonstrate trust and confidence in their abilities and to support them by granting them a level of autonomy. In this study, much of this autonomy was implicitly exhibited, as in the case of Lena and Cathy who both showed trust through their absence from the unit. The NUMs' primary focus on their professional commitment meant that their support to their staff was not offered value-free. The nature of work context with its critically-ill patients means that critical care units are among the most stressful and demanding environments (Jakimowicz *et al.*, 2018). Consequently, the context - and its attendant overall accountability and responsibility for the NUM - influences the level of trust that can be shown between individual nurses and their managers, especially in light of evidence that while they are registered nurses, only 25% of the nurses in intensive care units hold the requisite qualifications to be there (De Beer *et al.*, 2011).

Teamwork is therefore a crucial aspect in managing the critical care unit to ensure everyone is able to carry out their responsibilities effectively. Furthermore, the notion of 'family' creates an organisational dynamic and culture conducive to improved morale and is pivotal in promoting the relational aspects of the psychological contract (Mallette, 2011). A teamwork ethos is also indispensable because patient care may be compromised when workplaces are non-supportive and non-collegial (Laschinger, 2010). Through this building of the collective, encouragement of team support, and relational interdependency, NUMs inadvertently also contribute to building peer-to-peer psychological contracts which have been found to be present among critical care nurses, resulting in greater trust and communication between nurses. In a critical care context, collaboration is even more essential as a lack of mutual regard can contribute to daily stressors (Siffleet *et al.*, 2015).

NUMs in this study showed support for both on-the-job training and further development forms. While the context - that of a teaching hospital - created a conducive climate, it was clear that NUMs were encouraging towards their staff and comfortable with sharing their expertise. Studies confirm that critical care nurses need appropriate training to deliver relevant and professional care (De Beer *et al.*, 2011) and indeed request this training themselves. In terms of managing risk with workplace training, NUMs have to be vigilant. but are keen to move away from micro-management in this regard. Formalised

training in the form of critical care qualifications are provided by nurse colleges and NUMs do their utmost to encourage their staff to attend, supporting them through this training in their own time. Succession planning is also important and examples of building the leadership pipeline are evident. These two avenues - professional training and succession planning - can be understood as crucial to NUMs in this study, all of whom have had little, if any, managerial training. Past studies have found that NUMs often move to more administrative roles with minimal skills and knowledge around people management (Baxter & Warsawsky, 2014). The lack of preparedness means that NUMs learn how to manage staff - and consequently, their psychological contracts - through trial and error. This lack of insight can cause frustration and a lack of self-efficacy (McCallin & Frankson, 2010).

STRENGTHS AND LIMITATIONS

This study addressed a gap in the literature regarding the management of psychological contracts by NUMs in critical care settings, and how this perspective contributes to the performance, experiences, and views of nurses and nursing teams. Limitations of the study include that it presents only the perspectives of critical care NUMs which may differ to those NUMs in other contexts. Furthermore, the study only draws on a single hospital in one geographic area. Both of these shortcomings present opportunities for further research, as does the exploration of the central role of the NUM in a critical care setting. Another possible avenue of study is around the psychological contract between NUMs and their managers to explore how fulfillment or breach between the parties impacts the relationship between NUMs and their staff. Given the importance of professional commitment, investigating the psychological contract between NUMs and patients may also prove fruitful.

IMPLICATIONS FOR PRACTICE

NUMs have a significant role to play in managing the psychological contract of, and inculcating commitment from, critical care nurses. As critical care settings are high-performance, high-stakes environments, a few suggestions for improvement may be pertinent. The psychological contract needs to be made explicit through NUMs sharing their expectations. Open communication can ensure that critical care nurses' psychological contracts are fulfilled and remain positive. As the NUM creates a culture of respect and support, an on-going commitment to be present and supportive is needed. Given much of the intent appears in place, it is simply a matter of re-inforcement. However, leadership and management training in inter-personal skills, communication, and negotiation may address any possible areas of improvement and will actively support succession planning for those nurses prior to managerial appointments. With regards to encouraging further staff development, NUMs are to be congratulated for their efforts in this regard. However, appropriate staffing - both in numbers and in skill - of the critical care units by senior management will go some way towards easing the developmental burden on the NUM. NUMs should build on their existing notion of family and ensure team relations and spirit remains conducive as peer-to-peer psychological contracts between critical care nurses are key, both for creating collegial environments, but also for improving patient care.

CONCLUSION

This study found that the expectations and obligations of the psychological contract NUMs have with their

nursing teams' center on five key elements: professional commitment and obligation; leading by example; trust and support; teamwork; and on-the-job training and further development.

These contents are related to various employee behaviours where a useful interpretation is that of social exchange. In this case, NUMs manage these obligations and expectations on their teams through seeking to build a sound psychological contract and signalling key aspects of importance, expecting reciprocity from their nurses. The findings, therefore, appear to indicate that a predominantly relational contract (through trust, support, encouragement, and teamwork) with few elements of the balanced type (provision of training and development, the creation of a safe working environment, and professional commitment) are present. This psychological contract, and the management practices that maintain it, appears to promote nurse well being and quality of care for patients and, therefore, may provide an important framework for NUMs. The professional commitment of NUMs is commendable. Retaining their nurse identity, and the commitment that implies, allows NUMs to understand the challenges that their critical care nurses experience daily and, as such, bridge the gaps in the employee:employer interface.

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ORCID iD
Linda Ronnie https://orcid.org/0000-0001-6129-6595

Notes:

1. ***For further explanation, see: https://www.sanc.co.za/wp-content/uploads/2020/06/SANC-Competencies-Critical-Care-Nurse-Specialist-Adult.pdf***
2. ***Pseudonyms have been used for confidentiality purposes.***

Linda Ronnie, PhD, MEd, MSc, (Psych) is from the School of Management Sciences Faculty of Commerce at the University of Cape Town.

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References:

Adams, A. M. N., Chamberlain, D., & Giles, T.M. (2019a). The perceived and experienced role of the nurse unit manager in supporting the wellbeing of intensive care unit nurses: An integrative literature review. *Australian Critical Care, 32(4), 319–329. https://doi.org/10.1016/j.aucc.2018.06.003*

Adams, A. M. N., Chamberlain, D., & Giles, T. M. (2019b). Understanding how nurse managers see their role in supporting ICU nurse well-being: A case study. *Journal of Nursing Management, 27(7), 1512–1521. https://doi.org/10.1111/jonm.12837*

*Argyris, C. (1960). U*nderstanding organisational behaviour. *Dorsey Press.*

Baccili, P. A. (2001). Organisation and manager obligations in a framework of psychological contract development and violation. *[Unpublished PhD dissertation]. Claremont Graduate University, CA.*

Baxter, N., & Warsawsky, N. (2014). Exploring the acquisition of nurse manager competence. *Nurse Leader, 12(1), 46–51. https://doi.org/10.1016/j.mnl.2013.10.008*

Bazeley, P. (2013). Qualitative data analysis: Practical strategies. *Sage Publications.*

Blau, G. J. (2003). Testing for a four-dimensional structure of occupational commitment. *Journal of Occupational and Organisational Psychology, 76, 469–488. https://doi.org/10.1348/096317903322591596*

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa*

Bryman, A., & Bell, E. (2018). Business research methods. *Oxford University Press.*

Bunderson, J. S. (2001). How work ideologies shape the psychological contracts of professional employees: Doctors' responses to perceived breach. *Journal of Organisational Behaviour, 22(7), 717–741. https://doi.org/10.1002/job.112*

Carcati, L., LaSala, R., Marletta, G., Pelosi, G., Ampollini, M., Fabbri, A., Ricchi, A., Scardino, M., Artioli, G., & Mancini, T. (2014). Work climate, work values and professional commitment as predictors of job satisfaction in nurses. *Journal of Nursing Management, 22(8), 984–994. https://doi.org/10.1111/jonm.12079*

Chang, H. Y., Huang, T. L., Lee, I. C., Shyu, Y. I., Wong, M. K., Lun-Hui, H. O., Tseng, H. W., & Teng, C. I. (2021). Impact of professional commitment on professional capability improvement and care quality dimensions: A multi-wave study. *Journal of Clinical Nursing, 30(9–10), 1285–1294. https://doi.org/10.1111/jocn.15672*

Cheung, M. F., Wong, C. S., & Yuan, G. Y. (2016). Why mutual trust leads to highest performance: The mediating role of psychological contract fulfillment. *Asia Pacific Journal of Human Resources, 46–51. https://doi.org/10.1111/1744-7941.12117*

Christian, C. S., & Crisp, N. (2012). Management in the South African public health sector: An x-inefficiency perspective. *Development Southern Africa, 29(5), 725–737. https://doi.org/ 10.1080/0376835X.2012.730972*

Conway, N., & Pekcan, C. (2019). Psychological contract research: Older, but is it wiser? *In Y. Griep & C. Cooper (Eds.), Handbook of research on the psychological contract at work (pp. 10–34). Edward Elgar Publishing.*

*De Beer, J., Brysiewicz, P., & Bhengu, B. R. (2011). I*ntensive care nursing in South Africa. *South African Journal of Critical Care, 27, 6–10. https://doi.org/10.7196/SAJCC.111*

Dietz, A. S., Pronovost, P. J., Mendez-Tellez, P. A., Wyskiel, R., Marsteller, J. A., Thompson, D. A., & Rosen, M. A. (2014). A systematic review of teamwork in the intensive care unit: What do we know about teamwork, team tasks, and improvement strategies? *Journal of Critical Care, 29(6), 908–914. https://doi.org/10.1016/j.jcrc.2014.05.025*

Elliott, R., & Timulak, L. (2021). Essentials of descriptive-interpretive qualitative research: A generic approach. *American Psychological Association. https://doi.org/10.1037/0000224-000*

Galletta, M., Vandenberghe, C., Portoghese, I., Allegrini, E., Saiani, L., & Battistelli, A. (2019). A cross-lagged analysis of the relationships among workgroup commitment, motivation and proactive work behaviour in nurses. *Journal of*

Nursing Management, 27(6), 1148–1158. https://doi.org/10.1111/jonm.12786

Goel, A., & Yang, N. (2015). Nursing governance and clinical error control. *International Journal of Pharmaceutical and Healthcare Marketing, 9(2), 136–157. https://doi.org/10.1108/EL-01-2014-0022*

Herriot, P., & Pemberton, C. (1997). Facilitating new deals. *Human Resource Management Journal, 7(1), 45–56. https://doi.org/10.1111/j.1748-8583.1997.tb00273.x*

Intas, G., Simeon, M., Eleni, L., Platis, C., Chalari, E., & Stergiannis, P. (2021). Investigating nursing leadership in intensive care units of hospitals of northern Greece and its relationship to the working environment. *Advances in Experimental Medicine and Biology, 1337, 227–235. https://doi.org/10.1007/978-3-030-78771-4_26*

Jakimowicz, S., Perry, L., & Lewis, J. (2018). Compassion satisfaction and fatigue: A cross-sectional survey of Australian intensive care nurses. *Australian Critical Care, 31(6), 396–405. https://doi.org/10.1016/j.aucc.2017.10.003*

Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal, 47(3), 368–384. https://doi.org/10.2307/20159587*

Jones, A. E., & Sambrook, S. (2010). Psychological contracts of hospice nurses. *International Journal of Palliative Nursing, 16(12), 599–606. https://doi.org/10.12968/ijpn.2010.16.12.599*

Jourdain, G., & Chênevert, D. (2010). Job demands-resources, burnout and intention to leave the nursing profession: A questionnaire survey. *International Journal of Nursing Studies, 47(6), 709–722. https://doi.org/10.1016/j.ijnurstu.2009.11.007*

Laschinger, H. K. S. (2010). Positive working relationships matter for better nurse and patient outcomes. *Journal of Nursing Management, 18(8), 875–877. https://doi.org/10.1111/j.1365-2834.2010.01206.x*

Lee, K., Carswell, J. J., & Allen, N. J. (2000). A meta-analytic review of occupational commitment: Relations with person-and-work-relations. *Journal of Applied Psychology, 85(5), 799–811. https://doi.org/10.1037/0021-9010.85.5.799*

Leedy, P. D., & Ormrod, J. E. (2019). Practical Research: Planning and Design. *(12th Edn.). Pearson Education.*

Mallette, C. (2011). Nurses' work patterns: Perceived organisational support and psychological contracts. *Journal of Research in Nursing, 16(6), 518–532. https://doi.org/10.1177/1744987111422421*

McCabe, T. J., & Sambrook, S. (2014). The antecedents, attributes and consequences of trust among nurses and nurse managers: A concept analysis. *International Journal of Nursing Studies,51(5), 815–827. https://doi.org/10.1016/j.ijnurstu.2013.10.003*

McCallin, A. M., & Frankson, C. (2010). The role of the charge nurse manager: A descriptive exploratory study. *Journal of Nursing Management, 18(3), 319–325. https://doi.org/10.1111/j.1365-2834.2010.01067.x*

Mealer, M. L., Shelton, A., Berg, B., Rothbaum, B., & Moss, M. (2007). Increased prevalence of post- traumatic stress disorder symptoms in critical care nurses. *American Journal of Respiratory and Critical Care Medicine, 75(7), 693e7. https://doi.org/10.1164/rccm.200606-735OC*

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organisational commitment. *Human Resource Management Review, 1(1), 61–98. https://doi.org/10.1016/1053-4822(91)90011-Z*

*Meyer, J. P.,& Herscovitch, L. (2001).*Commitment in the workplace: Toward a general model. *Human Resource Management Review, 11(3), 299–326. https://doi.org/10.1016/S1053-4822(00)00053-X*

Nazari, R., Vanaki, Z., Kermanshahi, S., & Haji Zadeh, E. (2016). Where withstanding is difficult, and deserting even more": Head nurses' phenomenological description of intensive care units. *Journal of Caring Sciences, 5(2), 133–143. https://doi.org/10.15171/jcs.2016.014*

Peltier, J. W., Schibrowsky, J. A., & Nill, A. (2013). A hierarchical model of the internal relationship marketing approach to nurse satisfaction and loyalty. *European Journal of Marketing, 47(5/6), 899–916. https://doi.org/10.1108/03090561311306967*

Petersitzke,M. (2009). Supervisor psychological contract management. In Supervisor psychological contract management. *(pp. 131–142). Gabler. https://doi.org/10.1007/978-3-8349-8194-3_6*

Pillay, R. (2009). Retention strategies for professional nurses in South Africa. *Leadership in Health Services, 22(1), 39–57.https://doi.org/10.1108/17511870910928010*

Purdy, N., Laschinger, H. K. S., Finegan, J., Kerr, M., & Olivera, F. (2010). Effects of work environments on nurse and patient outcomes. *Journal of Nursing Management, 18(8), 901–913. https://doi.org/10.1111/j.1365-2834.2010.01172.x*

Rispel, L. (2010). Foreword. In B. Mash, J. Blitz, D. Kitshoff, & S. Naude (Eds.), South African clinical nurse practitioners' manual. *Van Schaik.*

Robinson, S. L., Kraatz, M. S., & Rousseau, D. M. (1994). Changing obligations and the psychological contract: A longitudinal study. *Academy of Management Journal, 37(1), 137–152. https://doi.org/10.5465/256773*

Rousseau, D. (1995). Psychological contracts in organisations: Understanding written and unwritten agreements. *Sage Publications.*

Rousseau, D. M. (1989). Psychological and implied contracts in organisations. *Employee Responsibilities Rights Journal, 2(2),121–139. https://doi.org/10.1007/BF01384942*

Rousseau, D. M. (2004). Psychological contracts in the workplace. *Academy of Management Executive, 18(3), 151–161. https://doi.org/10.5465/AME.2004.14776197*

Schein, E. H. (1965). Organisational psychology. *Prentice Hall.*

Shore, L., & Tetrick, L. (1991). A construct validity study of the survey of perceived organisational support. *Journal of Applied Psychology, 76(5), 637–643. https://doi.org/10.1037/0021-9010.76.5.637*

Siffleet, J., Williams, A. M., Rapley, P., & Slatyer, S. (2015). Delivering best care and maintaining emotional wellbeing in the intensive care unit: The perspective of experienced nurses. *Applied Nursing Research, 28(4), 305–310. https://doi.org/10.1016/j.apnr.2015.02.008*

South African Nursing Council. (2020). Competencies for critical care nurse specialist (adult). *https://www.sanc.co.za/wpcontent/uploads/2020/06/SANC-Competencies-Critical-Care-Nurse-Specialist-Adult.pdf.*

Spencer, L., Ritchie, J., O'Connor, W., Morrell, G., & Ormston, R. (2014). Analysis in practice. *In J. Ritchie, J. Lewis, C. M. Nichols, & R. Ormston (Eds.),* Qualitative research practice: A guide for social science students and researchers. *(pp. 295–346). Sage Publications.*

Suazo, M. M., Martínez, P. G., & Sandoval, R. (2009). Creating psychological and legal contracts through human resource practices: A signalling theory perspective. *Human Resource Management Review, 19(2), 154–166. https://doi.org/10.1016/j.hrmr.2008.11.002*

Tanaka, M., Taketomi, K., Yonemitsu, Y., & Kawamoto, R. (2016). Professional behaviours and factors contributing to nursing professionalism among nurse managers. *Journal of Nursing Management, 24(1), 12–20. https://doi.org/10.1111/jonm.12264*

Teng, C. I., Dai, Y. T., Lotus Shyu, Y. I., Wong, M. K., Chu, T. L., & Tsai, Y. H. (2009). Professional commitment, patient safety, and patient-perceived care quality. *Journal of Nursing Scholarship, 41(3), 301–309. https://doi.org/10.1111/j.1547-5069.2009.01289.x*

Townsend, K., Wilkinson, A., Bamber, G., & Allan, C. (2012). Accidental, unprepared, and unsupported: Clinical nurses becoming managers. *The International Journal of Human Resource Management, 23(1), 204–220. https://doi.org/10.1080/09585192.2011.610963*

Trotter, R. T. (2012). Qualitative research sample design and sample size: Resolving and unresolved issues and inferential imperatives. *Preventive Medicine, 55(5), 398–400. https://doi.org/10.1016/j.ypmed.2012.07.003*

Wong, C. A., Laschinger, H. K. S., & Cummings, G. G. (2010). Authentic leadership and nurses' voice behaviour and perceptions of care quality. *Journal of Nursing Management, 18(8), 889–900. https://doi.org/10.1111/j.1365-2834.2010.01113.x*

Uneven Nursing Student Retention

By Nesisa Ngwenya, MNSc in Prof Nurs Sc: Nursing Education

BACKGROUND

So many of South Africa's nursing students are faced with severe financial constraints, suffer from anxiety, an increasing absence of nursing college support, as well as increasing frustration and disappointment within the realities of nursing in the failing healthcare environment. This has resulted in a higher percentage of nursing students leaving nursing colleges and institutions of higher learning before completing the nursing programme. Experiences by nursing students in clinical placement also plays an integral part in student retention, with most nursing students leaving within the first year of the nursing programme itself. It is vital to recognise that the lack of student satisfaction has a strong impact in nursing student retention. With correct supportive relationships and familiarity offered by both the nursing colleges and hospitals, it could positively influence nursing student retention in the future. .

NURSING STUDENT RETENTION

For years, nursing has always been an in-demand profession with every hospital hiring different categories of nurses for different departments. Facing the increasing nursing shortages dating back many years, but which has become very much more evident since the challenges the COVID-19 pandemic evoked as an add on factor, worldwide, there has been a rise in concern about unsafe staffing ratios, medication errors, hospital-associated infections (HAIs), and decreased patient access to care.

Nursing shortages are well known for increasing nurse's workloads and complicating workflows. These issues need to be addressed, and ensuring a steady increase in the number of student nurses entering the pool by graduating from the various nursing programmes on offer through accredited nursing colleges would assists tremendously. It would help to bolster the numbers of those gaining employment within the healthcare system as well as contributing to lowering our staggering unemployment figures in this country. However, for nursing student retention to succeed, it would involve increasing intellectual ability, enhancing communication and social skills, adding to experience if any, that the student would bring to the workplace, as well as continued successful development while in the nursing programme and profession. There is a need to improve student retention more than ever before, in order to rebuild from the current global health crisis we are currently faced with.

THE LIFE OF A STUDENT NURSE

Being a nursing student today is different from what it was even a decade ago. Today, nursing students are working in extremely tough environments - more challenging than most people would even begin to think. As the nursing students journey through the nursing programmes, they are faced with a number of obstacles that affect their academic progress. These include, but are not limited to:

- Inadequate preparation and ineffective communication when the nursing students have to be in a clinical setting

- The clinical setting is very important as it provides the nursing student with the opportunity to apply their critical thinking to knowledge learnt in class. Theoretical and practical training goes hand in hand; one cannot be effective without the other
- Financial strain plays a significant impact on whether the student will succeed both academically and socially
- Financial insecurity will negatively affect students' mental health and well being
- Unreasonable expectations from both the nursing institution and others leads to feelings of inadequacy and despair
- Senior nurses often expect nursing students to know what to do in emergency situations. This is often an unrealistic expectation, and the pressure drives young, vibrant minds to question their ability and thereafter, leave the profession instead of seeking help and guidance from peers or seniors
- A failure to balance social and student work life. To a young person, striking this balance is often a very daunting task, and with no guidance the pitfalls can appear insurmountable
- Nursing students are introduced to shift work in the clinical setting, and still need to complete their homework at the end of the shift. In addition, they also need to prepare for formative and summative assessments both theory and practical. With no guidance, the above tasks can seem like a mountain to climb on a daily basis

All these obstacles I have listed often contribute significantly to student retention while in the nursing programme, as well as being retained in the healthcare system at the end of the programme. It becomes a great concern for nursing students who cannot persist or keep pace with the demands, and as a result, end up leaving the nursing programme for reasons beyond the nursing college or hospital's control. These young minds have failed themselves because they have had no mentors and now feel they have been cheated out of achieving their goals and reaping the benefits after graduation. Nursing colleges need to advocate for the retention of nursing students by using strategies that include nursing student and facility mentorship programmes involving senior nurses and nurse educators who can inspire, lead and mentor young minds and encourage them when they falter. Nurse educators also have a role to ensure that nursing students are placed in facilities with a conducive environment to learning in order to promote their personal and professional well-being and growth. There needs to be a caring atmosphere and a mentoring relationship in order to fully develop the nursing students to become the professionals we want them to be in future.

CONCLUSION

Knowing that retention of students is a costly concern that affects the supply and demand of nurses, successful retention therefore requires nurse educators to prepare student nurses for professional nursing through clinical placement where there is a transfer of classroom-based knowledge into practice, an important aspect in the development of fitness for practice and job readiness.

By Nesisa Ngwenya *is the Theatre Unit Manager of the Dr G M Pitje Day Hospital.*

This article appears in the APPSA Journal, courtesy of the author.

Gauteng Chapter Study Day

The APPSA Gauteng Chapter in Johannesburg reached a number of targets this year, culminating in three very successful study days! Attendance was always high - and the calibre of presentations was always top notch. Thank you so much to everyone who took time to prepare and impart their wisdom to us. Sharing of knowledge is the greatest gift you can give anyone.

I would also really like to thank the APPSA Gauteng Chapter Committee for always being available to assist, to help and advise delegates to our study days - and for their willingness to be on hand whenever they are called upon to do anything.

But the greatest thanks must go to our study day delegates. Without you, there would be no point to holding these wonderful days. YOU are the reason we work so hard, and we love what we do.

Enjoy your Christmas everyone, I hope you and your family and truly blessed. Thank you for another outstanding year as President of the APPSA Gauteng Chapter. I am honoured to have been part of this inspirational team.

APPLICATION FORM FOR APPSA MEMBERSHIP

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