

https://dspace.org/

An audit of the surgical load at the Charlotte Maxeke Johannesburg Academic Hospital

Lownie, Claire Nicolette

2011
http://hdl.handle.net10539/13849

Downloaded from a DSpace repository. https://dspace.org/

An audit of the surgical load at the Charlotte Maxeke Johannesburg Academic Hospital

Claire Nicolette Lownie

A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of

Master of Science in Medicine in the field of Emergency Medicine

Johannesburg 2011

CANDIDATES DECLARATION

I, Claire Nicolette Lownie declare that this research report is my own work. It is being submitted for the degree of MSc (Medicine) in the field of Emergency Medicine in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

…… Signature of Candidate

……..……. day of ……..…… Month, 20…….

In memory of my late Father

Professor J F Lownie

BDS, H. Dip. Dent, M Dent (MFOS), FCMFOS, PhD.

1943 – 2008

ABSTRACT

The Charlotte Maxeke Johannesburg Academic Hospital (CMJAH) has a trauma unit which consists of the emergency treatment / resuscitation area, an Intensive Care unit (ICU) and a trauma ward. For non-trauma surgical admissions, a different management system is in place. There is a general medical emergency area where surgical patients are triaged and assessed then sent on for admission to the wards and / or operation as required. Currently the structures described necessitate a total of at least 4 medical officers and 2 registrars on duty in the hospital in addition to consultants and other staff on call from home. The potential exists for the unacceptably frequent rostering of doctors on call and therefore in terms of total hours worked by each.

With a view to optimising the existing human resources and improving the quality of patient care by reducing the number of working hours of the doctors, an audit of the surgical workload inclusive of trauma at CMJAH was undertaken. The number of admissions and operations, both elective and emergency, were captured, for the trauma unit and three surgical wards at CMJAH for the 2009 calendar year. Total emergency admissions to all four wards combined were 13032 of which 86.1% were trauma admissions. An average of 15 patients per week (sometimes many more) were operated in the trauma unit. The burden of trauma is extremely heavy compared to that of the other surgical units. An important suggestion would be to look at restructuring the existing resources into a more organised system of practice such as an Acute Care Surgery Unit thus optimising both emergency and non-emergency care of surgical patients.

ACKNOWLEDGEMENTS

I would like to thank my two main supervisors for this report

Prof P E Cleaton-Jones and Prof K D Boffard for their tireless guidance and assistance and Prof B Sparks for his assistance as an “interim supervisor”

I would also like to thank the Department of Surgery at the Charlotte Maxeke Johannesburg Academic Hospital for the administrative and financial support given during completion of this research report.

Lastly I would like to thank my family - in particular my mother, Prof M A Lownie for putting up with my numerous questions and bad moods and for continuing to encourage me through this project from beginning to end.

TABLE OF CONTENTS

Page

DECLARATION …...……...…….....ii

DEDICATION ……..……..iii

ABSTRACT ……..……..iv

ACKNOWLEDGEMENTS …….……...v

TABLE OF CONTENTS …….……..vi

LIST OF FIGURES …….....x

LIST OF TABLES …….……....xi

CHAPTER 1. INTRODUCTION AND LITERATURE REVIEW ……..….…….1

1.1 **Historical background** …….……1

1.2 **Current structures** …….....……1

1.3 **Literature review** ……...……..…….....……1

1.3.1 Acute care surgery ……7

1.3.2 Objective …….…..9

CHAPTER 2. MATERIALS AND METHODS …….…10

2.1 Definitions ……...…….…10

2.2 Study design ……...…….…11

2.2.1 Source of data …….……11

2.2.2 Study population ……11

2.3 Data analysis ……...……11

2.4 Methodology ……...……12

CHAPTER 3. RESULTS: ADMISSIONS – YEARLY TRENDS ……...……13

3.1 Introduction ……...……...……13

3.2 Area 163 (Trauma unit) ……..……13

3.3 Ward 394 (General surgery) ……..…14

3.4 Ward 395 (Vascular surgery) ……..……16

3.5 Ward 396 (General surgery) ……....…….17

CHAPTER 4. RESULTS: ADMISSIONS – SEASONAL TRENDS ……19

4.1 Introduction ……..…...…….19

4.2 Materials and methods ……...…19

4.3 Area 163 Admissions ……...……...…….20

4.4 Ward 394 Admissions ……..……...……20

4.5 Ward 395 Admissions ……..……...……22

4.6 Ward 396 Admissions ……..…….....24

CHAPTER 5. RESULTS: OPERATIONS – YEARLY TRENDS …….....…….26

5.1 Introduction ……..……...26

5.2 Area 163 (Trauma unit) ……..……26

5.3 Ward 394 (General surgery) ……..…28

5.4 Ward 395 (Vascular surgery) ……29

5.5 Ward 396 (General surgery) ……30

CHAPTER 6. RESULTS: OPERATIONS – SEASONAL TRENDS ……31

6.1 Introduction ……31

6.2 Materials and methods ……31

6.3 Area 163 Operations ……31

6.4 Ward 394 Operations ……33

6.5 Ward 395 Operations ……34

6.6 Ward 396 Operations ……36

CHAPTER 7. DISCUSSION ……38

7.1 Principal findings ……38

7.1.1 Admissions ……39

7.1.2 Operations ……41

7.2 Strengths and weaknesses ……43

7.2.1 Strengths of the current study ……43

7.2.2 Weaknesses of the current study ……44

7.3 Strengths and weaknesses in relation to other studies ……44

7.3.1 Strengths of the current study ……44

7.3.2 Weaknesses of the current study ……45

7.4 Implications of the study ……..……...……45

7.5 Unanswered questions and future research ……...……...47

REFERENCES ……..……48

LIST OF FIGURES

Page

Figure 3.1 Admissions per week for area 163……..14

Figure 3.2 Total and emergency admissions for ward 394 by week ……..…15

Figure 3.3 Total and emergency admissions for ward 395 by week ……..…16

Figure 3.4 Total and emergency admissions for ward 396 by week …….……..18

Figure 5.1 Total and emergency operations for area 163 by week ……27

Figure 5.2 Total and emergency operations for ward 394 by week ……...28

Figure 5.3 Total and emergency operations for ward 394 by week ……....29

Figure 5.4 Total and emergency operations for ward 396 by week ……....30

LIST OF TABLES

Page

Table 4.1 Calendar weeks by season used in this study ...……..19

Table 4.2 Seasonal trends for all admissions to area 163 (trauma) ...……....….20

Table 4.3 Seasonal trends emergency admissions ward 394 (general surgery) ...……..…21

Table 4.4 Seasonal trends non-emergency admissions ward 394 (general surgery) ...….....21

Table 4.5 Seasonal trends total admission ward 394 (general surgery) ...……..……...…21

Table 4.6 Seasonal trends emergency admissions ward 395 (vascular surgery) ...……...…22

Table 4.7 Seasonal trends non-emergency admissions ward 395 (vascular surgery) .....…23

Table 4.8 Seasonal trends total admissions ward 395 (vascular surgery) ...……...…23

Table 4.9 Seasonal trends emergency admissions ward 396 (general surgery) ...……..24

Table 4.10 Seasonal trends non-emergency admissions ward 396 (general surgery) ...…….24

Table 4.11 Seasonal trends total admissions ward 396 (general surgery) ...……...25

Table 6.1 Seasonal trends emergency operations area 163 (trauma) ...……...32

Table 6.2 Seasonal trends non-emergency operations ward 163 (trauma) ...…….....32

Table 6.3 Seasonal trends total operations ward 163 (trauma) ...……32

Table 6.4 Seasonal trends emergency operations ward 394 (general surgery) ...……33

Table 6.5 Seasonal trends non-emergency operations ward 394 (general surgery) ...…….33

Table 6.6 Seasonal trends total operations 394 (general surgery) ...……...34

Table 6.7 Seasonal trends emergency operations ward 395 (vascular surgery) ...……..35

Table 6.8 Seasonal trends non-emergency operations ward 395 (vascular surgery) ...……...35

Table 6.9 Seasonal trends total operations ward 395 (vascular surgery) ...……35

Table 6.10 Seasonal trends emergency operations ward 396 (general surgery) ...……..…36

Table 6.11 Seasonal trends non- emergency operations ward 396 (general surgery) ....……36

Table 6.12 Seasonal trends total operations ward 396 (general surgery) ……...……...37