An assessment of voting knowledge and related decisions amongst hospitalized mental health care users in South Africa

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A research report (in the format of a “submissible” paper) submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg in fulfilment for the requirements of the degree of Master of Medicine (Psychiatry), 2020

DECLARATION

I, **Felicity Dawn Marcus**, hereby declare that this research is of my own, unaided work. I am submitting this research report for the degree Master of Medicine in Psychiatry (in submissible format with my protocol) in the branch of Psychiatry at the University of the Witwatersrand, Johannesburg. This research report has not been submitted before for any degree or examination at this or any other university.

FD Marcus _____

(signature of candidate)

_____

Date

Contribution of the candidate to the paper

Declaration: Student's contribution to article(s) and agreement of co-author(s)

I, Felicity Dawn Marcus, student number 0700040M, declare that this Research Report is my own work and that I have contributed significantly towards the research finding presented in the paper intended for publication below.

Signature of Student _____ **Date:** _____

Name of primary supervisor: Dr Yvette Nel

Signature of Primary Supervisor_____ **Date:** _____

Agreement by co-authors: By signing this declaration, the co-authors listed below agree to the use of the article(s) by the student as part of her Research Report. In cases where the student is not the 1st author of a published article, the primary supervisor must explain (under comments) why the student is entitled to use the paper for his/her degree purposes.

Article Title: An assessment of voting knowledge and related decisions amongst hospitalized mental health care users in South Africa

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1st author	Dr Felicity Marcus		
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Comments by primary supervisor:

_____

_____

This research report is dedicated to the memory of my late grandmother, Marlene Kotzen.

Presentations arising from research project

1. School of Clinical Medicine Research Day 23 October 2019. School of Public Health Resource Centre; University of the Witwatersrand (poster presentation)

ABSTRACT

The Electoral Act (73 of 1998) states that persons may not be registered on the voter's role if they have been "declared by the high court to be of unsound mind or mentally disordered" or if they are currently "detained under the Mental Health Care Act, 17 of 2002". In this study I aimed to compare the voting knowledge and decision-making abilities of a study group (hospitalized MHCU) to that of a control group (hospitalized non-psychiatric patients). A modified CAT-V questionnaire was used and administered to 60 psychiatric inpatients and 30 non psychiatric inpatients. Socio-demographic and clinical variables such as age, gender, DSM 5 diagnosis, highest level of education and voting status were also reviewed. There was a significant association between group (MHCU vs control) and highest level of education (p=0.016). Although the median overall score for the control group (11; IQR 10-12) was significantly higher than that for the MHCU group (10; IQR 8-12) (p=0.043), when controlling for education level, there was no significant association between group (MHCU/control) and MCAT-V scores (p=0.011). MHCU and control groups displayed variable results on the MCAT-V questionnaire with regards voting knowledge and subsequent decisions. This was found to be dependent on educational attainment rather than membership group.

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To my husband, two beautiful children and family thank you for your ongoing support and love.

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ABBREVIATIONS

CHBAH: Chris Hani Baragwanath Academic Hospital

CAT-V: Cognitive Assessment for Voting

DSM 5: Diagnostic and Statistical Manual of Mental Disorders, 5th Edition

MCAT-V: Modified Cognitive Assessment for Voting

MHCU: Mental Health Care User/s

SA: Republic of South Africa

SPH: Sterkfontein Psychiatric Hospital

An assessment of voting knowledge and related decisions amongst hospitalized mental health care users in South Africa

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Abstract

Background: The South African Constitution protects the right to vote for every citizen. The Electoral Act (73 of 1998) states that persons may not be registered on the voter's role if they have been "declared by the high court to be of unsound mind or mentally disordered" or if they are currently "detained under the Mental Health Care Act, 17 of 2002". There is limited information regarding voting knowledge and subsequent voting related decisions amongst South African involuntary mental health care users and state patients.

Objective: To compare voting knowledge and related decisions between hospitalized mental health care users (MHCU) and non-psychiatric hospitalized patients (controls).

Method: A cross sectional survey was conducted using a modified Cognitive Assessment Tool for Voting (MCAT-V) questionnaire with 60 involuntary mental health care users and state patients at Sterkfontein Psychiatric Hospital (MHCU) and 30 patients in the orthopaedic ward (controls) at Chris Hani Baragwanath Academic Hospital. Scores on the MCAT-V were compared between the MHCU and control groups, along with socio-demographic and clinical variables such as age, gender, DSM 5 diagnosis, highest level of education and voting status.

Results: Within the mental health care user group 57% were state patients and 43% were involuntary mental health care users. The predominant diagnosis was Schizophrenia (58%). There was a significant association between group (MHCU vs control) and highest level of education (p=0.016), with the control group having a higher proportion of patients with Grade 12 or higher education. Although the median overall score for the control group (11; IQR 10-12) was significantly higher than that for the MHCU group (10; IQR 8-12) (p=0.043), when controlling for education level, there was no significant association between group (MHCU/control) and MCAT-V scores (p=0.011). The MCAT-V scores of the Doe questions between the MHCU and control groups were not significantly different (p=0.063). The categorized reasoning scores of the MCAT-V were however significantly different between MHCU and controls (p=0.0082) and influenced by level of educational attainment (p=0.011). Voting status also had a significant effect on total score but group did not (p=0.0024). The overall score across both groups was found to be higher for those who had voted before as compared to those who had not (p=0.0024).

Conclusion: The limitations and exclusions with the current voting rights of South African mental health care users are not supported by the findings of this study**.** MHCU and control groups displayed variable results on the MCAT-V questionnaire with regards voting

knowledge and subsequent decisions. This was found to be dependent on educational attainment rather than membership group. While performance on reasoning scores on the MCAT-V were found to be comparable, there was no significant difference between Doe scores of the MHCU and control group on the questionnaire. The MCAT-V demonstrates educational bias and therefore is not recommended as a screening tool for assessing voting competency.

Keywords: Voting, CAT-V questionnaire, doe scoring

Introduction

"Universal adult suffrage, a national common voter roll, regular elections and a multi-party system of democratic government" are a few of the fundamental principles mentioned in the 1996 Constitution of South Africa [1]. The ability to vote reflects on one's dignity, equality and freedom of speech within society. The current Electoral Act (73 of 1998) sets limitations on certain mental health care users to register to vote in the South African General elections[2].

The transgression of human rights with regards psychiatric patients is not a new concept [3]. Bhugra *et al*. conducted a comparative review of the legislations of various countries to assess the rights of mental health care individuals to vote [4]. Of the United Nations Member States studied, 167 of the 193 legislations examined made specific provisions regarding voting in those with psychiatric conditions. It was found that only 21 countries had no restrictions on voting for mental health care users, while over one third of the countries reviewed denied all mental health care users the right to vote. A further 21 countries limited voting in detained psychiatric persons of which nine countries required them to be specifically detained under mental health care law. It was found that this exclusion was based on the assumption that psychiatric patients have impaired capacity for voting [4].

There is evidence to suggest that despite being mentally unwell, mental health care users still retain their political sense. In Canada, Bhopal *et al.* looked at the political awareness of hospitalized involuntary patients with chronic psychiatric illnesses [5]. Their study found that 60% of the patients interviewed had a good knowledge of their country's upcoming elections and most of these patients were aware of current political issues and situations [5].

The concept of "capacity" is complex and task specific, and thus there are many ethical and legal factors to consider when attempting to address the idea of voting capacity [6]. When summarizing the international legislation regarding voting rights and limitations in mental health care users, there are various viewpoints: 1) there should be no restrictions on their voting rights in mental health care users; 2) that all mental health care users should be barred from the voting process; and 3) there should be rational legal voting limitations on certain mental health care users [4].

The current South African Electoral Act denies "detained" mental health care users and those who have been declared by the high court to be of "unsound mind" the ability to be registered on the national voters roll and subsequently vote [2]. There is however, no adequate clarification of these terms and no means of assessing individual voting competency for those who fall under these categories [2].

There can be no single test to determine "voting competency", however it is possible to examine individual voting knowledge and decision-making [7]. In 2001 in the United States (US), the legal case of Doe vs Rowe resulted in the development of the "Doe voting capacity standard". The US court ruled that one only has the inability to vote if "they lack the capacity to understand the nature and effect of voting such that they cannot make an individual choice". Appelbaum *et al*. subsequently created a questionnaire, the Competence Assessment Tool for Voting (CAT-V) based on the Doe standard [7]. The questionnaire asks the subject to imagine that it is election day and they must participate in selecting a new governor. A series of three questions based on the Doe criteria are then asked, which assess understanding of the nature and effect of voting and ability to make a choice. The questionnaire asks a further three questions to assess reasoning regarding the choice of governor. Appelbaum *et al.* used the CAT-V to assess the voting ability of 33 patients with mild to severe Alzheimer's disease in an outpatient clinic. The severity of dementia was objectively assessed using the Mini Mental Status Examination (MMSE). Their study found that those patients with severe dementia scored two or less on the Doe questions, those with moderate dementia obtained variable scores between two and six and all those with mild Alzheimer's disease achieved a score of six. They concluded that those with mild Alzheimer's disease still maintained the ability to vote while those with severe Alzheimer's did not. Those with moderate Alzheimer's displayed variable scores and thus screening tools such as the CAT-V were suggested as useful when assessing their voting competency [7].

Israeli Election Law makes provisions for hospitalized psychiatric patients to participate in the voting process. Doron *et al*. [8] conducted a study in Israel utilizing the CAT-V questionnaire to assess the relative capability of 56 psychiatric inpatients compared to twelve healthy control subjects to vote. Participants were grouped into high and low capacity to vote using cluster analysis techniques and the CAT-V score as a continuous measure. Those who obtained a score of less than 1 on all six CAT-V questions were considered to have low capacity. Participants who obtained scores of 1.6 or more were considered to have high

capacity. They found that 59% of the participants (12 healthy control subjects plus 33 psychiatric patients) had a high capacity to vote. It was found that 41% of psychiatric patients fell into the low capacity group. When comparing CAT-V scores to the scores obtained on the Mini Mental State Examination, it was found that a direct relationship existed, thus leading them to the conclude that the better one's cognitive functioning the more likely it is that they will have voting competency. Findings also showed that the lower the CAT-V scores were associated with higher the Brief Psychiatric Rating Scale (BPRS) score, indicating an association between CAT-V scores and illness severity. It was recommended that the CAT-V could be used as a screening tool for those individuals whose capacity to vote was uncertain [8] [9].

Given the current legislation in South Africa, which at present limits voting registration in persons detained under the MHCA, the focus of this study was to assess voting knowledge and related voting decisions in hospitalized Mental Health Care Users in South Africa.

Objectives

We aimed to compare voting knowledge and related decisions between a group of MHCU and controls, using a modified CAT-V (MCAT-V) screening tool. We sought to determine if there were any significant differences between the two groups, and to determine if there were any additional clinical or other factors which might influence test scores in the South African context.

Method

Participants

This study was conducted as a cross sectional comparative survey. Data was collected between January 2018 and April 2018. Convenience sampling was used. The mental health care user (MHCU) group consisted of 60 patients (26 involuntary mental health care users and 34 state patients) from the psychiatric wards at Sterkfontein Psychiatric Hospital (SPH). The control group comprised of 30 hospitalized patients from the orthopaedic wards at Chris Hani Baragwanath Academic Hospital (CHBAH). The sample size was calculated using the Wilcoxon rank sum test. It was determined that the sample size of the psychiatric patients would be twice that of the control group, as the psychiatric group was the focal point of the study [10]. The loss of statistical power from the unequal group size was minimal and was

accounted for in the sample size calculation [10]. Sample size calculations were carried out in G*Power [11].

Ethics

This study was approved by the University of the Witwatersrand post graduate committee and the Human Research Ethics Committee. Permission was also obtained from Sterkfontein Psychiatric Hospital and Chris Hani Baragwanath Academic Hospital. The specialist psychiatrist from each ward involved in the study oversaw the consenting process in the MHCU group.

Questionnaire

The CAT-V questionnaire needed to be adapted for the South African population. The unique political, cultural and social situation in South Africa was considered to ensure that the questionnaire would be unbiased and coherent. Permission was obtained to use and modify the CAT-V questionnaire to the South African setting. The modified CAT-V (MCAT-V) required the participant to envision it was the day of the national South African elections. They were obligated to vote for a new political party, not a governor scenario as in the original CAT-V questionnaire [7]. The question assessing the ability to "choose" was also adjusted to South African circumstances. Candidates were asked to choose between political party A or B, with party A offering monthly grant payouts and party B offering house allowances. These first three questions are considered the "Doe Questions", as they assess the understanding of the nature and effect of voting and the ability to make a choice [7]. Questions testing ability to substantiate and reason their choice as well as incentive to vote again remained unchanged (see appendix 1). Differences between political party A and B in the hypothetical scenarios were kept vague, with an attempt to avoid any similarities with real political parties and agendas.

Procedure

Participants were required to understand and speak English, be over the age of 18 years and to hold a valid South African identity document. Participants in the MHCU group were required to be admitted under the Mental Care Act 17 of 2002 as an involuntary Mental health care user or state patient. The control group participants had to be hospitalized for a general orthopaedic condition. Vital signs and physical state were screened to exclude delirium. It was also ensured that the control group had no history of recent head injury

(within the last six months) and no known psychiatric illness. The usage of benzodiazepines within eight hours of the interview excluded patients from participating in the study in both groups.

Informed consent was secured from each candidate prior to participation in the study. The MCAT-V questionnaire was administered by the same investigator for all the participants, and the participant's answers and scores were documented. Scoring was rated from 0-2 points where 0 was allocated for an inadequate answer, 1 point for a partially correct answer and 2 points for a satisfactory answer. Information pertaining to their allocated ward, the mental health care act section under which the user was detained and their diagnosis based on DSM 5 criteria was obtained from hospital records. Age, gender, highest level of education and prior participation in voting (voting status) was captured during the interview.

Contact details of the Independent Electoral Committee were made available to those wishing to enquire about the South African voting process. Provisions were made for referral to the psychology departments of the respective hospitals for participants who were unsettled by the interview process and politically associated questions.

Data Analysis

Data analysis was carried out using SAS version 9.4 for Windows. The 5% significance level was used. Descriptive analysis of the data was done. An overall score for each participant was calculated (range=0-12). The gamma coefficient was used when looking at the association between the questionnaire scores for the control and sample groups as well as the strength of this association. A Doe score (sum of question 1-3) and a reasoning score (sum of questions 4-6) was calculated for each participant. The chi-squared test was used when calculating the association between gender, HLOE, voting status, categorized scores and groups. Fisher's exact test was applied when the requirements for the chi-squared test could not be met. The significance of the association between the two groups was then further calculated by Cramer's V and the phi coefficient. The association between HLOE and voting status was calculated in a similar manner. The relationship between age, total score and group was analysed using the t-test. Where the data did not meet the assumptions of these tests, the Wilcoxon rank sum test

was used. The strength of the associations was measured by the Cohen's d for parametric tests and the r-value for the non-parametric tests.

Results

There were 90 participants in this study. All participants consented and answered the questionnaire. No patients refused to participate. Of the sample MHCU group 57% were state patients; the rest (43%) were involuntary mental health care users. The predominant DSM 5 diagnosis in the MHCU group was found to be Schizophrenia (58%) (Figure 1). The control group had a diverse range of injuries with 83% having incurred fractural damage. The participants were all male and the mean ages of the two groups did not differ significantly (p=0.43) (table 1). There was a significant association between group and highest level of education (p=0.0016) (table 1); the effect size was moderate (Cramer's V = 0.38). The control group had a higher proportion of patients with Grade 12 qualification, or higher education (63%) compared to the mental health care group (25%) (table 1). There was no significant difference in the percentage of patients who had voted before in the control group (67%) compared to the mental health care group (57%) (p=0.49) (table 1). There was no significant association between highest level of education and voting status (p=0.23).

Considering the categorised overall score, all control group participants (100%) scored six or more, compared to only 90% of the MHCU group. The difference, however, was not statistically significant (p=0.17) (table 1). The median overall score for the control group (11; IQR 10-12) was significantly higher than that for the MHCU group (10; IQR 8-12) (p=0.043) (table 1). However, the effect size was small (r=0.22).

When assessing categorized "Doe scores" between the control and MHCU group, the difference was not found to be significant (p=0.063) (table 1). The proportion of scores five or greater on the Doe questions also did not differ significantly between the two groups (p=0.63) (table 1). A significant difference was found between the categorized reasoning scores of the two groups (p=0.0082) (table 1). The proportion of patients with high reasoning scores (that is scores of either five or six) was lower in the MHCU group (68%) compared to the control group (93%) (table 1).

Highest level of education and voting status had a significant effect on the overall MCAT-V score (p=0.020) and (p=0.0051), but group did not (p=0.41) (table 2). Post-hoc tests showed that the estimated mean total score, across groups and voting status, was significantly higher for those with Grade 12 or higher education compared to those with no schooling/special schooling or primary level education (p=0.017) (Figure 2). Similarly, post-hoc tests revealed that the estimated mean total score, across groups and highest level of education, was significantly higher for those who had voted before compared to those who had not (p=0.0051) (Figure 3).

Appendix 1: Modified Competence Assessment Tool for Voting Questionnaire (MCAT V)

Imagine that there are two political parties participating in an election in South Africa:

1) What will the people of South Africa do in the election to pick a new ruling party? **(Assessing the understanding of the nature of voting)**

Score 2: correct answer **Score 1: partially correct answer** **Score 0: incorrect answer**

2) When the election is over, how will it be decided who the new ruling party is? **(Assessing the understanding of the effect voting)**

Score 2: correct answer **Score 1: partially correct answer** **Score 0: incorrect answer**

3) Political party A wants to put more money into SASSA grants. Political party B want to put more money into housing allowances.

Which party would you vote for? **(Assessing the ability to choose)**

Score 2: clearly indicates choice **Score 1: choice is ambiguous** **Score 0: unable to make a choice**

4) What is your reason for the choice in the question above? **(Assessing reasoning)**

Score 2: Able to identify one comparative attribute **Score 1: Ambiguous** **Score 0: Unable to mention a comparative attribute**

5) If your choice of political party as mentioned above were to be elected, how would it affect your life? **(Assessing understanding of consequences).**

Score 2: Able to identify a consequence **Score 1: Gives a vague consequence to his/her life** **Score 0: Unable to give a consequence**

6) Would you want to vote in the next South African General Elections? And why?

Score 2: Able to give a good reason for their answer **Score 1: Gives an ambiguous reason for their answer** **Score 0: unable to adequately explain their answer**

Figure 1: Distribution of the various psychiatric diagnoses based on DSM 5 Criteria within the mental health care group (n=60)

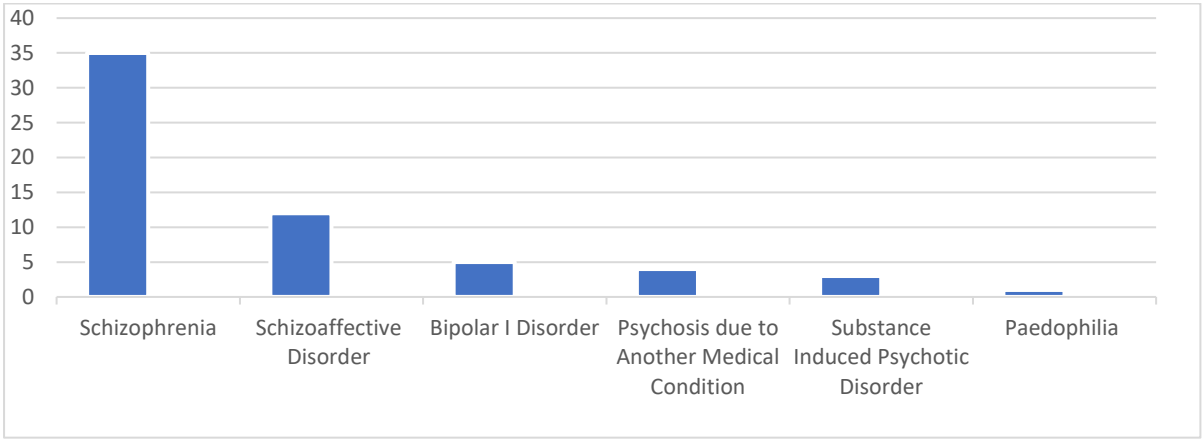


Table 1: Comparison of demographic and clinical data in the control group versus mental health care group

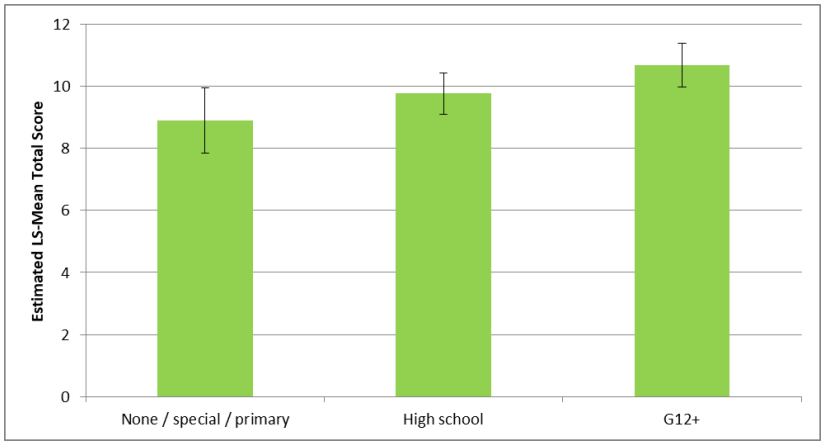
Category		**Control Group N=30**	**%**	**Mental Health Care User Group N=60**	**%**	**p-value for between group test**
Gender, male		30	100	60	100	
Age (years), mean ±SD		36.3 ±13.2		38.2 ±8.6		0.43
Level of education	special schooling or ≤ Grade 7	2	7	13	22	0.016‡
	Grade 8-11	9	30	32	53	
	≥Grade 12	19	63	15	25	
Voted before	Yes No	20 10	67 33	34 26	57 43	0.49
MCAT-V overall score	0-5	0	0	6	10	0.17
	6-12	30	100	54	90	
Total MCAT-V Score, median ±IQR		11 ±10-12		10 ±8-12		0.043†‡
MCAT-V "doe scores"	0	0	0	1	2	
	1-2	0	0	9	15	
	3-4	8	27	10	17	0.063
	5-6	22	73	40	67	0.63
MCAT-V "reasoning scores"	0-4	2	7	19	32	0.0082‡
	4-6	28	93	41	68	

p-values calculated using chi squared test unless otherwise stated.

† Fisher's exact test

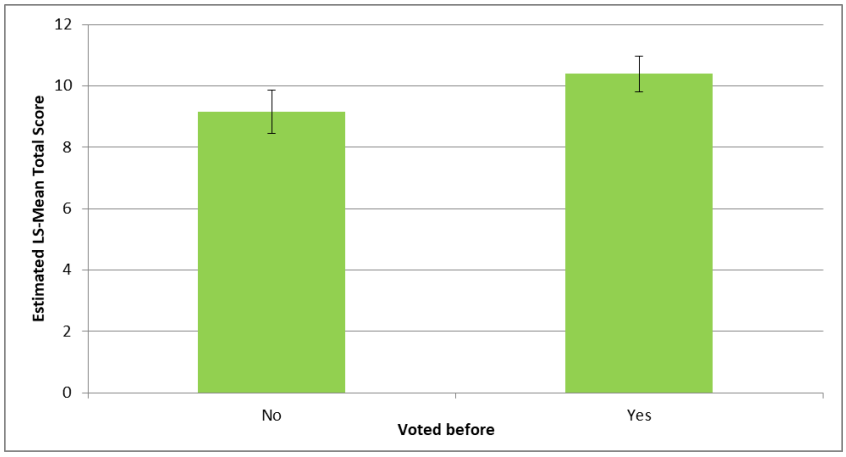
‡ Significant ($p < 0.05$)

Figure 2: Post hoc testing of the estimated mean total MCAT V scores with associated level of education



I indicates 95% confidence interval
LS= Least Squares

Figure 3: Post hoc testing of the estimated mean total CAT V scores for those who had voted before compared to those who had not



I indicates 95% confidence interval
LS= Least Squares

Table 2: Determination of the association between MCAT-V overall score and group, HLOE and voting status

Source	degrees of freedom	Type III Sum of Squares	Mean Square	F	p
Group	1	2.57	2.57	0.70	0.41
HLOE	2	30.32	15.16	4.11	0.020 ‡
Voting Status	1	30.58	30.58	8.29	0.0051§

HLOE: Highest Level of Education

p values calculated using the General Linear Model

‡ Significant ($p<0.05$)
§ Significant ($p<0.01$

Discussion

The predominant diagnosis amongst the mental health care participants in this study was found to be Schizophrenia. This was comparable with the study by Raad *et al*. who reported that 72% of their sample group had a primarily psychotic diagnosis [9] as well as the study by Doron *et al*. in which 78% of the inpatient participants met DSM-IV criteria for Schizophrenia [8]. Psychosis alone does not correlate to incapacity [12]. In the 2016 Annual Meeting of the American Psychiatry Association it was construed that despite the cognitive impairments experienced by patients suffering from mental illnesses, such as Schizophrenia, the ability to make insightful decisions and choices is retained [12]. Jeste *et al.* also concluded that a diagnosis of Schizophrenia does not equate to incapacity [13].

No significant difference was found between the Doe scores of the MHCU group and the control group (p=0.063). The percentage of scores of 5 or greater also did not differ significantly between the two groups (p=0.63). Involuntary and state psychiatric patients thus retained their understanding of voting, and demonstrated an ability to make a choice despite current hospitalization for mental illness, relative to a control group. This finding does not support the suggestion that voting knowledge and choice is determined by psychiatric hospitalization. The reasoning and appreciation questions (that is questions four, five and six) showed greater variability between the two groups. Mental health care users obtained lower scores then controls. Similar findings were found by Applebaum *et al.* with regards CAT-V score patterns in patients with very mild to mild Alzheimer's disease [7]. Whilst participants may hold an understanding and knowledge of the nature and effect of voting and can make a choice, their ability to reason may be compromised [7].

A significant difference in level of education was found in our study between the control group and the mental health care users with 63% of the control group completing at least 12 years of schooling vs 25% of the MHCU group. A higher number of mental health care users (22%) obtained special schooling or a Grade 7 or less. (p=0.0016). This pattern of education is not consistent with previous research in hospitalized MHCU in South Africa, where it was noted that 63% of acute male admissions in Lentegeur Psychiatric Hospital in the Western Cape Province were educated to a secondary level [14]. When controlling for differences in level of education, there was no significant association with MCAT-V scores and group (MHCU vs controls), suggesting that education level influenced total scores on the MCAT-V rather than membership of the group (MHCU vs control). No previous associations have been

reported between CAT-V scores and level of education [7] [8] [9]. Previous research on the use of the CAT-V has been conducted in population groups with relatively high levels of education with Applebaum *et al.* reporting a mean of 14.0 years of education in patients with Alzheimer's, and Doron *et al*. reporting that 89.9% of MHCU in their study had a minimum of a high school level of education [7] [8]. In the United States of America, 88% of the population have at least a high school diploma (at least 12 years of education) [16]. In South Africa, it is estimated that only 40-50% of learners who start school complete twelve years of education [17]. It has been found that educational factors impact on test scores in general [18]. Examinations test the abilities and academic knowledge of the candidate. They also assess skill and task performance with the conditions being decided on by the overseeing examiner. This leads to limitations in assessment and bias [18]. CAT-V scores may thus be sensitive to level of education and this association has not been previously detected due to baseline high levels of education. Education is not a requirement for voting capacity in a democracy, therefore this educational bias limits the usefulness of the MCAT-V as a screening tool in any democracy.

It is also noted that despite current restrictions on voting registration in South Africa, there was no difference in previous participation in the voting process between the two study groups (p=0.49). The timeline of hospitalization and voting history was not obtained. Previous participation in voting in an election is thought to have a strong influence on one's ability to vote in future [19]. MHCUs and control group participants in our study who had voted before were found to have higher mean MCAT-V scores. They were able to adequately explain the voting process and also had experience in the aspect of making informed decisions and choices. They were also found to be more likely to express a desire to vote again.

Study Limitations

This study covered a small number of involuntary mental health care users and state patients. The sample group was also restricted in that all mental health care user participants were admitted at Sterkfontein Hospital. Results can therefore not be generalized to the South African psychiatric population. This study used convenience sampling methods which is also a limitation.

Control for level of education by the usage of patients in the both groups who obtained a matric certificate or higher may have clarified the impact of MHCU status on MCAT-V scores. However, the finding of a possible educational bias in the MCAT-V is an important finding as it limits the usefulness of the MCAT-V as a screening tool.

The MCAT-V was adjusted for our South African population. We are unable to establish the impact that this modification may have had on the results and in comparison, to similar international studies. Choice of replacement questions and situations were random but enabled the South African participants to identify with the questionnaire. If one were to replicate the study thought might be given to changes in question scenario and wording.

Language served as a limiting factor as only those who were English speaking were selected to participate.

The illness severity of the psychiatric participants was not assessed and thus we are unable to comment on its effect on MCAT-V performance. DSM 5 diagnosis used was based on clinical assessment and no rating or confirmation of diagnosis was done. Objective testing on cognitive abilities was also not done as compared to other similar international studies. Conclusions can therefore not be drawn on cognitive abilities and MCAT-V scores.

Conclusion

Current legislative restrictions on voting for mental health care users are not supported by the findings of this study. This study is the first to investigate voting knowledge and related decisions amongst hospitalized mental health care users in South Africa. Based on the Doe voting capacity standard, South African mental health care users do not have significantly different patterns of voting knowledge and choice demonstration when compared to a control group, however differences between the groups were noted on reasoning scores. The differences in total MCAT-V scores between the groups were further found to be associated with education level and not membership of the MHCU group. It is therefore recommended that due to the educational bias, this questionnaire should not be used as screening tool in the South African setting.

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Appendix A: Approved Research Protocol with appendices

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Private Bag 3 Wits, 2050
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Reference: Mrs Sandra Benn
E-mail: sandra.benn@wits.ac.za

21 August 2019
Person No: 0700040M
TAA

Dr FD Marcus
108 Quintondale Flats
40 Orchard Road
Cheltondale
2192
South Africa

Dear Dr Felicity Marcus

Master of Medicine in Psychiatry: Change of title of research

I am pleased to inform you that the following change in the title of your Research Report for the degree of **Master of Medicine in Psychiatry** has been approved:

From:	**An assessment of voting knowledge, decision making ability and the right to vote amongst hospitalized mental health care users in South Africa**
To:	**An assessment of voting knowledge and related decisions amongst hospitalized mental health care users in South Africa**

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
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Reference: Mrs Sandra Benn
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22 August 2017
Person No: 0700040M
PAG

Dr FD Marcus
108 Quintondale Flats
40 Orchard Road
Cheltondale
2192
South Africa

Dear Dr Marcus

Master of Medicine in the Specialty of Psychiatry: Approval of Title

We have pleasure in advising that your proposal entitled *An assessment of voting knowledge, decision making ability and the right to vote amongst hospitalized mental health care users in South Africa* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

CANDIDATE'S SURNAME: Marcus	FIRST NAME/S: Felicity Dawn	STUDENT NUMBER: 0700040M
CURRENT QUALIFICATIONS: MBBCh (Wits)		
TEL:	CELL: 0826746491	E-MAIL: drfil1402@gmail.com	FAX: N/A
DEGREE FOR WHICH PROTOCOL IS BEING SUBMITTED: MMed Psychiatry		
PART-TIME OR FULL-TIME: Full Time		
FIRST REGISTERED FOR THIS DEGREE:	TERM: January	YEAR: 2017
DEPARTMENT: Psychiatry Department of the University of the Witwatersrand		
TITLE OF PROPOSED RESEARCH: A comparison of the capacity of hospitalized involuntary mental health care users compared to other hospitalized patients to vote in the South African National General Elections.		
CANDIDATE'S SIGNATURE:		DATE:
SUPERVISOR 1 (NAME & SURNAME): Dr Yvette Nel		% Supervision 100%
SUPERVISOR'S QUALIFICATIONS MBBCh (Wits) / FCPsych (SA) / MMed (Psych) (Wits)		
SUPERVISOR'S DEPARTMENT: Consultant Psychiatrist at Tara Hospital		
SUPERVISOR'S ADDRESS / TEL / E-MAIL: yvette.nel@wits.ac.za		
SUPERVISOR 2 (NAME & SURNAME): N/A		% Supervision
SUPERVISOR'S QUALIFICATIONS: N/A		
SUPERVISOR'S ADDRESS / TEL / E-MAIL: N/A		
SUPERVISOR 3 (NAME & SURNAME): N/A		% Supervision
SUPERVISOR'S QUALIFICATIONS: N/A		
SUPERVISOR'S ADDRESS / TEL / E-MAIL: N/A		

SNOPSIS OF RESEARCH:

The current South African Electoral Act (73 of 1998) denies involuntary and state mental health care patients the right to vote (2). Thus, during the national general elections, provisions are made for hospitalized patients in medical, surgical or orthopaedic wards to vote but not patients admitted under the Mental Health Care Act (2).

The Competency Assessment Tool for Voting (CAT V) questionnaire, which was designed by Professor Appelbaum in the United States of America, can be used to assess a patient's voting knowledge and in so doing their ability to vote (9).

In this research, I aim to compare the CAT V scores of involuntary and state mentally ill patients at Sterkfontein Hospital to the scores of hospitalized orthopaedic patients at Chris Hani Baragwanath Hospital. Level of education between the two groups will also be assessed to see if this impacts on voting knowledge. I hope to show that while not all state and involuntary mentally ill patients have adequate knowledge to vote, there will be a proportion of patients that do and should be allowed to vote.

ETHICS PENDING: (Y) ETHICS APPROVED: Y (circle appropriate symbol)		IF Y SUPPLY ETHICS CLEARANCE No:
As supervisor, I confirm that I have read the protocol which has been submitted for assessment.		
SIGNATURE OF SUPERVISOR/S:	……	……

An assessment of voting knowledge, decision making ability and the right to vote amongst hospitalized mental health care users in South Africa

Student: Felicity Dawn Marcus|0700040M|MMed Psychiatry

Supervisor: Dr Yvette Nel|consultant psychiatrist

1. INTRODUCTION

The first fully democratic and non-racial South African elections took place in 1994. "Universal adult suffrage, a national common voters roll, regular elections and a multi-party system of democratic government" are a few of the fundamental points mentioned in the 1996 Constitution of South Africa (1). The Electoral Act (73 of 1998) states that mentally ill persons are unable to vote if they have been "declared by the high court to be of unsound mind or mentally disordered" or if they are currently "detained under the Mental Health Care Act, 2002", most likely referring to involuntary mental health care users and state patients as described in the Mental Health Care Act 17 of 2002. (2)

2. LITERATURE REVIEW

The transgression of human rights with regards mentally ill individuals is not a new concept (3). Poreddi *et al.* investigated the perspective of human rights of mentally ill people within the developing country of India. They found that the human rights of mentally ill patients were not protected. Despite the fact that in India mentally ill patients are allowed to vote, 31% of the sample group expressed not being allowed to vote because of their mental illness and discrimination (3).

2.1 Legislation regarding the right to vote among mental health care users

Bhugra *et al*. (4) conducted a comparative study of the legislations of various countries to assess the rights of mentally ill people to vote. 193 Member States of the United Nations were studied. Only 21 countries (11%) had no restrictions on the ability of mentally ill people to vote, while 167 of the 193 legislations examined made specific provisions regarding voting in the mentally ill. The study found that a significant number of legislations (36%) denied all persons with mentally illness the right to vote, while 21 countries (11%) denied detained mentally ill persons the ability to vote. Persons who were admitted under mental health law were not allowed to vote in nine of these countries, while the other three restricted voting on an individual case by case system, based on a judicial ruling (4). South Africa is a growing country with a progressive constitution, however, South African legislation regarding voting

restrictions in those with mental illness is not considered progressive. Section Eight of our Electoral Act excludes the mentally ill from voting (2), yet our constitution states that "every citizen has the right to free, fair and regular elections for any legislative body…" (5).

2.2 Determining capacity to vote

The concept of "capacity" is complex. It refers to a person's ability to perform a given task (6). In a legal setting, it refers to a person's ability to perform specific legal acts for example, signing a contract (6). In a medical setting, it refers to a patient's ability to make decisions that will impact on his or her health and life (6). Capacity is task specific, and based on the comprehensive assessment of an individual, assessing a person's capability of interpreting certain facts and their ability to understand the impact of those facts on a situation (6). Past or current hospitalization cannot be used as a determinant of capacity (6). Each individual patient would need to be assessed based on the extent of their illness and functional abilities at a specific time (6). Examining capacity to vote is even more complicated. Historically, especially in South Africa, restrictions on voting crossed multiple ethical and moral lines. These restrictions were based purely on gender and race.

There are many ethical and legal challenges to consider when attempting to form a "test" to assess a person's voting capacity (7). Their freedom of choice and autonomy need to be accounted for but at the same time one needs to ensure the safety of this person's decision (7). By deeming a patient incompetent, we are legally taking away their ability to make decisions and there is a definite loss of freedom (7). Although there can be no single test to determine "voting competency" and one would rather need to look at a broad range of factors before declaring one unable to vote, it is possible to examine individual voting knowledge and decision-making ability. (7)

2.3 Determining voting knowledge in psychiatric patients

Bhopal *et al.* looked at the political awareness of psychiatric inpatients (8). There were 21 involuntary chronic psychiatric patients who participated in the study of which 18 had been diagnosed with Schizophrenia and three with Bipolar Disorder. Their study found that 60% of the patients interviewed had a good knowledge of their country's upcoming elections and most of these patients were aware of current political issues and situations. This thus highlighted that the concern of poor voting capacity, by involuntary mentally ill patients, may be unjustified (8).In 2005 Appelbaum *et al*. (9) conducted a study in the United States to

determine “The Capacity to Vote of Person’s with Alzheimer’s Disease”. In this study, they created a questionnaire based on the “Doe voting capacity standard”. The ‘Doe voting standard’ was decided on by an American federal court in 2001. These criteria are used to assess an individual’s voting competence and understanding of the voting process (10). The Doe case declared that “a person has the capacity to vote if he or she understands the nature and effect of voting and has the capacity to make a choice” (10). The questionnaire that was drawn up by Professor Appelbaum and his team was entitled the CAT V (Competency Assessment Tool for Voting) and it looked at 1) understanding the nature of voting 2) understanding the effect of voting 3) choice 4) comparative reasoning 5) generating consequences and 6) appreciation. Each of these categories were scored from two to zero, where two was an adequate ability in that category, one described an average performance and zero a suboptimal one. The total score was out of twelve, and capacity to vote was defined for the purposes of the study as a score of six or more on the CAT V questionnaire. Their study was conducted on 33 patients in an Alzheimer’s follow up clinic. It showed that patients with mild Alzheimer’s disease still maintained the ability to vote, using the CAT V to assess capacity, while those with severe Alzheimer’s did not (9).

Raad R, *et al*. (11) assessed the usage of the CAT V as a screening tool for voting in those with serious mental illness in the USA. In their study “The Capacity to Vote of Persons with Serious Mental Illness”, 52 community-dwelling individuals with serious mental illness were assessed using the CAT V questionnaire. They examined inter-rater reliability, and compared scores of the CAT-V to other measures of cognition, verbal IQ testing and severity of symptoms. The CAT V score was not associated with any other variables for example age and level of education, as well as clinical assessment. It was found that 92% of the participants obtained a CAT V score of six or more on the Doe standard criteria. (11).

Doron *et al.* (10) conducted a study in Israel utilizing the CAT V testing method to assess the capability of 56 psychiatric inpatients (with or without legal guardians) compared to twelve healthy control subjects to vote. Currently, the Israel Elections Law allows for every citizen over 18 years of age who is registered to vote and present in Israel on Election Day to vote. Demographic information such as age, marital status, place of birth and level of education were also assessed. The participants’ results were divided into two clusters. Those who scored less than six out of twelve on the CAT V overall where regarded as having a low capacity to vote. Those that scored six or more were termed as having a high capacity to vote.

The study found that 59% of the participants (12 healthy control subjects plus 33 psychiatric patients) had a high capacity to vote. It was found that 41% of psychiatric patients fell into the low capacity group. When comparing CAT V scores to the scores obtained on the Mini Mental State Examination and BPRS, it was found that a direct relationship existed. There was indirect relationship between CAT V score and illness severity. This study concluded that the CAT V could be used as a screening tool for those individuals whose capacity to vote was uncertain (10).

2.3 Comparing voting knowledge and decision-making ability in mental health care users vs. the general population

When Howard G, *et al.* (1977) looked at the rights of patients to vote and the voting patterns of hospitalized psychiatric patients they found that the voting choices of psychiatric inpatients who could vote were quite similar compared to those of the rest of the general population (12).

German researchers like Bullenkamp *et al.* did further studies to investigate the voting preferences of psychiatric outpatients in Germany (13). They found that 78% of psychiatric patients compared to 56% of the general population voted for left wing parties. It was concluded that the reason for this was due to the awareness of the prejudice towards mentally ill patients and the need to have a political party which represents their rights and will improve their socioeconomic situations (13).

In Doron et al. we see that the voting knowledge of the control group compared to the percentage of the study group with a high voting capacity is similar (10). Subjects without a guardian scored a mean score of 1.4 whilst the control group scored a mean of 1.2 (10). One can thus conclude that the voting knowledge of a proportion of inpatient psychiatric patients is similar to the voting knowledge of the general population (10).

2.4 Summary of literature review

The act of voting is a political right to which every individual is entitled under the South African constitution. There has been some research worldwide into the voting capacity of mentally ill patients, yet there is a dearth of literature regarding the capacity of our South African Mental Health Psychiatric inpatients to vote. Global research has demonstrated fair political knowledge and varying degrees of impairment with regards to the “Doe Principle”. It has been demonstrated globally that mental illness does not necessarily impact on an

individual's ability to understand and comprehend political issues (14). There are ethical and moral challenges with regards to assessment of an individual's capacity to vote. However, current legislation restricting the rights of certain mental health care users necessitates further investigation regarding the underlying assumptions which form the basis for current legislation, that all involuntary mental health care users/ state patients lack "capacity to vote". It would be useful to determine if there are significant differences in understanding the voting process and decision-making abilities between the general population and involuntary mental health care users, whose right to vote is currently restricted. Based on prior research worldwide, there may be a difference between involuntary mental health care users/state patients and a control group in terms of CAT-V score, but it is unlikely that all involuntary mental health care users would score below 6 on the modified CAT-V.

3. HYPOTHESIS

There may be a statistically significant difference in modified CAT-V scores between hospitalized involuntary mental health care users/ state patients and controls, but a number of involuntary mental health care users/ state patients will score more than 6/12 on the modified CAT-V, indicating fair decision-making ability and understanding of the voting process.

4. AIM

To compare voting knowledge and voting decision making ability between inpatient involuntary mental health care users/state patients and non-psychiatric hospitalized patients (controls).

5. OBJECTIVES

5.1 To describe the demographic profile of the in-patient involuntary mental health care user/state patient groups and the control group (non-psychiatric hospitalized patients), including level of education, gender and age

5.2 To describe the reason for hospitalization in both the psychiatric group and the control group

5.3 To compare the modified CAT V scores of hospitalized non-psychiatric patients to those of inpatient involuntary mental health care users/state patients.

5.4 To determine if there is an association between low CAT V scores and involuntary psychiatric admission/ state patients

5.5 To determine if level of education is associated with CAT V scores in both involuntary mental health care users/ state patients and the control groups
5.6 To determine if there is a proportion of involuntary mental health care patients/ state patients that score above 6/12 on the modified CAT V, indicating fair decision-making ability and understanding of the voting process.

6. OPERATIONAL DEFINITIONS:

Voting eligibility: to be 18 years or older and registered on the voter's roll to vote (15)
Doe Criteria: The Doe vs Rowe court case was held in 2001 in the United States of America. During this trial, the "doe voting capacity standard" was ruled upon. These are criteria used to determine if a mentally ill patient can understand the voting process and make decisions regarding voting (16).
CAT V: a six-part questionnaire which is based on the Doe criteria and can used to assess if a person has sufficient knowledge to be able to vote. It was drawn up by Professor Appelbaum and his team in 2005 (9) (see appendix 1).

7. STUDY DESIGN

This study is a cross sectional comparative survey. Patients "detained under the Mental Health Care Act" or "declared by a high court to be of unsound mind or mentally disordered" (i.e. involuntary patients and state patients) from the psychiatric wards at Sterkfontein Hospital will participate. The sample group will be from wards 4,9,14,16,17B and 18. This is to ensure that an adequate number of participants is obtained. It will also cover a broad range of involuntary patients with different pathologies and levels of functioning. The control group will comprise of hospitalized patients from a surgical ward (i.e. the orthopaedics ward) at Chris Hani Baragwanath Hospital.

Once informed consent is obtained, the researcher will administer the modified CAT V questionnaire that has being adjusted for our South African population. Consent has been obtained from Professor Paul Appelbaum (appendix 2) to modify the CAT V for this study (appendix 3). The researcher will document the patient's answers on the questionnaire page (appendix 4). The following additional information about the patient will be collected: if the patient is admitted in the psychiatric ward or other hospital ward, mental health care act section under which the user is detained, the reason for admission (diagnosis), age, gender, highest level of education and if the patient has ever voted before.

After the post graduate assessor meeting, at the suggestion of the committee, the wording of the questionnaire was informally tested at Sterkfontein Hospital on eight patients to assess the suitability of the wording of the modified CAT V questionnaire. One participant chose not to participate in the questionnaire. No changes to the questionnaire were made. None of the data collected in this process has been kept. There will be no usage of these results in this research project.

Inclusion Criteria

Inclusion criteria for the involuntary mental health care users/ state patients will be:

- English speaking
- Male and female patients over the age of 18 years
- They must hold a valid South African ID and be South African Citizens. (These are the requirements needed for registration and voting according to the IEC) (14).
- Currently detained under the Mental Care Act 17 of 2002 as an involuntary Mental health care user or state patient

Inclusion criteria for the control group

- English speaking
- Male and female patients over the age of 18
- Currently hospitalized for a general medical/surgical condition
- To be clear state of mind to be able to participate in a special vote

They must hold a valid South African ID and be South African Citizens. (These are the requirements needed for registration and voting according to the IEC) (14).

Exclusion Criteria

For the involuntary mental health care user group

- Must not have received benzodiazepines within 8 hours of the interview or sedation with clopixol acuphase within three days prior to the interview

For the control group

- Must not have received benzodiazepines or other sedations, including opiate analgesia within 8 hours of the interview

- Must not have a history of a known psychiatric illness or recent head injury (6 months)

Sample size

The sample will be a convenience sample. Sample size estimation is based on the key research question, in this case the comparison of a given CAT-V sub score between the two patient groups, which requires the application of the Wilcoxon rank sum test. It is pre-determined that the sample size of the psychiatric patients should be twice that of the control group, since the former is of greater interest (17). The loss of statistical power resulting from unequal group size is small and has been taken into account in the sample size calculation (17). For the detection of a medium effect size (d=0.65), should it exist, with 80% power at the 5% significance level, a minimum sample size of 90 patients (60 MHCU; 30 control) is required. Sample size calculations were carried out in G*Power (18).

7.2 Data analysis

For each participant, the following scores will be calculated from the questionnaire:

- Doe score (range 0–6): sum of scores for understanding the nature and the effect of voting and for making a choice.
- Reasoning score (range 0–4): sum of scores for the two reasoning questions
- Appreciation score (range 0–2) from the remaining question.

Descriptive analysis of all the study data will be carried out as follows: Categorical variables will be summarised by frequency and percentage tabulation and illustrated by means of bar charts. Continuous variables will be summarised by the mean, standard deviation, median and interquartile range, and their distribution illustrated by means of histograms. The gamma statistic will be used to examine association among the questionnaire scores. Each of the three scores will be compared between the two groups of patients using the Wilcoxon rank sum test. Within each patients group, each of the three scores will be compared between levels of education and gender using the Wilcoxon rank sum test (or the Kruskal-Wallis test for more than two groups). Data analysis will be carried out in SAS. The 5% significance level will be used.

8. ETHICAL CONSIDERATIONS

The study will be submitted to the Human Resources Ethics Committee of the University of the Witwatersrand for approval. Consent will be obtained from the respective hospitals at which the study will be conducted i.e. Sterkfontein Hospital and Chris Hani Baragwanath Hospital.

Informed consent will be obtained from all participants involved (appendix 5). Informed consent in Involuntary Mental health care users/ state patients, and the general capacity of involuntary mental health care users to consent to research is controversial. However, the background to this study already indicated that "involuntary mental health care status" may be a factor in unnecessary and unjustified "blanket" discrimination and unconstitutionality. Involuntary mental health care status does not automatically imply global inability to consent in all matters, but is specific to the mental health care treatment as per the Mental Health Care Act (19). It is therefore necessary that non-harmful, ethical research is used to advocate for the rights of those with severe mental illness, particularly those who are detained under the mental health care act. According to Zabow, there are four factors that need to be fulfilled for informed consent to be obtained: 1) voluntariness, 2) competence, 3) disclosure of information, 4) ongoing process that allows for withdrawal of consent at any time (6). These will be kept in mind when dealing with the participants of this research project (6). The psychiatrist from each unit/ ward involved will oversee the consenting process, and assess ability to consent to participate in the questionnaire.

The participants will be made aware of what the study entails and the goals of the study. If at any point they choose not to participate in the study, feel uncomfortable with the questions or wish to withdraw, they will be allowed to do so. It will be made clear to the patients that participation will not affect the duration of their hospital stay or the treatment received. A possible source of bias is in the situation where a patient is unable to provide informed consent, they would then be counted as part of the total sample size.

It is important not to influence the political choices of the participants and for political issues to be avoided. For this reason, only arbitrary parties 'A' and 'B' will be mentioned. We are trying to establish if the participants have a general understanding of the voting process and procedures and have no interest in their political stance. There will also be no discrimination shown towards participants who are not registered to vote or have no intention of voting in

the next South African elections. For those that do show an interest in the voting process, the Independent Electoral Commission's details and contact numbers will be made available to them.

No personal identifying details will be documented once a patient has agreed to participate in this study. The CAT V questionnaire forms and demographic data outlined above will be completed by the researcher, and the file will be accessed to confirm the diagnosis. The interview will be conducted in as much privacy as is possible.
There will be no compensation for participating in this study.

LIMITATIONS:

Given the time limitations of a MMed research report, time may be a limitation in this study. However, it is estimated that it will take a maximum of 11 minutes (11) to obtain informed consent and complete the modified CAT V with each participant. Language is also a limitation as our study will be restricted to those patients who can speak English.

Financial Considerations:

No cost will be incurred by the participants, the participating hospitals or the University of the Witwatersrand.
Financial costs will be incurred by the researcher for transport and printing of questionnaires and informed consent pages.

Timeline

Development of research protocol: January-June 2017
Assessor Group meeting: 12 July 2017
Ethics application and approval: October- December 2017
Data collection: January 2018- June 2018
Data Capture and analysis: June 2018-December 2018
Write up: January 2019-August 2019

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Appendix One:

i. Original CAT-V Questionnaire
ii. Email correspondence with Professor Appelbaum
iii. Modified CAT-V questionnaire for this study
iv. Patient Data Capture Sheet
v. Informed Consent Information Document
vi. Informed Consent Form

Appendix Two: Hospital Permission Letters

i. Sterkfontein Hospital Ethics Committee approval letter
ii. CHBAH approval letter

Appendix One:

i. Original CAT-V Questionnaire

ii. Email correspondence with Professor Appelbaum

iii. Modified CAT-V questionnaire for this study

iv. Patient Data Capture Sheet

v. Informed Consent Information Document

vi. Informed Consent Form

THE ORIGINAL CAT V QUESTIONNAIRE (Competence Assessment Tool for voting) (8)

"I'm going to ask you some questions about elections. This should take about five minutes. If you don't understand something I say or ask, please tell me and I will repeat it. Some of the questions may seem very simple to you, but don't worry about that. We are just looking for straightforward answers. Do you have any questions before we begin?"

- **Understanding**

Q: "Imagine that two candidates are running for Governor of [fill in name: your state], and that today is Election Day in [fill in name: your state]."

Understands the Nature of Voting

"What will the people of [fill in name: your state] do today to pick the next Governor?"

Note to interviewer: If subject describes how he/she or people in general would choose between the two choices for governor (i.e., watch TV ads, listen to their campaign issues, etc.), ask:

"Well that's how you might decide who you think should be governor. But how would you actually indicate your choice?"

[Score of 2: Completely correct response, e.g., "They will go to the polls and vote." "Each person will cast his/her vote for one or the other."

Score of 1: Ambiguous or partially correct response, e.g., "That's why we have Election Day."

Score of 0: Incorrect or irrelevant response, e.g., "There's nothing you can do; the TV guy decides."]

- **<u>Understands the Effect of Voting</u>**

"When the election for governor is over, how will it be decided who the winner is?"

[Score of 2: Completely correct response, e.g., "The votes will be counted and the person with more votes will be the winner." Score of 1: Ambiguous or partially correct response, e.g., "By the numbers."
Score of 0: Incorrect or irrelevant response, e.g., "It all depends on which sign they were born under."]

[Note that it is likely that some subjects will answer both of these questions in response to the first question. If so, they should be given a full score for each, and the second question may be omitted.]

- **<u>Choice</u>**

[Hand subject a card with the information in the following paragraph in large print; allow subject to retain and consult this card for the remainder of the interview.]
"Let me ask you to imagine the following about the two candidates who are running. Candidate A thinks the state should be doing more to provide health insurance to people who don't have it, and should be spending more money on schools. He is willing to raise taxes to get the money to do these things.
Candidate B says the government should not provide health insurance but should make it easier for employers to offer it. He believes that the schools have enough money already but need tighter controls to make sure they use it properly. He is against raising taxes.
"Based on what I just told you, which candidate do you think you are more likely to vote for: A or B?"

Note to interviewer: If subject cannot choose a candidate or is vacillating, ask:
"If you had to make a choice based on the information you have before you, who would you pick?"
[Score of 2: Clearly indicates choice.
Score of 1: Choice is ambiguous or vacillating, e.g., "I think I might go for the guy who doesn't like taxes, but I'm not sure because schools are important too."

Score of 0: No choice is stated, e.g., "I don't know. I can never make up my mind."]

The following measures of reasoning and appreciation are not part of the Doe standard.

Reasoning

- **<u>Comparative Reasoning</u>**

If subject identifies a choice, ask: "How is voting for [subject's choice] better than voting for [name of other candidate]?" [Or if subject had no choice, ask: "How might voting for Candidate A be better or worse than voting for Candidate B?"]

[Score of 2: Identifies at least one comparative attribute in relation to the views of the two candidates, e.g., "Someone who really cares about health care would be a better governor."
Score of 1: Ambiguous response, e.g., "Health care."
Score of 0: Fails to mention a comparative attribute of the respective candidates, e.g., "I just think he's good" or "I can't see any difference"]

- **<u>Generating Consequences</u>**

"If [subject's choice or Candidate A if subject had no choice] were elected governor in your state, how could that affect your life?"

Note to interviewer: Probe for a reason if subject says it will not affect them.
[Score of 2: Identifies a consequence for his or her life, e.g., "I'd have more money to spend" or "I'd have better access to health care"; if sees no personal consequences, subject gives a coherent reason ("I'll be moving to another state soon." "I'll be dead in a year anyway.")
Score of 1: Gives a vague consequence for his or her life, e.g., "Health."
Score of 0: Does not give a consequence for his or her life or a reason for saying that there are no personally relevant consequences.]

- **<u>Appreciation</u>**

"Would you want to vote in the next election for governor of your state? If yes, why? If no, why not?"

[Score of 2: Response based on reason that reflects reality of voting situation. E.g., if yes: "My doing that makes it more likely that the candidate I like will win." If no, "I don't care who wins"; "My one vote is unlikely to make much of a difference."

Score of 1: Ambiguous response that partially reflects reality of voting situation. E.g., if yes: "It helps to run the country." If no, "They might not let me."

Score of 0: Responses that fail to reflect reality of voting situation; confused or delusional responses. E.g., if yes: "The person I pick will win." If no, "They never count my vote anyway."]

EMAIL CORRESPONDANCE WITH PROFESSOR APPELBAUM

Felicity Marcus <drfil1402@gmail.com>

Jan 19

Good day Professor Appelbaum

My name is Dr. Felicity Marcus. I am from Johannesburg, South Africa and currently doing my specialization in Psychiatry through the University of the Witwatersrand.

I am looking to do research in my community focused around the mentally ill (specifically assisted and involuntary patients) and their capacity to vote. I came across a research article published by yourself and your colleagues in November 2005 entitled- " The Capacity to Vote of Person's with Alzheimer's Disease.
In this article, you describe the CAT V questionnaire and its use as a tool to assess if a person is of sound mind to vote.

With your permission, I would like to use a similar type of questionnaire (that would be modified to our South African setting) to assess my patients and their ability to vote. Your original questionnaire would be credited throughout my research.
Your response in this matter would be greatly appreciated.

Regards
Dr. F. Marcus (MBBCh Wits)
Psychiatry Registrar University of the Witwatersrand

Paul Appelbaum <appelba@nyspi.columbia.edu>

Jan 19

By all means feel free to use the CAT-V or adapt it as necessary.

Paul S. Appelbaum, MD
Dollard Professor of Psychiatry, Medicine, & Law
Director, Division of Law, Ethics, and Psychiatry
Director, Center for Research on Ethical, Legal & Social Implications of Psychiatric, Neurologic & Behavioral Genetics

Department of Psychiatry
Columbia University College of Physicians & Surgeons

Mailing Address:
NY State Psychiatric Institute
1051 Riverside Drive, Unit 122
New York, NY 10032
(phone) 646-774-8630 (Note new number)
(fax) 646-774-8633
psa21@columbia.edu
Twitter: @appelbap

MODIFIED CAT V QUESTIONAIRE FOR THIS STUDY

The CAT V questionnaire will then be conducted by the researcher. It will ask the following questions:

Imagine that there are two political parties participating in an election in South Africa:

1) What will the people of South Africa do in the election to pick a new ruling party?

(Assessing the understanding of voting)

Score 2: correct answer

Score 1: partially correct answer

Score 0: incorrect answer

2) When the election is over, how will it be decided who the new ruling party is? **(Assessing the understanding of voting)**

Score 2: correct answer

Score 1: partially correct answer

Score 0: incorrect answer

3) Political party A wants to put more money into SASSA grants. Political party B want to put more money into housing allowances.

Which party would you vote for? **(Assessing the ability to choose)**

Score 2: clearly indicates choice

Score 1: choice is ambiguous

Score 0: unable to make a choice

4) What is your reason for the choice in the question above? **(Assessing reasoning)**

Score 2: Able to identify one comparative attribute

Score 1: Ambiguous

Score 0: Unable to mention a comparative attribute

5) If your choice of political party as mentioned above were to be elected, how would it affect your life? **(Assessing understanding of consequences).**

Score 2: Able to identify a consequence

Score 1: Gives a vague consequence to his/her life

Score 0: Unable to give a consequence

6) Would you want to vote in the next South African General Elections? And why?

Score 2: Able to give a good reason for their answer

Score 1: Gives an ambiguous reason for their answer

Score 0: unable to adequately explain their answer

PATIENT DATA CAPTURE SHEET

Ward:

Diagnosis:

Age:

Gender: M ☐ F ☐

Highest level of education:

Mental health care act section if applicable: involuntary MHCU State patient

Have you ever voted before? Yes No

CAT V Question Analysis:

Imagine that there are two political parties participating in an election in South Africa today:

1) What will the people of South Africa do in the election to pick a new ruling party?

Answer:

Score:

2 ☐ 1 ☐ 0 ☐

2) When the election is over, how will it be decided who the winning party is?

Answer:

_____

Score:

2 ☐ 1 ☐ 0 ☐

3) Participant will be given a card with the information in the paragraph below. They will be able to keep this card and refer to it if need be.

If political party A wants to put more money into SASSA grants and political party B wants to put more money into housing allowances. Which one would you choose?

Answer:

_____

Score:

2 ☐ 1 ☐ 0 ☐

4) What is your reason for the choice in the question above?

Answer:

_____

Score:

2 ☐ 1 ☐ 0 ☐

5) If your choice of political party as mentioned above were to be elected, how would it affect your life?

Answer:

Score:

2 ☐ 1 ☐ 0 ☐

6) Would you want to vote in the next South African General Elections? If yes, why? If no, why not?

Answer:

Score:

2 ☐ 1 ☐ 0 ☐

TOTAL SCORE:

INFORMED CONSENT

Hi, my name is Dr Marcus. I am a psychiatry registrar at the University of the Witwatersrand. I am doing a research project on voting amongst hospitalized patients. I am trying to compare the difference between psychiatric patients and patients in other wards when it comes voting. I would like to invite you to participate in my study. It will involve me asking you six questions about voting. I will also need to know your age, diagnosis and highest level of education. It should take about 20 minutes.

Voluntary Participation:

This study is voluntary and you may choose to withdraw at any time. Participating or not participating will have no effect on the length of your hospital stay.

Confidentiality:

Your name will not be written on the question sheet. I will document all your answers on the sheet and these will not be seen by your treating doctor or any other third party.

Risks or discomfort:

No current political parties or situations will be mentioned in this study. If you would like to find out more about the voting process and your voting rights you can contact the Independent Electoral Commission on (012) 622 5700 or email: info@elections.org.za

Benefits:

You will not receive any direct benefits from participating in the study. There will also not be any form of compensation or payment for your participation.

If you have any questions or require further information you can contact the researcher on 0700040M@students.wits.ac.za. Thank you for your participation!

INFORMED CONSENT FORM

An assessment of voting knowledge, decision making ability and the right to vote amongst hospitalized mentally health care users in South Africa

I confirm that I have been informed by Dr Marcus about the nature of the study. The information sheet was also explained to me and I have had the opportunity to ask questions about it.

I understand that my participation is voluntary and that I am free to withdraw at any time, without any given reason, without any medical care or legal rights being affected.

I understand that parts of my medical records may be looked at by Dr Marcus. Data sheet information such as my age, gender and highest level of education as well as my answers to the questions posed will be captured and anonymously processed into a computerised system.

The data collected will be kept for two years if the research is published or six years if it is not published. After this period, the data will be destroyed.

Should you wish to contact us at any stage regarding consent, you may contact Dr Marcus at 0700040M@students.wits.ac.za

I hereby agree to take part in the above-mentioned study. I give consent for my records to be used as per the above-mentioned conditions and for the purposes of research.

Name: _____

Surname: _____

Signature: _____ Date: _____

Appendix Three: Hospital Permission Letters

i. Sterkfontein Hospital Ethics Committee approval letter

ii. CHBAH approval letter

health and social development
Department: Health and Social Development
GAUTENG PROVINCE

STERKFONTEIN HOSPITAL
CLINICAL DEPARTMENT
Enquiries: *Dr. T. Schutte*
Telephone : *(011)951-8341*
Facsimile : *(011) 951-8391*
e-Mail: Hannie.Smith@gauteng.gov.za

Dr. Moloi
Act. Chief Executive Officer
Sterkfontein Hospital
KRUGERSDORP

Dear Dr. Moloi

STUDY : AN ASSESSMENT OF VOTING KNOWLEDGE, DECISION MAKING ABILITY AND THE RIGH TO VOTE AMONGST HOSPITALIZED MENTAL HEALTH CARE USERS IN SOUTH AFRICA
RESEARCHER: DR. F.D. MARCUS

The above study was discussed at the Research Committee meeting. We recommend that permission be granted that Sterkfontein Hospital be used as a site for the above research.

Upon completion of the study, a copy thereof should be submitted to Sterkfontein Hospital

Thank you.

.....
DR. T. SCHUTTE
ACT. CHAIRPERSON: RESEARCH COMMITTEE
29/11/2017

Approved.

.....
DR. MOLOI
ACT. CHIEF EXECUTIVE OFFICER

Division of Orthopaedic Surgery

Faculty of Health Sciences, 4M Room 12, Wits Medical School, 7 York Road, Parktown 2193
• Tel: +27 11 717-2538 • Fax: +27 11 717-2551

20 November 2017

CEO
Chris Hani Baragwanath Academic Hospital

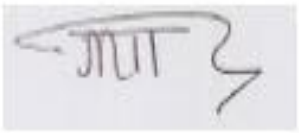
RE: Dr Felicity Marcus Mmed Research

I hereby grant permission to Dr Marcus, protocol number M170730, from the Psychiatry department to conduct research in the Chris Hani Baragwanath Academic Hospital, Department of Orthopaedic Surgery.
Provisional approval has been received from the Human Research ethics committee.

The title of the study is "An assessment of voting knowledge, decision making ability and the right to vote amongst hospitalized mental health care users in South Africa."

The study does not involve any interventional work.

Regards



Prof. MT Ramokgopa
Head of Division of Orthopaedic Surgery
mmampapatla.ramokgopa@wits.ac.za

Appendix B: Ethics clearance certificate

R14/49 Dr Felicity Marcus

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M170730

NAME: (Principal Investigator)	Dr Felicity Marcus
DEPARTMENT:	Psychiatry Sterkfontein Hospital Chris Hani Baragwanath Academic Hospital
PROJECT TITLE:	An Assessment of Voting Knowledge, Decision Making Ability and the right to Vote amongst Hospitalized Mentally Health Care Users in South Africa
DATE CONSIDERED:	28/07/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr Yvette Nel
APPROVED BY:	Professor P. Cleaton-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	13/12/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the 3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/We fully understand the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially review July and will therefore be due in the month of July each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix C: Turn-it-in Report for Research Report Paper in Submissible Format

Turnitin Originality Report for Research Report in Submissible Format

- Processed on: 12-Sep-2019 12:58 PM SAST
- ID: 1171353754
- Word Count: 6034
- Submitted: 1

0700040m:MMed_Write_Up_13052019_for_Turnitin.pdf By Felicity Marcus

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2% match (student papers from 18-Aug-2016)

Submitted to University of Witwatersrand on 2016-08-18

Appendix D: Guidelines for Authors submitting to the South African Journal of Psychiatry

Original Research Article full structure

Title: The article's full title should contain a maximum of 95 characters (including spaces).

Abstract: The abstract, written in English, should be no longer than 250 words and must be written in the past tense. The abstract should give a succinct account of the objectives, methods, results and significance of the matter. The structured abstract for an Original Research article should consist of six paragraphs labelled Background, Aim, Setting, Methods, Results and Conclusion.

- Background: Summarise the social value (importance, relevance) and scientific value (knowledge gap) that your study addresses.
- Aim: State the overall aim of the study.
- Setting: State the setting for the study.
- Methods: Clearly express the basic design of the study, and name or briefly describe the methods used without going into excessive detail.
- Results: State the main findings.
- Conclusion: State your conclusion and any key implications or recommendations.

Do not cite references and do not use abbreviations excessively in the abstract.

Introduction: The introduction must contain your argument for the social and scientific value of the study, as well as the aim and objectives:

- Social value: The first part of the introduction should make a clear and logical argument for the importance or relevance of the study. Your argument should be supported by use of evidence from the literature.
- Scientific value: The second part of the introduction should make a clear and logical argument for the originality of the study. This should include a summary of what is already known about the research question or specific topic, and should clarify the

knowledge gap that this study will address. Your argument should be supported by use of evidence from the literature.

- Conceptual framework: In some research articles it will also be important to describe the underlying theoretical basis for the research and how these theories are linked together in a conceptual framework. The theoretical evidence used to construct the conceptual framework should be referenced from the literature.
- Aim and objectives: The introduction should conclude with a clear summary of the aim and objectives of this study.

Research methods and design: This must address the following:

- Study design: An outline of the type of study design.
- Setting: A description of the setting for the study; for example, the type of community from which the participants came or the nature of the health system and services in which the study is conducted.
- Study population and sampling strategy: Describe the study population and any inclusion or exclusion criteria. Describe the intended sample size and your sample size calculation or justification. Describe the sampling strategy used. Describe in practical terms how this was implemented.
- Intervention (if appropriate): If there were intervention and comparison groups, describe the intervention in detail and what happened to the comparison groups.
- Data collection: Define the data collection tools that were used and their validity. Describe in practical terms how data were collected and any key issues involved, e.g. language barriers.
- Data analysis: Describe how data were captured, checked and cleaned. Describe the analysis process, for example, the statistical tests used orsteps followed in qualitative data analysis.
- Ethical considerations: Approval must have been obtained for all studies from the author's institution or other relevant ethics committee and the institution’s name and permit numbers should be stated here.

Results: Present the results of your study in a logical sequence that addresses the aim and objectives of your study. Use tables and figures as required to present your findings. Use quotations as required to establish your interpretation of qualitative data. All units should conform to the **SI convention** and be abbreviated accordingly. Metric units and their international symbols are used throughout, as is the decimal point (not the decimal comma).

Discussion: The discussion section should address the following four elements:

- Key findings: Summarise the key findings without reiterating details of the results.
- Discussion of key findings: Explain how the key findings relate to previous research or to existing knowledge, practice or policy.
- Strengths and limitations: Describe the strengths and limitations of your methods and what the reader should take into account when interpreting your results.
- Implications or recommendations: State the implications of your study or recommendations for future research (questions that remain unanswered), policy or practice. Make sure that the recommendations flow directly from your findings.

Conclusion: Provide a brief conclusion that summarises the results and their meaning or significance in relation to each objective of the study.

Acknowledgements: Those who contributed to the work but do not meet our authorship criteria should be listed in the Acknowledgments with a description of the contribution. Authors are responsible for ensuring that anyone named in the Acknowledgments agrees to be named.

Also provide the following, each under their own heading:

- Competing interests: This section should list specific competing interests associated with any of the authors. If authors declare that no competing interests exist, the article will include a statement to this effect: *The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.* Read our **policy on competing interests**.

- Author contributions: All authors must meet the criteria for authorship as outlined in the **authorship** policy and **author contribution** statement policies.
- Funding: Provide information on funding if relevant
- Disclaimer: A statement that the views expressed in the submitted article are his or her own and not an official position of the institution or funder.

References: Authors should provide direct references to original research sources whenever possible. References should not be used by authors, editors, or peer reviewers to promote self-interests. Refer to the journal referencing style downloadable on our *Formatting Requirements* page.