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Factors influencing the information behaviour of doctors and nurses in South Africa's Eastern Cape, Mpumalanga, Limpopo and Northern Cape provinces: a survey study protocol

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ABSTRACT

Introduction Information is a prerequisite for quality healthcare service. Health professionals play a key role in the health system as they jointly have the responsibility of looking after patients everyday. Failure to use evidence in medicine may lead to medical errors such as incorrect diagnosis and/or mismanagement. Health professionals with access to quality health information can improve health services. This study focuses on the information behaviour of doctors and nurses whose role involves direct patient care.

Methods and analysis This study will employ a quantitative approach using a cross-sectional survey design. Simple random sampling will be used to identify the provinces and hospitals. Stratified random sampling will be used to select doctors and nurses to whom a validated questionnaire will be administered. The study will use a structured self-administered questionnaire. Data collection will be carried out at Nelson Mandela Academic Hospital, Witbank Hospital, Pietersburg Hospital and Robert Mangaliso Hospital, respectively. Questionnaires are distributed to health professionals in one of two ways. First, by emailing an editable Microsoft word document (questionnaire) to the health professionals to complete and send back. Second, by sharing with the health professionals through WhatsApp or email, an online version of the questionnaire that has been created on Google Forms. Data collection process is scheduled to commence on 14 March 2022 and is expected to end on the 15 September 2022.

Ethics and dissemination Ethical approval was obtained from the University of the Witwatersrand Human Research Ethics Committee (reference: M211013) and Walter Sisulu University Human Research Ethics and Biosafety Committee (reference: 099/2021). Permission to access the health facilities was approved by the Provincial Health Research Committees of the Eastern Cape, Limpopo, Mpumalanga and Northern Cape. Finally, results will be shared with all key stakeholders, including hospital management, clinical staff, through public presentation and direct engagements with stakeholders.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ This is the first study in South Africa to examine the information behaviour of health professionals in central and tertiary hospitals.
⇒ In this study, the cross-sectional survey design enabled an understanding of knowledge building dynamics and information behaviour towards clinical decision-making of doctors and nurses.
⇒ Due to time constraints among participants, this study is limited to doctors and nurses with direct patient care in four selected South African teaching hospitals.

BACKGROUND

Information Behaviour (IB) refers to the many ways in which people seek and use information in different contexts, including the workplace and everyday living.[1 2] It is the totality of human behaviour in relation to sources and channels of information, which include both active and passive information seeking and information use.[3] The concept of IB dates to 1948 when several papers on IB were presented at a Royal Society Scientific Information Conference.[3] Since then, there has been great interest in understanding the IB of different professional groups. Due to this interest, researchers have produced numerous papers on IB of various professional groups and have developed models of IB to try and understand how information users interact with information.

Doctors and nurses need to maintain their knowledge as well as improve their competencies through acquiring and using information from different sources timeously. It is noted that failure to use evidence in medicine can lead to medical errors such as incorrect

diagnosis and failure to provide prophylactic treatment, etc. Such medical errors impact the equality of healthcare outcomes.[4]

Furthermore, information is a prerequisite for quality healthcare services.[5–7] Therefore, it is important to understand the IB of doctors and nurses as it impacts the quality of the service they provide. This point is emphasised by IB research done in both high-income countries and low and middle-income countries (LMICs) as well as rural and urban settings.[1–3 8–13] This study, therefore, focuses on the IB of doctors and nurses whose role regularly involves direct patient care. The doctors and nurses are key role players in the healthcare system and often work jointly on interprofessional cooperation for patient care.

There is significant research globally about the IB of various groups of health professionals such as doctors, nurses and pharmacists. However, in South Africa, there is little research concerning the IB of doctors and nurses. The demands of health services at different levels of health service delivery systems require that appropriate information be used by all health professionals.[14] Research has also shown that there is a link between access to quality clinical information and quality health services.[6–16] This signifies that doctors and nurses with access to quality health information can improve health services. As a critical catalyst in the provision of healthcare, the IB of doctors and nurses in South Africa must be understood from their perspective. This would assist with the improvement of information management systems and facilitate the provision of information that is relevant to their daily needs.

The delivery of healthcare services in South Africa is a constitutional requirement.[17] However, the quadruple burden of diseases and lack of clinical information, especially for doctors and nurses in rural and semiurban areas, have negatively affected the delivery of healthcare.[18] It is, therefore, important to find out what role clinical information plays in patient care or the lack of it thereof. Additionally, in line with the National Health Insurance (NHI) implementation, it is expected that by 2030, tertiary and central care should be providing quality care for all. Considering some of the challenges faced by tertiary and quaternary hospitals, understanding the IB of doctors and nurses at this point will provide insight as to what they need to play their part in ensuring that quality care for all is achieved by 2030.

In their study, Greyson and Johnson revealed that due to mobile technology, internet and unreliability of information, health research is increasingly focusing on how health information is dispersed online and searched for as well as how patients use social networks to seek, share and interpret health information.[19] It was revealed, however, that library and information science (LIS) researchers have developed a wide range of models to explain how they work in order to understand how humans interact with information.[19] However, the application of LIS theories in information-based interventions is uncommon in health behaviour research.[19]

According to Greyson and Johnson, individuals undergo a series of stages before they experience behavioural change. Their study used value-expectancy models that identified predictors of individual behaviours as well as other models, which examined the level at which individuals' function as well as the level at which they function as a collective. Information is typically identified in the early phases of stage models of health behaviour change as a key facilitator of behaviour change. It has been suggested by the transtheoretical model (TTM) of Prochaska and Prochaska that someone's awareness of the need to change behaviour is raised by outside forces in the precontemplation phase.

This information may be provided to an individual in many ways, even when they try so hard to avoid its availability. Now, an individual who considers changing during the contemplation phase thinks about the advantages and disadvantages, summarise the information and combine it with their beliefs and knowledge to make sense out of it. According to Greyson and Johnson, the role of information on health behaviour change is less consistent in value-expectancy models than in stages of change models.[1–19]

Second, the precaution adoption process model (PAPM) consists of seven stages that individuals go through, one of which is an exit stage.[20] Using the stages of change principle of the TTM, PAPM focuses on protecting oneself from harm by addressing specific behaviours. According to this model, unawareness stage is categorised first, then unengaged, and finally decision-maker's stage. Here, the individual has the option of not acting, or acting, which then leads to maintenance and acting stages. The TTM does not differentiate unengaged and unawareness stages, so it is obvious that the PAPM is highly relevant for providing, receiving and processing information.[19] According to the PAPM, different strategies are suggested for communicating information depending on the stage of engagement between these two stages. An addition of intentional choice of not changing behaviour indicates that individuals are responsible for assessing information, and for engaging in protective practices, for instance, examining information without acting and avoiding.[19]

Comparatively, value-expectancy models put less emphasis on information as a factor in changing health behaviour compared with stages of change models.[19] The theory of reasoned action (TRA) suggests that changing behaviour depends on one's own attitude and the subjective norms of others in the surrounding.[21] TRA also claims that one is more likely to engage in a behaviour if they plan to do so. Theory of planned behaviour (TPB) (1991) is an extension of TRA that expands the notion of perceived behavioural control, which refers to an individual's belief about the degree of control an individual has over his or her behaviours. There are few forms of explicit information practice in TRA and TPB value-expectancy theories. However, by communicating social norms and through intrinsic information, information plays a more indirect role in the development of social relations.

In healthcare, the health belief model (HBM)[22] was initially developed by psychologists to explain why some people participate in screening programmes and others do not. It has been then applied to other areas of healthcare issues such as HIV sexual risk behaviours.[19] Although HBM has changed over the past decades, its basic principle of the likelihood of individuals to adopt protective behaviours based on personal beliefs and perceptions about a health risk and the associated behaviour remains the same. The HBM differs from TRA and TPB models because it contains cues to action, which are believed to activate readiness and increase the chances of action, whether information is sought deliberately or just happened to be observed.[19]

Fisher and Fisher developed a newer value-expectancy model named information motivation behavioural (IMB) skills model for the identification and reduction of HIV risk behaviour.[23] Despite the fact that knowledge and information models are not the same, the IMB model appears to use them interchangeably, even though one can receive a lot of information without necessarily becoming more knowledgeable.[19]

In addition to the above-mentioned models, there are several core models that do not fit whether on the stages of change or the value-expectancy models. Diffusion of innovation (DOI) by Rogers (1995) is the first core theory that was first proposed in 1950s, and it remains a core model to this day, it suggests that innovative ideas be disseminated through communication, allowing them to adapt to the changing environment over time. DOI put emphasis on information dissemination, since individuals find it hard to adopt new behaviour before they are informed about it.[19–24]

To understand the contributing factors of learning and behaviour, Bandura established the social cognitive theory.[25] According to this theory, behavioural change is influenced by an individual's characteristics, environmental factors and reciprocal determinism that standardise both one's behaviour and environment. In this theory, knowledge is a requirement for behaviour change, although there are other factors, such as belief in one's own ability to change, those are also necessary for behaviour change as they are in other models and theories.

There are still some unanswered questions regarding how people use information within their daily lives.[19] They believe that understanding the role of information within processes and forecasting behavioural models will provide some clarity in their lives. They also mention that user's behaviour, specifically self-identified needs, and preferences are the focus of information science. In controversy, communication is perceived crucial in health behaviour as it is often perceived more by others than by themselves. In the end, IB and practices are seldomly considered to have influence towards the public policy. As a result, Greyson and Johnson further argue that public health is predominantly a policy-making field.[19]

The aforementioned theories also expose that information is multifaceted and not just a commodity with intrinsic properties.[19] Furthermore, IB and practices are contextual, and the acquisition of information does not translate to knowledge.[19] It is important to understand information availability, provision, receipt and processing as this may help us better understand how to use information to support health behaviour change.[19]

Like any LMIC, South Africa is grappling with many challenges related to quality healthcare service (eg, adverse events and increased litigation, etc) despite quality improvement programmes in place. These conditions require health professionals who are proactive in seeking information, to have a supportive environment for information sources, to be innovative in the application of information, for the acquired information to translate to improved knowledge and for this information to be applied appropriately in the context to strive for improvement of public health broadly.[19] This study, therefore, aims to investigate the factors that affect the IB of South African doctors and nurses in one central hospital and three tertiary hospitals: namely, Nelson Mandela Academic Hospital (NMAH) in the Eastern Cape Province, Witbank Hospital in Mpumalanga Province, Pietersburg Hospital in Limpopo Province and Robert Mangaliso Sobukwe Hospital (RMSH) in the Northern Cape Province. Understanding their IB in the rural South African context will help provide better insights into the information infrastructure needed to fulfil their information needs.

METHODS AND ANALYSIS
Study design, setting and participants
In the context of this study, a doctor refers to a person who has undergone medical training. Other doctors undergo extra training in one type of medical field and are called specialists or subspecialists. Conversely, nurses in the context of this study refer to professional nurses or registered nurses, enrolled nurses and enrolled nursing assistants. Doctors and nurses constantly take care of patients; therefore, they should be searching for information to incorporate the best available evidence into their decisions.[8]

Understanding the IB (which includes understanding of their needs, information source barriers encountered while seeking information) of doctors and nurses in the context of rural South Africa is essential in order to appreciate how they use information to manage patients and deal with challenges facing the health system. The study will employ a quantitative cross-sectional survey to get better insights into the IB of doctors and nurses in the selected South African hospitals. Data collection commenced on the 14 March 2022 and anticipated to end on 15 September 2022.

The study population is doctors and nurses in selected South African hospitals. The sample comprises of doctors and nurses working in one rural central hospital and

Table 1 Research methods summary (adapted from Leckie *et al*, Modelling the information seeking of professionals)[26]

Main question	Study design	Five subquestions	Analysis
1. What factors affect the information behaviour of South African doctors and nurses?	Cross-sectional survey	▶ What are the tasks performed by doctors and nurses in tertiary and central hospitals? ▶ What is the information needs of tertiary and central hospital-based doctors and nurses? ▶ What are the sources of information and communication channels preferred by tertiary and central hospital-based doctors and nurses? ▶ What is the attitude of tertiary and central hospital-based doctors and nurses towards the use of evidence for patient care? ▶ What are the intervening variables that may hinder the seeking of information by doctors and nurses in tertiary and central hospitals?	▶ Percentages, frequency tables, histograms and pie charts will be used to present the results and (mean, median, percentages, frequency, etc) to describe the raw data and allow for the discovery of patterns

three tertiary hospitals, namely NMAH, RMSH, Pietersburg Hospital and Witbank Hospital. Please see table 1 for research methods summary.[26]

Sampling and sample size calculation

Simple random sampling and stratified random sampling were used to design the study. First, simple random sampling was used for the identification of the provinces and hospitals. Stratified random sampling was undertaken to select doctors and nurses to whom a questionnaire will be administered. The total sample size for the four hospitals was calculated using the equation, $n = \frac{p(100-p)z^2}{d^2}$ for a one-sided 95% CI and a 5% significance level (z=1.96). Since the proportion (p) of IB (the categorised distribution of IB patterns in a given category, for example, information sources, reasons for seeking information, etc) among health professionals is not known, this (p) was set at 50% and the desired precision, (d) was set at 3.5%. This, thus, yields a total minimum sample size of 784 health professionals. To factor in data entry errors, a further 10% (79) was added to yield the desired sample size of 863 participants for the four sites. Based on the actual number of doctors and nurses in each hospital, individual hospital sample sizes were proportionally weighted at 35% (NMAH), 25% (Pietersburg Hospital) and 20% each for Witbank Hospital and RMSH, based on the number of doctors and nurses in the four hospitals. As such, 303 of the participants will be drawn from

NMAH, 216 from Pietersburg hospital and 172 each from Witbank hospital and RMSH (table 2). A random sampling of health professionals from each of the health facilities and stratified by profession was then undertaken.

Based on the staff category, four sets of clinicians; namely, medical doctors and three groups of nurses, will be requested from the hospitals, and each will be allocated a unique number based on their appearance on the list. Three categories of nurses are drawn because of the differences in training between the three streams (enrolled nursing assistants=3 months, enrolled nurses=2 years and professional nurses=3 or 4 years) and registration with the Council, whereas all medical doctors have a similar foundational qualification and Council registration regardless of future career path. Nurses and medical doctors will be randomly drawn with the assistance of STATA statistical software (v.17.0) to get the total sample size.

Data collection instrument

A self-administered validated questionnaire (online supplemental appendix A) will be used to collect data. The questionnaire was adapted from a validated instrument that was previously used to ascertain the IB of nurses and doctors of one rural South African district,[27] IB of medical doctors and professional nurses in selected hospitals of OR Tambo Health District, Eastern Cape Province, South Africa (Doctoral Thesis). The questionnaire will be distributed to the nurses and doctors in one

Table 2 Strata specific samples for study sites

Staff category	Nelson Mandela Academic Hospital	Witbank Hospital	Pietersburg Hospital	Robert Mangaliso Sobukwe Hospital
Medical doctors	86	57	78	55
Nursing staff:				
Professional nurse	117	73	83	75
Enrolled nurse	25	16	19	17
Enrolled nursing assistant	75	26	36	25
Total	**303**	**172**	**216**	**172**

of two ways. First, by emailing an editable Microsoft word document (questionnaire) to the doctors and nurses to complete and send back the completed questionnaire to the researchers. Second, by sharing an online version of the questionnaire that has been created on Google Forms through WhatsApp (should they provide their personal contact number and be amenable to this option) or email with the doctors and nurses. To achieve the above strategies, the researchers will be assisted by the Chief Executive officer, nursing manager, operational nurses and the doctors' heads of departments or units. By completing and submitting the online survey means consenting to participate in this study (online supplemental appendix B). A study number will be allocated to each participant.

Statistical analysis

The data will first be captured and organised into a Microsoft Excel spreadsheet to inspect it for completeness and consistency, to inspect for any missing data and to code all data into numerical form. The data will then be imported into STATA V.17 (StataCorp LLC, College Station, Texas) for analyses. Age and duration of practice, numerical variables will be explored for normality using the Shapiro-Wilk test. If normally distributed numerical variables will be summarised using the mean, SD and range, and if not normally distributed, numerical variables will be summarised using the median and IQR. Categorical variable will be summarised using frequency tables, percentages and graphs. The comparison of the ages and duration of practice of nurses and doctors will be undertaken using the t test and/or the Wilcoxon rank sum test depending on the normality of the distribution of the concerned numerical variable. Comparison of ages and duration of experience of nurses or doctors by health facility will be undertaken using the one-way analysis of variance test if normally distributed or the Kruskal-Wallis test if not normally distributed. The χ^2 test will be used to compare factors associated with two or more categorical variables. However, if the expected frequencies are <5, then the Fisher's exact test will be used. Post hoc categorisation of open-ended responses will be undertaken. A significant level of 0.05 or less will be considered statistically significant.

Patient and public involvement

Not applicable.

ETHICS AND DISSEMINATION

Ethical approval was obtained from the University of the Witwatersrand Human Research Ethics Committee (reference: M211013) and Walter Sisulu University Human Research Ethics and Biosafety Committee (reference: 099/2021). Access approval was obtained from the Eastern Cape (reference: EC_202110_012), Limpopo (reference: LP_202110_007), Northern Cape (reference: NC_202110_001) and Mpumalanga (reference: MP_202110_011) Provincial Health Research

Committees, respectively. The study will be conducted in accordance with the International Conference on Harmonisation (ICH) guidelines for good clinical practice in the conduct of research in human participants in South Africa and abide by the four ethical principles of autonomy, beneficence, non-maleficence and justice. Written informed consent will be obtained from participants.

Participation in the study will be free and voluntary. Any participant can withdraw from the study at any stage without giving any reason for the decision to do so, and this withdrawal will have no consequences whatsoever (online supplemental appendix B).

There are no risks involved in participation. There is no direct benefit to the participant, but the results of the study will benefit the health system of South Africa. All participant records will be identified using a unique study number. All records will be stored securely in locked filing cabinets with access limited to staff only. All listings which link participant identification numbers to other identifying information will be stored in a separate locked file that has limited access. All electronic information will also be securely stored on a network system with password-restricted access, which is limited to the principal investigator and other designated staff.

Findings will be disseminated widely to all relevant stakeholders, including participants. The results of this study will serve as a blueprint for developing policies related to information provision for health professionals in public hospitals in the South African context. The results will immediately provide information about the IB of doctors and nurses in tertiary hospitals for the implementation of the NHI in South Africa. Results will be presented at annual partner meetings, national and international conferences. Results will also be published in open-access peer-reviewed journals to facilitate broad access to findings.

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1   APPENDIX A: QUESTIONNAIRE

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QUESTIONNAIRE

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3   This study seeks to explore the information behaviour of medical doctors and professional

4   nurses, their tasks, information needs, channels, and sources of information, attitude towards

5   the use of evidence for patient care, and factors that hinder seeking of information by medical

6   doctors and professional nurses. The objectives of the study are as follows:

7   1. To determine the tasks performed by doctors and nurses in tertiary and central hospitals.

8   2. To determine the information needs of tertiary and central hospital-based doctors and

9   nurses.

10   3. To determine the sources of information and communication channels preferred by

11   tertiary and central hospital-based doctors and nurses.

12   4. To determine the attitude of tertiary and central hospital-based doctors and nurses

13   towards the use of evidence for patient care.

14   5. To determine the intervening variables that may hinder the seeking of information by

15   doctors and nurses in tertiary and central hospitals.

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17   With your permission, I would like 30 minutes of your time to complete the following

18   questions.

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21 **1. Date of administration (e.g. 10 May 2022):**

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23 **2. Demographic Profile**

2.1. Sex	**1. Female**	
	2. Male	

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25 **2. Date of birth (e.g. 10 August 1935):**

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4. Profession	
1. Medical Doctor	
2. Professional Nurse	
3. Enrolled Nurse	
4. Enrolled Nursing Assistant	

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28 **5. Name of Hospital**

Nelson Mandela Academic Hospital	**1**	**Witbank Hospital**	**2**
Pietersburg Hospital	**3**	**Robert Mangaliso Sobukwe Hospital**	**4**

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30 **6. In which section of the hospital do you work?** (e.g. Maternity/Labour ward/Antenal)

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33 **7. What specific tasks are you performing in your hospital? Please indicate how often**

34 **you perform those tasks**

Tasks	Seldom (1)	Often (2)	Always (3)
1. See patients in outpatients during the day			
2. See patients in casualty during the day			
3. See patients in casualty after hours			
4. Perform ward rounds to see patients admitted in the wards			
5. I work in the theatre			
6. Perform minor procedures			
7. Request and interpret blood investigations to diagnose patient illness			

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8. Request and interpret x-ray investigations to diagnose patient illnesses			
9. Prescribe treatment for sick patients			
10. Educate patients about their illness			
11. Give treatment to patients			
12. Review progress of patients on treatment			
13. Teach health workers and health sciences students in the hospital			
14. Review mortality statistics			
15. Conduct folder reviews			
16. Review complaints made by patients			

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37 **8. Where do you look to get information in order to meet your needs? Please indicate**

38 **how often you use that specific source.**

	Seldom (1)	**Often (2)**	**Always (3)**
1. I talk to colleagues			
2. I consult doctors			
3. I talk to people outside of work			
4. I read newspapers			
5. I use computers at work to access the internet			
6. I use reference books kept in the hospital			
7. I use protocols/guidelines kept in the ward or pocketbook			
8. I consult hospital policy manuals			
9. I use library books			

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10. I attend seminars run in the hospital			
11. I attend training workshops organised by non-governmental organisations			
12. I attend training workshops organised by provincial office			
13. I attend training workshops organised by district office			

39 **9. For what reasons do you seek information? Please indicate how often you seek**

40 **information for a specific reason**

Reasons for seeking information	Seldom (1)	Often (2)	Always (3)
1. For patient care			
2. For personal use			
3. For CPD (continued professional development)			
4. General awareness			
5. Research			
6. Teaching			
7. Other reasons (Please specify)			

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46 **10. What informs your choice of information source? Please tick appropriate box and**

47 **level of importance**

Factors	Somewhat important (1)	Important (2)	Very important (3)
1. Accessibility of the information source			
2. Format of the information source			
3. Cost of the information source			
4. Familiarity with the information source/awareness of the information source			
5. Trustworthiness of the information source			

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49 **11. To what extent do you agree with the following statements about your attitude toward**

50 **evidence-based practices? Please indicate whether you agree or disagree by ticking 1=**

51 **strongly disagree; 2= disagree; 3= not sure; 4= agree; 5= strongly agree**

	1	2	3	4	5
1. I feel confident that I can perform evidence-based practice					
2. I believe that evidence-based practice leads to improved patient outcomes					
3. I am motivated to adopt evidence-based practice					
4. I make time to keep myself up to date with evidence-based practices					
5. It is easy to apply evidence-based treatment in my day-to-day practice					

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53 **12. What factors hinder you in seeking information? Please tick appropriate box and**

54 **level of importance**

Factors	**Somewhat important (1)**	**Important (2)**	**Very import (3)**
1. Time taken to access information			
2. Cost of accessing information			
3. Lack of online access			
4. Lack of skill to search the online resources			
5. Slow internet			
6. Lack of physical library			
7. No print material			
8. Print material not relevant			
9. Do not know how to formulate search questions			

10. Lack of awareness about information sources			
11. Other (Please specify)			

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70 **13. How would you rate yourself in the following areas of information use? Please indicate**

71 **whether you agree or disagree by ticking 1= strongly disagree; 2= disagree; 3= not sure;**

72 **4= agree; 5= strongly agree**

	1	**2**	**3**	**4**	**5**
1. I am aware of all information sources that are available in my hospital					
2. I use all information sources that are available in my hospital					
3. I do not care whether there are information sources provided in my hospital					
4. I always consult information sources provided in my hospital					
5. I consult information sources for clinical decisions					
6. I consult print material (books, journals) from the library					
7. I use computer at work to access online information					
8. I use my book collection					

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9. I understand the importance of information at work					
10. I consult information sources for professional development					
11. I consult information sources for teaching					
12. I only consult information sources for personal purposes					
13. Access to information improves quality of patient care					
14. Consulting information sources assist me to diagnose my patients					
15. Consulting information sources assist me in treating my patients					
16. Consulting information sources assist me in the prognosis of my patients					

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80   APPENDIX B: INFORMATION SHEET

81   **Title:** Factors influencing the information behaviour of doctors and nurses in South Africa's

82   Eastern Cape, Mpumalanga, Limpopo and Northern Cape provinces: A survey study protocol

83

84   **Dear sir or madam**

85   The Knowledge Management for Public Health Research Unit, a syndicate of the University

86   of the Witwatersrand, kindly requests you to participate in this study. The completion of the

87   questionnaire will be through your own voluntary measures therefore it will serve as consent

88   to participate. Below is more detailed information about the study.

89

90   **Purpose of the research:** The purpose of this study is to investigate the information behaviour

91   of doctors and nurses in your hospital. It is envisaged that the study will contribute towards

92   providing rich knowledge about the Information behaviour of doctors and nurses in South

93   African tertiary hospitals.

94

95   **Procedure to be followed:** Data will be collected in the form of survey questionnaires. Data

96   collection will commence after we have obtained ethical clearance from the Walter Sisulu

97   University Human Research Ethics Committee. Considering the COVID-19 pandemic, all

98   COVID-19 related regulations will be followed, and the questionnaires will be conducted using

99   online platform.

100

14

101 **Discomforts/risks:** The risks in this study are minimal (i.e., no greater than those ordinarily

102 encountered in daily life). There are no foreseeable discomforts or dangers to you.

103

104 **Incentives/benefits for participation:** There are no direct benefits to you. The results of this

105 study, however, will increase our knowledge on the Information behaviour of doctors and

106 nurses in your hospital. There will be no cost to you for participating in this study. In addition,

107 you will not be paid, or any other incentives given for your participation.

108

109 **Time duration of participation:** Completing the questionnaire will take 30 minutes of your

110 time. Please note by completing and submitting this online survey means consenting to

111 participate in this study.

112

113 **Statement of confidentiality:** All records are kept confidential and will be available only to

114 professional researchers and staff. If the results of this study are published, the data will be

115 presented in group form and individual or personal identifiers of participants will not be used.

116

117 **Voluntary participation:** Your participation is voluntary, and you are free to withdraw at any

118 time if you wish to do so.

119

120 **Termination of participation:** If at any point you wish to terminate the session, we will do

121 so.

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123 **Outputs:** If you would like to be informed of the final research findings, please contact any

124 one of the principal investigators (contact details at the end of this information sheet). Findings

125 will be disseminated widely to all stakeholders, annual partner meetings, and peer review

126 journals. If you have any concerns or complaints regarding the ethical procedures of this study,

127 you are welcome to contact the Walter Sisulu University Human Research Ethics Committee

128 (Medical), telephone +27(0) 47 502 2111, email nhangamso@gmail.com/

129 zdlamini@rtc.wsu.ac.za

130 **Principal investigator:** DR NOMBULELO CHITHA; Cell 072 218

131 9258; Email-nchitha@witshealth.co.za

132 **Co-Investigator**: DR WEZILE CHITHA; Cell 071 490 8729; Email-

133 wchitha@witshealth.co.za

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