

Waiting for the scope: Patients' perspectives on wait times for gastroenterology services.

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Abstract

INTRODUCTION: Wait times for patients requiring endoscopy have not been ascertained in a South African setting. Wait times for gastroenterology services in Canadian studies were found to be prolonged, necessitating a need to evaluate wait times and the effect these wait times have on patients in a South African setting.

METHOD: A questionnaire was administered to all new patients attending the Gastroenterology clinic at an academic South African hospital between December 2014 and July 2015.

RESULTS: A total of 193 respondents completed the questionnaire. Of the respondents 78.2% were referred for an endoscopic procedure. The median total wait time from seeking initial medical attention until procedure was 100 days (IQR50-243). The median total wait time in patients with alarm features was 87 days (IQR52-155). The most frequent alarm feature reported was weight loss (20%; median total wait time of 73 days). The shortest median total wait time was 69 days (anaemia-11%); 53% felt that the wait time was appropriate for their condition. Of the respondents 42% and 41% reported a noteworthy impact on quality of life and impact on their activities of daily living, respectively. High anxiety levels due to wait times, was reported by 56% of the respondents.

CONCLUSIONS: Wait times for gastroenterology services were prolonged in this study. When compared to the Canadian target waiting times, patients with alarm features were generally not seen in the appropriate wait time. Further studies need to be undertaken in order to evaluate the reasons for this.

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1. Introduction

Gastrointestinal endoscopy has become an important investigation for gastrointestinal diseases. Gastrointestinal endoscopy involves passing an optical instrument through a natural orifice and along natural body pathways such as the digestive tract, to examine or perform surgery on the interior parts of the body(1). It has both diagnostic and therapeutic uses. There are numerous indications for endoscopy which the Canadians have stratified according to urgency(2). Gastrointestinal endoscopies are important in the treatment and investigation of life threatening bleeds and have an important role to play in the investigation and management of chronic conditions. In addition they play an important role in the surveillance of gastro-oesophageal malignancies(1) as well as in colonic neoplasms. Access to gastrointestinal endoscopy is associated with prolonged wait times (3), which has a significant impact on patients' quality of life and the number of work days lost (4). Diseases of the digestive system accounted for 13 765 (2.5%) of all deaths in South Africa in 2010 (latest available morbidity and mortality statistics) (5).

The literature regarding appropriate wait times for endoscopic procedures is not comprehensive - the Canadians have formulated an acceptable wait times list generated by expert consensus and the best available evidence-based medicine (2)(See Appendix B). In most instances, as noted in the research performed by the Canadians, patients are not seen within the appropriate wait time (6, 7) and one can anticipate adverse effects on morbidity and mortality as a result of this delay.

In an Australian study performed at a Western Australian tertiary teaching hospital between 1 November 2003 to 31 October 2005, it was noted that wait times for semi-urgent colonoscopies (90 days from the date of listing for a colonoscopy to the date of the

colonoscopy) were achieved in 42% of cases and that of routine colonoscopies(180 days from the date of listing for a colonoscopy to the date of the colonoscopy) were achieved in 36% of cases(8). In 2014 the National Services Scotland (NHS) published a report of diagnostic waiting times for the period 31 March 2009 – 31 December 2013 (these diagnostic tests included upper endoscopy, lower endoscopy, colonoscopy and cystoscopy and other radiology tests). The report showed that 94.1% of patients (12 546 out of 13 336 patients on the list) had been waiting less than the waiting time standard of six weeks in NHS Scotland (the Scottish government set a national wait time target of no more than 6 weeks for the key diagnostic tests identified above and certain local targets of four weeks), while 84.7% (11 299 out of 13 336 patients on the list) had been waiting less than four weeks(9). In a study conducted by the Division of Gastroenterology from the University of Malaya in Kuala Lumpur, Malaysia it was noted that of the 700 patients interviewed, 62% had waited more than 4 weeks for a gastroscopy (wait time was determined as the time that a gastroscopy was booked to the time the gastroscopy was performed) while the indications for the wait times were not indicated it is difficult to assess if these wait times were acceptable – however prolonged wait times were associated with higher levels of dissatisfaction(10). In Korea, nationwide screening for gastric cancer and colorectal carcinoma is performed as a part of their National Cancer Screening Program (NCSP) and under the current capacity of the NCSP, the typical waiting time for screening endoscopy was less than 4 weeks in more than 90% of endoscopy units evaluated during a survey between July and August 2015(11). Recent data regarding colonoscopy wait times from the Irish Cancer Society indicated that 44% (4343) of patients had been waiting more than three months for a colonoscopy (as of March 2016)(12). Thus while wait time targets (standards used) may be different between certain countries – prolonged wait times remain an important issue.

The evidence surrounding the effects of prolonged wait times for endoscopic procedures on morbidity and mortality is poorly documented. It also stands to reason that as part of a screening process the earlier a malignancy is detected, the earlier treatment can begin and thus a better prognosis for the patient can be attained(1).

The literature regarding wait times for endoscopy is largely based on international studies. If one takes into account that the outcomes of the studies indicate that wait times for gastrointestinal endoscopy are prolonged in developed countries such as Canada, Australia, Scotland, it would follow that in a resource limited country such as South Africa these wait times would be longer. South African human resources are behind developed countries such as Canada, United States of America, France and Australia (13, 14). In a study which compared the number of gastroenterologists/100 000 population it was found that Canada had approximately 1.83/100 000 compared with the United States of America 3.9/100 000, France 3.48/100 000 and Australia 2.1/100 000(13). At the end of 2013, the physicians density in South Africa was approximately 78.3/100 000 population(14). Canada has approximately 191/100 000, USA 267/100 000, France 347/100 000 and Australia 299/100 000 (14). There are currently 87 registered medical gastroenterologists in South Africa (Karen Fenton, personal communication, 2013) – thus there are approximately 0.18 gastroenterologists/100 000 population in South Africa.

Factors contributing to prolonged wait times can be classified into three main groups: supply side barrier, demand side barrier and lack of data(15). These revolve around lack of resources including personnel, primary and secondary prevention to reduce numbers requiring endoscopic intervention and lastly in identifying acceptable wait times for

procedures. There are certain strategies that can be applied to help reduce these wait times as identified by the Canadians. Their solution is to prevent disease, thus negating the need for endoscopy. They also recommend measuring wait times (to provide standardisation for comparison of actual wait times and as a reassurance to patients as to what to expect regarding wait times). They found that monitoring wait times and managing wait times, contributed to reducing wait times. In addition, the former helped to decrease patient anxiety by ensuring regular follow-ups and it also provided a mechanism to reassess and adjust wait times(15). In a study by Harewood et al, it was noted that there was an increase in annual wait times for routine endoscopic procedures from 6 weeks (2000) to 22 weeks in 2007. They investigated the impact of three practice changes, which have been shown to increase efficiency: 1. routinely obtaining IV access and consent in patients prior to endoscopy; 2. routinely obtaining IV access and consent, and sedating the patient prior to endoscopy; 3. utilizing a two-room per endoscopist model. The outcome of the study indicated that routinely obtaining IV access and patients' consent prior to endoscopy would have the greatest effect on reduction of wait times(16).

An audit done on gastroenterology services in Cape Town, South Africa, found that access to gastroenterology services in public hospitals was poor. Numerous factors were identified as possible causes for the lack of access (17). These included a lack of adequate equipment, inadequate scope maintenance and disinfection and a shortage of trained staff.

The international data on patient wait times for gastroenterology services is well documented – especially in the Canadian literature. Wait times are prolonged, which in turn has an adverse effect on quality of life and contributes to decreased productivity. In a study by Paterson, Barkun (4) it was noted that 33% of patients felt their wait time was too

long. Of those working or attending school, 22.6% of respondents reported missing at least one day of work, or school in the month prior to their visit. Patients were concerned about having a serious disease and reported their condition as having an impact on their social functioning and activities of daily living. As a measure of quality control, patients' perspectives on wait times can offer a wealth of information. It can also allow us to compare these perspectives to a standard of acceptable wait times and to identify if patients are undergoing endoscopic evaluations in an appropriate time period – and if not, what measures we can institute to correct this. As no data exists in South Africa regarding patient wait times for gastrointestinal endoscopy it is important to document the effect the prolonged wait times has on our population group. This will allow us to identify the effect prolonged wait times has on patients' quality of life and productivity. It will also help in identifying barriers to surveillance, diagnosis and treatment which will also affect quality of life.

In this study, we describe patients' perspectives on wait times experienced for gastrointestinal endoscopy at a South African teaching hospital.

1.1 Study Aim

The aim of the study was to determine wait times and patients' perspectives on wait times for gastrointestinal services in a South African teaching hospital.

1.2 Study Objectives

The objectives of this study were to:

1. Determine patient wait times for endoscopy in a South African teaching hospital.
2. Determine patients' perspectives on these wait times.
3. Compare these wait times to an appropriate standard (Canadian standard) depending on the reason for the gastrointestinal endoscopy procedure.
4. Identify possible causes for prolonged wait times experienced.

2. Methods

2.1 Study design

This was a prospective, cross-sectional, interview-based patient questionnaire study of patients attending the gastroenterology clinic at a tertiary academic hospital in Johannesburg.

2.2 Study site

The study was conducted in the outpatient Department of Gastroenterology at the Charlotte Maxeke Johannesburg Academic hospital, between December 2014 and July 2015.

2.3 Sample size estimation

Sample size was calculated using the *sampsi* command in Stata version 12. A minimum sample size of 193 interviewed patients will have 90% power to detect a difference in waiting time of at least 8% (14 days) using a one-sample comparison to a hypothesized value, with a 0.05 two-sided significance level. In this calculation we used the following assumptions:

$\alpha = 0.05$ (two-sided)

Power = 0.9

Null hypothesis: mean= 180 days/ 6months (The standard waiting time for screening colonoscopy which we are using for comparison)

Alternative hypothesis: alternative mean = 194 days (6 months and 2 weeks) (We need a sample size of at least 193 patients for us to detect a minimum waiting time difference with the standard of at least 2 weeks).

2.4 Inclusion and exclusion criteria

All adults attending the gastroenterology clinic for the first time were included in this study, provided they signed the informed consent form.

Those patients who were there for repeat visits were excluded.

2.5 Data collection

Patients that met the inclusion criteria (all new, adult patients attending the gastroenterology clinic) were approached while waiting in the line – they were then invited into a side room (to maintain confidentiality) where they were given the information sheet explaining the study (any issues were then explained verbally to ensure complete understanding). Their place in the line was kept on their behalf in order to facilitate completion of the questionnaire without impacting on their wait time for the procedure. All patients who consented to being a part of the study were given the questionnaire to complete (See Appendix C). The questionnaire was based on that developed by Paterson, Barkun (4). Their questionnaire included twelve questions of which two related to quality of life : ‘While waiting for this appointment, have you had ongoing symptoms that have interfered with your ability to participate in your usual social or recreational activities’ and ‘While waiting for this appointment, have you had ongoing symptoms that have interfered with your ability to carry out normal activities of daily living (e.g. preparing and eating

meals, household tasks, sleeping, personal hygiene, etc.). This was an interview based questionnaire, which was administered by the doctor attending to the patient. The questionnaire was handed out to all new patients attending the gastroenterology clinic. Patients were selected on a daily basis provided they met the inclusion criteria. Any words or questions, which the patient did not understand were explained in the simplest of terms when they were consulting with the doctor (See Appendix D).

Upon completion of the questionnaire, the completed questionnaire was placed in a sealed box and locked in a cupboard. Only the principle investigator had access to this box and cupboard.

2.6 Statistical analysis

Data were entered into an Excel (Microsoft Corp, USA) spreadsheet. Results were expressed as means and medians with interquartile ranges for categorical variables.

2.7 Ethics

Ethics approval was obtained from the University of the Witwatersrand Human Research Ethics committee prior to commencement of the study in October 2014, ethics certificate No: M140914 (see Appendix A). Written informed consent was obtained from all participants. Patients were informed about anonymity of the study. In order to maintain anonymity unique study numbers were used on the questionnaire. Patients were informed that should they not participate in the study, it would not be to their detriment and it would not compromise their medical care in any way. They were also informed that if they

became uncomfortable with answering the questions, they could stop answering questions.

Please find attached informed consent (see Appendix C).

3.0 Results

3.1 Demographics of patients attending the gastroenterology clinic

A total of 193 respondents completed the questionnaire between December 2014 and July 2015. Of the 193 respondents, 136(70.5%) were female and 59 (29.5%) were male. The mean age of respondents was 49.9years. The majority of the respondents (129, 66.8%) had a secondary level education with 21 respondents (10.9%) having a primary level education or less. The hospital classification for respondents stratifies patients according to annual income (H0 – pensioners, H1 R0 – 36 000p.a, H2 R 36 000- 72 000p.a and H3 > R72 000p.a). Most of the respondents (105, 54.4%) were classified as H1 and 56 (29.1%) were pensioners (H0). (See Table 3.1)

Table 3.1 Patient Demographics (n=193)

Demographics					
Age	Mean 49.9 years	Range 19 -83			
Sex	57 male (29.5%)	136 female (70.5%)			
Level of Education	None	Primary	Secondary	Tertiary	Other
	1/193 (0.5%)	20/193 (10.4%)	129/193 (66.8%)	20/193 (10.4%)	23/193 (11.9%)
Hospital Classification	H0	H1	H2	H3	
	56/193 (29.1%)	105/193 (54.4%)	21/193 (10.9%)	11/193 (5.7%)	

3.2 Reason for referral

The main reason for referral to the gastroenterology clinic was for an endoscopic procedure (151, 78.2%). The remaining 42 (21.8%) were referred for consultation (See Table 3.2)

Table 3.2 Reason for referral (n=193)

Consultation vs Endoscopy		
	Total	% Total
Endoscopy	151/193	78.20%
Consultation	42/193	21.80%

3.3 Wait times

The median wait time for seeking medical attention was 31 days (IQR 5-92 days). The median wait time from the first consultation with a medical professional until referral to a gastroenterologist was 41 days (IQR 0 -184). The median wait time from consultation with a gastroenterologist until the procedure was 41 days (IQR 21 -54). The median total wait time from seeking initial medical attention until procedure was 100 days (IQR 50 – 243). (See Table 3.3).

Table 3.3 Wait times (n=193)

<u>Wait times</u>				
	Total wait time without alarm features		Total wait time with one or more alarm features	
	Median wait time, days	Wait times, 25th to 75th centile, days	Median wait time, days	Wait times, 25th to 75th centile, days
Wait time until sought medical attention	31	5-92	31	5-92
First consultation until referral to GIT	41	0-184	59	0-108
First consultation with GIT until procedure	41	21-54	41.5	26-52
Initial medical attention until procedure	100	50-243	87	52-155

Wait time for respondents with one or more alarm features were also recorded (See Table 3.4). Of the 193 patients interviewed, 164 patients reported alarm features. The median wait time for seeking medical attention was 31 days (IQR 5-92 days). The median wait time from the first consultation with a medical professional until referral to a gastroenterologist was 59 days (IQR 0 -108). The median wait time from consultation with a gastroenterologist until the procedure was 41.5 days (IQR 26 -52). The median total wait time from initial medical attention until procedure was 87 days (IQR 52 – 155).

Table 3.4 Wait time according to alarm features present (n=164)

		Canadian consensus targets	%Total with alarm features	n=164	Initial medical attention until procedure (days)	
					Mean	Median
Alarm feature 1	Abdominal Mass	2 weeks	4	7	110	103
Alarm feature 2	Dysphagia	2 weeks – 2 months	10	16	108	87
Alarm feature 3	Positive occult blood	2 months	0	0	0	0
Alarm feature 4	Anaemia	2 months	13	21	100	69
Alarm feature 5	Bloody diarrhoea	24 hours	6	10	126	102
Alarm feature 6	Malaena stool/rectal bleeding	2 months	15	24	142	71
Alarm feature 7	Haematemesis	24 hours	2	4	100	102
Alarm feature 8	Vomiting	N/A	16	27	136	72
Alarm feature 9	Jaundice	2 weeks	10	16	108	87
Alarm feature 10	Weight loss	N/A	24	39	123	73

The most frequent alarm feature reported was weight loss, reported by 24% of the respondents. The median total wait time (initial medical attention until procedure) for this group was 73 days. The shortest median total wait time was 69 days and this was for respondents with anaemia (13% of all patients).

3.4 Patient perspective on wait time

Regarding the respondents' perspectives on wait time, 53% felt that the wait time was appropriate for their condition, 31% felt it was somewhat too long and 13% felt it was far too long. Respondents felt that 24hr-2weeks was an appropriate wait time (47%) and 44% felt that 2 weeks- 2months was an appropriate wait time. (See Table 3.5)

Table 3.5 Patient perspective on wait time

<u>Do you feel this is an appropriate wait time?</u>		
	Response	% Total
Far too short	2	1%
Somewhat too short	4	2%
About right	103	53%
Somewhat too long	59	31%
Far too long	25	13%

<u>What do you think is an appropriate wait time?</u>		
	Response	% Total
24 hours	14	7%
24hrs-2 weeks	91	47%
2 weeks- 2 months	84	44%
2 months - 6 months	4	2%
> 6 months	0	0%

3.5 Procedure performed

The majority (57%) of the respondents were referred for a gastroscopy; 17% were referred for a colonoscopy, 3% were referred for sigmoidoscopy and 7% were referred for other reasons which included colonoscopy and gastroscopy (4%), ERCP (3%) and abdominal ultrasound (1%) (See Table 3.6).

Table 3.6 Procedure performed

<u>Procedure to be performed</u>		
-		
	Response	%Total
Gastroscopy	110	57%
Colonoscopy	32	17%
Sigmoidoscopy	5	3%
Other	14	7%
Other:		
Abdominal U/S	1	1%
C & G scope	7	4%
ERCP	6	3%

The median total wait time for gastroscopy (initial medical attention until procedure) was 66 days. The median wait time from first consultation with a gastroenterologist until gastroscopy was 40 days. The median total wait time for colonoscopy was 125.5days and the median wait time from first consultation with a gastroenterologist until colonoscopy was 35 days (See Table 3.7).

Table 3.7 Wait time according to procedure performed

<u>Wait times according to procedure performed</u>		
-	Gastroscopy	Colonoscopy
	Median wait time, days	Median wait time, days
Wait time until sought medical attention	29	30.5
First consultation until referral to GIT	30	102
First consultation with GIT until procedure	40	35
Initial medical attention until procedure	66	125.5

3.6 Previous missed procedure

The majority of the respondents had never missed a previous procedure (94.3%), while 5.7% of patients had missed a previous procedure because of inadequate bowel preparation (2.1% of the total sample) and lack of transport (1.03% of the total sample) representing the main reasons. The respondents who had inadequate bowel preparation were those who had kept their previous appointments, but however were found to have inadequate bowel preparation and as such were cancelled and rebooked. (See Table 3.8)

Table 3.8 Previous procedure missed

<u>Have you missed a previous procedure?</u>		
	Total (n/193)	% Total
Yes	11/193	5.70%
No	182/193	94.30%

<u>Reason for missing procedure</u>		
	Total (n/193)	%Total
Inadequate bowel prep	4	2.10%
Lack of transport	2	1.03%
Lack of money	0	0%
Equipment failure	1	0.50%
Inadequate staff	1	0.50%
Other	3	1.55%

3.7 Features present

The three most common features with which respondents presented were gastroesophageal reflux disease (GERD) (23%), weight loss (20%) and vomiting (14%). (Refer Table 3.9)

Table 3.9 Features present (n=193)

<u>Features present in descending order</u>			
		% Total	Total Number
Feature 11	Other	49	89
Other:	2- GERD	23	44
Alarm feature 10	Weight loss	20	38
Alarm feature 8	Vomiting	14	27
Alarm feature 6	Malaena stool/rectal bleeding	12	24
Alarm feature 4	Anaemia	11	21
Other:	1- Non-specific abd pain	11	21
Alarm feature 2	Dysphagia	8	16
Alarm feature 9	Jaundice	8	16
Other:	7 - Diarrhoea	6	11
Alarm feature 5	Bloody diarrhoea	5	10
Alarm feature 1	Abdominal Mass	4	7
Alarm feature 12	None	3	5
Other:	6- Constipation	3	5
Alarm feature 7	Haematemesis	2	4
Other:	4- Altered bowel habit	2	4
Other:	3- abn lft	1	2
Other:	5- Portal hypertension	1	2
Other:	8- Odynophagia	1	2
Alarm feature 3	Positive occult blood	0	0

3.8 Impact on patient and on work/school days missed

A notable impact on patient quality of life (Likert scale 5 or more) was reported by 42% of respondents in this simple screening question and 41% of respondents reported a noteworthy impact on their activities of daily living. High anxiety levels due to wait times, was reported by 56% of the respondents (See Table 3.10). Work/ school was missed by 25% of respondents, with 9.25% missing 3days in the preceding month and 10.8% missing 3-10days. (See Table 3.11 and Fig.3.1).

Table 3.10 Impact on the patient

<u>Impact on patient</u>		
Impact on Quality of life		
Likert scale response	Number	% Total
1	38	20%
2	29	15%
3	7	4%
4	39	20%
5	28	15%
6	32	17%
7	20	10%
Impact on activities of daily living		
Likert scale response	Number	%Total
1	41	21%
2	27	14%
3	6	3%
4	41	21%
5	29	15%
6	30	16%
7	19	10%
Impact on anxiety levels experienced		
Likert scale response	Number	%Total
1	11	6%
2	16	8%
3	3	2%
4	26	13%
5	29	15%
6	44	23%
7	64	33%

Table 3.11 Work or school days missed

Have you missed work or school?			
Response	Number	Total	%Total
Yes	49	193	25%
No	144	193	75%

If yes, days missed			
		Total	% Total
< 3 days	18	49	37%
3-10 days	21	49	43%
11-20 days	4	49	8%
> 20 days	6	49	12%

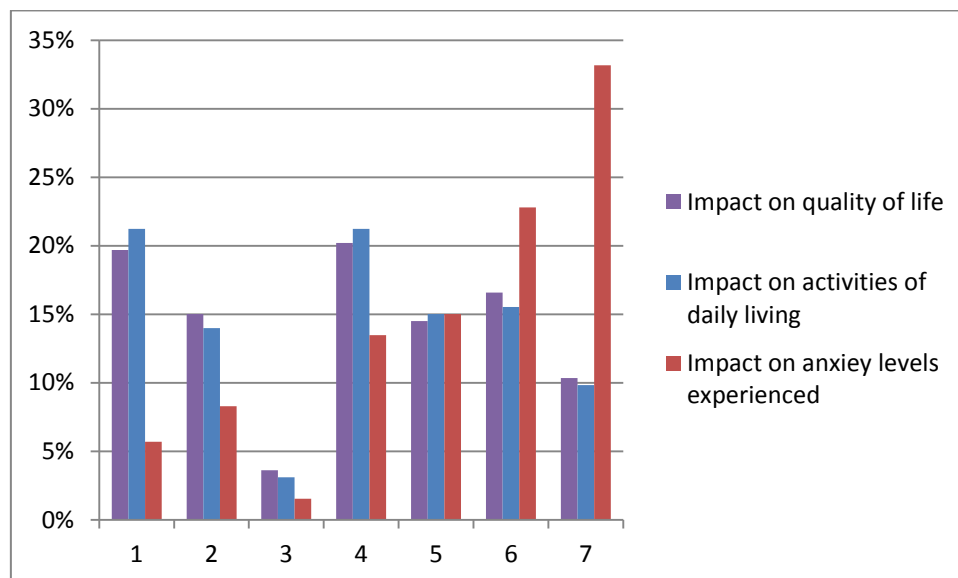


Fig.1 Impact on respondents quality of life (n=193)

4. Discussion

The purpose of this study was to assess the wait times experienced by patients with gastroenterological conditions at a tertiary level, public hospital in Johannesburg. There is no South African data or studies with which the findings in this study can be compared. The benchmark used in this study was the work done by the Canadian groups. They found that wait times for gastroenterology services were prolonged (6). The Irish, Malaysians and Australians found that wait times for endoscopic procedures were also beyond the recommended wait times identified by the relevant gastroenterology units (8, 10, 12). The study conducted by the Korean team appeared to have the best wait time for endoscopy with more than 90% being attended to before 4 weeks,(11) similarly the Scottish wait time for endoscopy was less than 6 weeks for 94.1% of patients and less than 4 weeks in 84.7% of patients(9). As noted previously, there are 87 registered gastroenterologists in South Africa (Personal communication, Karen Fenton 2013) and prolonged wait times would not be unexpected.

The majority of the respondents (83.5%) attending the gastroenterology clinic, were predominantly in the low income group (H0 and H1) and middle age category (mean 49.9 years). Since H0 and H1 are low income categories this may imply that they were reliant on the public health sector for their medical care.

A majority of the patients attended the gastroenterology clinic for an endoscopic procedure (78%), while 22% attended the clinic for a first time consultation – this is in contrast to the Canadian findings as first time consultation accounted for 66% of patients and referrals for a first time endoscopic procedure was 34% (including same day consultation and

procedure)(3). Perhaps as a result of the open policy that exists for booking and referring patients to the gastroenterology clinic at this tertiary hospital, patients could be identified sooner for needing endoscopy and thus could be booked for a same day consultation and procedure.

The median total wait times for all patients awaiting gastroenterology services in this study was 100 days compared to the 91 days documented in the Canadian Practice Audit in Gastroenterology wait times program study(3). South Africa is still a developing nation and access to healthcare at all levels remains an important goal. Delays in referral to specialised centres are to be expected, as in most instances patients first present to their local clinics which are primarily nurse run. The median wait time from first consultation with a gastroenterologist until procedure was 41days compared to the 43 days in the Canadian study. This is an unexpected finding considering that there are fewer gastroenterologists in South Africa and that access to this specialist care was considered to be a timeous process. A possible explanation for this is that the centre in which this study was conducted offered same day gastroscopy and sigmoidoscopy for patients (thus also accounting for the high percentage of first time patients attending for an endoscopic procedure). This is not uniformly practiced in similar centres around South Africa, or indeed the world.

The median total wait time for gastroscopy was 66 days (9weeks 3 days) and the median time from the first consult with a gastroenterologist until procedure was 40 days (5 weeks 5days). In the study by Azmi, Chan (10)they found that wait times for gastroscopy was more than 4weeks in 62% of patients (duration from the day the gastroscopy was

planned to the day that it was performed). In this study the median total wait time for colonoscopy was 125.5days (17weeks 6days) and the median wait time from the first consult with a gastroenterologist until procedure was 35 days (5 weeks). It is interesting to note that the wait time for a colonoscopy is 5 weeks when the patient has been seen by a gastroenterologist, especially when the Irish Cancer Society has documented that 44% of patients awaiting colonoscopy have waited more than 3 months (12 weeks)(12).

The median total wait time for those without alarm features was 134 days compared to 87 days for those patients with alarm features. The shortest median total wait time was for the group of patients with anaemia (69 days), which represented 11% of the total sample. The most commonly reported alarm feature was weight loss (20% of the respondents) and they experienced a median total wait time of 73 days. Bloody diarrhoea and haematemesis have recommended wait times of 24 hours until procedure – they represented 5% and 2% of the total respondents respectively. The median total wait time recorded was 102 days for both of these alarm features. These prolonged wait times are concerning as they are regarded as potential emergencies. The median total wait time was 49 days for respondents with at least one alarm feature in the Canadian Practice Audit in Gastroenterology wait times program study (3). While there is a decrease in the wait time in the South African group of respondents with and without alarm features it is still notably prolonged. This may be attributed to delayed referral from the primary care facility, inadequate screening practices at various levels or purely due to insufficient staffing to cope with these patient numbers. It should also be taken into account that these patients were referred as outpatients with alarm features – perhaps a greater number of patients were referred as inpatients to the gastroenterology wards. This may represent an area which requires further evaluation to ascertain if patients with alarm features are being adequately assessed and referred.

The majority of the respondents (53%) were content with their wait time, with 31% feeling that the wait time was too long and 13% feeling it was far too long. Most of the respondents (47%) felt that 24 hours-2weeks was an appropriate wait time. Despite 47% of respondents stating that 24hours-2weeks was an appropriate wait time, the median wait time from initially seeking medical attention until procedure was 14 weeks. Despite this prolonged wait time 53% of the respondents remained content with their wait time. This may highlight patients' ability to endure discomfort while waiting for appropriate medical care as they do not have any other choice.

None of the respondents with alarm features met the required wait time when compared to the Canadian standard(2). The patients with anaemia were the closest to meeting this standard (2months) at 69 days. There appears to be a problem in identifying patients who need urgent or semi-urgent referral to a gastroenterologist. The median wait time from time of first gastroenterology consultation until procedure was 41.5 days in those with one or more alarm features. In the groups considered to be acute gastrointestinal bleeding (bloody diarrhoea and haematemesis); the median wait time from time of first gastroenterology consultation until procedure was 42.5 and 38.5 days respectively. This represents a significant delay in time to procedure (24hours) as per the Canadian consensus on medically acceptable wait times for digestive health care(2).

A partial explanation for these delays could be attributed to the triaging system at the clinics and at the gastroenterology clinic itself. Many patients present with inadequate referral notes to the gastroenterology clinic (paucity of information) and the clerk thus allocate them an inappropriate date. Another reason could be that the majority of the urgent

and semi-urgent patients are seen as in-patients (i.e. direct, immediate transfer to the gastroenterology ward) and the remaining urgent and semi-urgent cases seen at the gastroenterology clinic are the exception rather than the rule.

Only 5.7% of respondents had missed previous procedures. This could be attributed in part to a selection bias. Only patients attending the gastroenterology clinic for the first time were included in the study. Those respondents who may have attended before and were cancelled may not have been interviewed.

Approximately 40% of all respondents reported high levels of impact on quality of life and activities of daily living. The median total wait times for these groups of patients were both 69 days. This wait time is less than the median total wait time for the sample attending the gastroenterology clinic which was 100 days. Interference with social function and activities of daily living were reported by 20% and 13% of respondents in the Canadian Practice Audit in Gastroenterology wait times program study (3). The respondents in this study were psychologically affected to a greater degree than the Canadian respondents. This could be due to length of wait time, type of condition, presence or absence of alarm features and possible cultural differences.

Approximately half of the respondents reported a significant feeling of anxiety while awaiting their procedure. The median wait time for this group was 83 days. This wait time remains less than the median wait time for the entire sample however the level of anxiety caused by the wait is still of note.

A quarter of all patients reported missing work/school in the month preceding their appointment at the gastroenterology clinic. This has consequences on earning potential, especially for those patients with part-time/contract jobs. It also highlights the impact their condition has on productivity in everyday life.

4.1 Limitations of the study

One of the limitations of this study was that it was limited to first time attendees. A larger study may be more relevant in identifying all the reasons for missing previous procedures as patients who had missed previous procedures and were attending the clinic for essentially the first time, may not have been identified.

Data were collected by means of an interview based questionnaire completed by a number of different doctors. This may have impacted on the findings as their manner of asking questions or explaining terms may have been different – this may have resulted in different responses with regards to the effect the condition had on the quality of life, effect on activities of daily living and anxiety levels experienced. A more cohesive research team may have ensured a better level of standardisation.

4.2 Recommendations

It is of concern that the wait times for patients with alarm features did not meet the Canadian wait time standards. There appears to be a delay in the referral of patients from

the primary and secondary level hospitals. A possible solution is for the tertiary and quaternary centres to offer more support to the primary and secondary level centres – perhaps through workshops and seminars. If patients are deemed to have one of the alarm features then these patients should be discussed immediately with the gastroenterologist on call in order to expedite the gastroenterologist review (instead of booking with the clerk).

It is also evident from this study that there is a delay in wait time from initial consultation with a gastroenterologist to procedure (See Table 3.3.); there are numerous reasons for this which needs to be addressed (staffing, equipment, booking practices). We recommend that further studies be done to evaluate the reasons for the delayed wait times and to determine adequate solutions to these issues.

5. Conclusion

Wait times for gastroenterology services were prolonged in this study undertaken in a South African public sector hospital. When compared to the Canadian target waiting times, patients with alarm features were generally not seen in the appropriate wait time. Further studies need to be undertaken in order to evaluate the reasons for this. These prolonged wait times were found to have an important effect on respondents' quality of life and activities of daily living. High levels of anxiety were also noted in this sample. This study has identified an important issue in the gastroenterology sector and further studies will need to be done in order to improve the wait times for patients requiring gastroenterology services.

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Appendix A: Ethics Clearance Certificate



R14/49 Dr Jayseelan Naidu and Prof P McNerney

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL) CLEARANCE CERTIFICATE NO. M140914

NAME: Dr Jayseelan Naidu and Prof P McNerney
(Principal Investigator)

DEPARTMENT: Internal Medicine
Charlotte Maxeke Johannesburg Academic Hospital

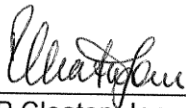
PROJECT TITLE: "Waiting for the Scope: Patients' perspectives on acceptable wait times for gastroenterology services"

DATE CONSIDERED: 03/10/2014

DECISION: Approved unconditionally

CONDITIONS:

SUPERVISOR: Dr A Mahomed

APPROVED BY: 
Professor P Cleaton-Jones, Chairperson, HREC (Medical)

DATE OF APPROVAL: 22/10/2014

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 Secretary in Room 10004, 10th floor, Senate House, University.
I/we fully understand the conditions under which I am/we are authorized 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 the application to the Committee. **I agree to submit a yearly progress report.**

Principal Investigator Signature _____

Date _____

Appendix B: Canadian standard against which findings will be measured

Overview of recommended maximal wait times by acuity category

Within 24 h:

Acute gastrointestinal bleeding

Esophageal food bolus or foreign body obstruction

Clinical features of ascending cholangitis

Severe acute pancreatitis (endoscopic retrograde cholangiopancreatography within 72 h, if indicated)

Severe decompensated liver disease

Acute severe hepatitis

Within two weeks:

High likelihood of cancer based on imaging or physical examination

Painless obstructive acute jaundice

Severe and/or rapidly progressive dysphagia or odynophagia

Clinical features suggestive of active inflammatory bowel disease

Within two months:

Bright red rectal bleeding

Documented iron deficiency anaemia

One or more positive faecal occult blood tests

Chronic viral hepatitis

Stable dysphagia (not severe)

Poorly controlled reflux/dyspepsia

Chronic constipation or chronic diarrhoea

New onset change in bowel habit

Chronic unexplained abdominal pain

Confirmation of a diagnosis of celiac disease (antibody test)

Within six months:

Chronic gastro-oesophageal reflux disease for screening endoscopy

Screening colonoscopy

Persistent (more than six months) unexplained abnormal liver enzyme tests

Appendix C: Information sheet and informed consent

This is an informed consent form for men and women who are attending the Charlotte Maxeke Johannesburg Academic Hospital endoscopy clinic, who are invited to participate in a research questionnaire.

Name of Principal investigator: Dr Jayseelan Naidu

Contact details: jnaidu21@gmail.com or alternatively 0724166414.

Name of organization: University of the Witwatersrand

Name of proposal: Waiting for the scope: Patients' perspectives on acceptable wait times for gastroenterology services.

- Information sheet (to share information about the study with you)

Introduction:

Good day,

I am Dr J. Naidu, an internal medical registrar for the University of Witwatersrand. As part of my degree I am conducting a research study in gastroenterology. I am going to provide you with information before inviting you to be a part of this research. You are in no way obligated to participate in this research. If there are any words or terms which you do not understand please ask me to stop and I will take time to explain. If there are any questions later you may ask me or any other researcher. The questionnaire should take approximately 5 minutes to complete.

Purpose of the study:

The purpose of the study is to document the patients' perspective on wait times for gastroenterology services at a teaching hospital in Johannesburg, South Africa. We aim to find out how long patients are waiting for these endoscopy services in order to determine if these times are acceptable or not. We also want to know if you think these wait times are appropriate and how the wait time impacts on your quality of life. We will compare your wait time to international standards and we hope to identify possible causes for prolonged wait times, if experienced. We aim to identify how we can improve service delivery in this department

This research will require you to fill in a questionnaire with regards to your wait time. You are being asked to participate in this study as a responsible citizen, attending our gastroenterology services, and your views are important to our understanding of patients' perspective on wait times.

Your participation in this research is completely voluntary. It is your choice to participate in this study. If you choose not to participate in this study, it will not be to your detriment and you will still receive the level of medical care you require.

We require you to complete an anonymous interview-based questionnaire on your perspective on wait times experienced for this appointment. The information we collect will be kept private. We do not require your name as each patient will have an individual, random study number. The questionnaire is in English – if you do not understand any words or terms, please ask the interviewer or interpreter to explain. Your level of care will in no way be influenced by your responses.

The knowledge we gain from your responses will help to improve service delivery to our community.

If you have any questions relating to the study you may ask them now or later.

Please note that completion of this questionnaire is accepted as consent to take part in this study by the ethics committee.

This proposal has been reviewed and approved by the University of the Witwatersrand Human Research Ethics Committee on 22 October 2014 with Ethics clearance number: M140914.

Certificate of consent:

I have been asked to participate in a study regarding patients' perspective on wait times for gastroenterology services at a South African teaching hospital. I understand that I will be required to complete an anonymous interview-based questionnaire regarding the wait time and the impact it has on my life.

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked has been answered to my satisfaction. I consent voluntarily to be a participant in this study and understand that I have the right to withdraw from this interview at any time without in any way affecting my medical care.

Print name of participant: _____

Signature of participant: _____

Date: _____

I have accurately read or witnessed the reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

Print name of researcher: _____

Signature of researcher: _____

Date: _____

Appendix D: Questionnaire on wait times experienced by patients attending gastrointestinal endoscopy at a Johannesburg Teaching Hospital.

Demographics					Study No:	
AGE						
Sex	Male			Female		
Race	Black	White	Indian	Coloured	Other	
					Specify	
Area of residence						
Highest level of education	None	Primary	Secondary	Tertiary	Other	
					Specify	
Current employment						
Hospital classification	H0	H1	H2	H3		
Explanation of hospital classification codes:						
H0 - pensioner, H1 - R0 -R36000p.a, H2 - R 36 000 - R72 000p.a, H3 - >R72 000 p.a						
Referral						
Date first experienced symptoms						
Date of seeking medical attention						
Date of referral to gastroenterologist						
Reason for referral to gastroenterologist	Consultation			Endoscopic procedure		
Date of procedure						
Do you feel this is an appropriate waiting time?	Far too short	Somewhat too short	About right	Somewhat too long	Far too long	
What do you think is an appropriate waiting time?	24 hours	24hrs - 2 weeks	2 weeks - 2 months	2 months - 6months	>6months	
Procedure to be performed:	Gastro-scopy	Colono-scopy	Sigmoido-scopy	Other		
				Please specify		
Have you missed a previous procedure	Yes			No		
If yes, please specify reason	Inadequate bowel prep	Lack of transport	Lack of money	Equipment failure	Inadequate staff	Other:
Features present	Abdominal mass	Dysphagia	Positive occult blood test	Anaemia	Bloody diarrhoea	Malaena stool or rectal bleeding
	Haemate-mesis	Vomitting	Jaundice	Weight loss	Other:	None

Impact on patient						
How has your condition impacted on your quality of life? (usual social or recreational)	Not at all					Very much so
	1	2	4	5	6	7
How has your condition impacted on your activities of daily living (i.e preparing & eating meals, household tasks, sleeping, personal hygiene, etc)?	Not at all					Very much so
	1	2	4	5	6	7
How worried have you been about your medical condition while waiting for this appointment?	Not at all					Very much so
	1	2	4	5	6	7
Have you missed work or school due to this illness?	Yes		No			
If yes, please specify days in the last month.	<3 days	3 to 10 days	11 to 20 day	>20 days		

Appendix E: Turn-it-in plagiarism report

Turnitin Originality Report

WaitingforthescopePatientsperspectivesonwaittimesforgastroenterologyservices.docxby

Jayseelan Naidu

From Research Report Submission 2016

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