National Hospital Information System

Gozo General Hospital Activity Report
July to December 2004.

Document Control

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Limitations

The Department of Health Information started collecting data on hospital activity for Gozo General Hospital in July 2004. The Department holds no data on hospital episodes before this date. No hospital activity data sheets were received from the Male and Female Geriatric Wards and the Psychiatric Long Stay Ward; hence activity in these wards is not included in this report. These facts may bias the interpretation of this analysis.

Comments

The accuracy of information contained in this document might be limited by factors beyond the author's control.
Some data in this document may be subject to interpretation.
Users should always acknowledge the source in all works based on information supplied in this document.

Acknowledgements and thanks

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A great thank you also goes to the data entry staff, Ms. Josephine Demicoli and Ms. Tessie Bonavia for their patience in data entry into the new and sometimes not very user friendly database.

Contents

List of tables:

List of Charts:

Introduction

This report provides information on hospital activity at Gozo General Hospital for the period from 1st. July 2004 to 31st. December, 2004. It is based on data held in the National Hospital Information System (NHIS) of the Department of Health Information (DHI). The data in the System is collected from both the Hospital Administration and from the hospital wards where a Hospital Activity form is filled for every in-patient and day case, on discharge from hospital. These forms are then processed, validated and analysed at DHI.

Detailed tables present data for hospital characteristics where the patients were treated, selected demographic characteristics of discharged patients, conditions diagnosed, and surgical and nonsurgical procedures performed. Text tables show information on special topics including trends, the elderly, and hospital deaths.

Types of measurements shown are frequencies, rates, percent distributions of discharges and days of care, and average lengths of stay. The estimates are presented by age group, and gender.

The hospital episodes related to women with deliveries, conditions diagnosed, and procedures performed, as well as to new-born infants are included in this report. Statistics on Obstetric cases are also reported on in much greater detail by the DHI National Obstetric Information System (NOIS).

Medical data for hospitalised patients are coded according to the *International Classification of Diseases, 10th Revision (ICD-10).* A maximum of four diagnoses (1 main and 3 other diagnoses) and two for external cause of injury can be coded for each medical record. Operations/procedures are coded in ICD-9 CM-vol3 (procedures). Again four procedures can be coded. Within the conditions diagnosed and procedures performed, some specific categories will be presented because of large frequencies or because they are of special interest.

Familiarity with the definitions used in NHIS is important in interpreting the data on hospital utilisation. A list of definitions of terms used in this report is found at the back (pg. 32).

Summary

- During the last six months of 2004, 2151 patients, excluding newborn infants, were admitted to Gozo General Hospital. These patients used 9013 days of care.
- The overall average length of stay was of 4.19 days.
- Of all patients discharged from hospital, 21.7% were 75 years of age and over. .
- 52.9% of all hospital admissions were of an emergency nature.
- Private referrals to hospital accounted for 25.4% of all hospital episodes. 42.5% of cases were self referred.
- Spontaneous vaginal delivery and abdominal pain, unspecified, were the leading causes of hospitalisation during the period of this report. These two diagnoses accounted for 98 and 82 discharges respectively and together made up 8.4% of all main diagnosis.
- Approximately 8.6% of patients aged 65 and over discharged from hospitals had been admitted for heart disease.
- At least one procedure has been reported as being performed on 48.1% of patients admitted to Gozo General Hospital in the last six months of 2004. 87.9% of these procedures were of a surgical nature.
- Approximately 11.5% of all surgical procedures were performed on patients who were 75 years of age or older.
- Obstetric procedures (episiotomy, Caesarean section, and repair of obstetric laceration) accounted for 9.1% of the surgical procedures performed on hospital inpatients.
- 4.8% of all hospital admissions were due to injuries. 26.9% of these were due to recorded traffic accidents, 27.9% were due to accidents which happened at home, and 10.5% were due to accidents which occurred at sea or on the sea side,
- In the last six months of 2004, 2.8% of patients discharged from hospitals were discharged dead.
- 1.6% of patients discharged were discharged to a Government geriatric hospital or to a private residential home.
- Approximately 6.7% of hospitalised patients had a main diagnosis of heart disease or malignant neoplasm but 35% of the deaths that occurred in hospitals were the result of either of these two diseases.

Hospital data

Gozo General Hospital is the main State (Public) hospital in Gozo. It is a general hospital (ICHA♣classification: HP.1.1) but also has dedicated geriatric care and psychiatric care wards.

Hospital facilities for 2004 were as follows:

Facilities	Total Number
Acute care beds (capacity)	120
Psychiatric (mental health) care beds	50
Long term care beds	119
Other beds (Renal Unit)	4
Total Day care places/beds	0
Total beds	293
Operation Theatres	2

*

Table 1.1: Facilities at Gozo General Hospital

The expected bed complement per ward by end 2005 is shown in the following table:

Ward	Number of Beds
Male General Ward (actual beds excluding "corsia")	31
Female General Ward (actual beds excl. "corsia")	31
Critical Care Unit (CCU)	7
Maternity Ward & Gynaecology Unit (as from 2005)	24
Paediatric Ward	15
Male Geriatric Ward	38
Female Geriatric Ward	81
Short Stay Ward (Psychiatric)	12
Long Stay Ward (Psychiatric)	38
Renal Unit	4
Total Beds	281

*

Table 1.2: Facilities at Gozo General Hospital – bed compliment by ward

Gozo General Hospital has a complement of 29 physicians and dentists, a "caring" staff of 305 persons, 42 health care professionals and a further 344 persons employed in other duties. The latter include Administrative staff,

♣ : International Classification of Health accounts

* : Data as supplied by Gozo General Hospital, January, 2005. Refers to expected bed compliment after refurbishing. The Maternity ward in 2004 had a bed compliment of 13. This ward is expected to absorb another 11 beds for a dedicated Gynaecology section. This will bring the bed compliment up to 24.

security officers, telephone operators, cooks, gardeners, an engineer, maintenance technical officers, boiler attendants, drivers, mortuary attendants, gate keepers, and trained persons in the tailoring section.

Hospital manpower is shown schematically in the following tables:

Physicians & Dentists	Total
Consultants	**13**
Medical Officers	**14**
Dentists	**2**

[1]

Table 2.1 Workforce at Gozo General Hospital - Physicians & Dentists

Caring Staff	Total
Qualified Midwives	**11**
Nursing Officers	**14**
Deputy Nursing Officers	**14**
Staff Nurses	**62**
Enrolled Nurses	**78**
Nursing Aides	**126**
Total	**305**

[1]

Table 2.2: Workforce at Gozo General Hospital – Caring Staff

Healthcare Professionals	Total
Physiotherapists	**5**
Speech Language Pathologists	**2**
Podologists	**2**
Pharmacists	**0**
Pharmacy Technicians	**7**
Radiographers	**6**
Dental Hygienists	**4**
ECG Technicians	**4**
Laboratory Technicians	**8**
Occupational Therapists	**4**
Other healthcare professionals	**0**
Total	**42**

[1]

Table 2.3: Workforce at Gozo General Hospital – Healthcare Professionals

[1] Data as supplied by Gozo General Hospital, January, 2005.

Hospital Episodes

Hospital episodes, or cases, in this report are counted via admission. Thus the number of hospital episodes, admissions, and discharges mentioned will refer to episodes where the date of admission was between 1st. July, 2004 and 31st. December, 2004.

Admissions data

Obvious cases of "ward attenders" for whom a hospital activity data sheet was completed and whose data was initially entered in the Gozo General Hospital – Hospital Activity Analysis database (GGHHAA), were flagged and were not counted with the admissions. This accounted for 38 records.

130 babies were born in hospital from 01/07/2004 to 31/12/2004. Babies born in hospital are not usually counted as admissions. These were flagged and were also not counted with the total admissions.

A total number of 2151♣ admissions were recorded in the six-month interval considered in this report (Table 3). This figure includes 38 episodes of care where the date of admission was before or on 31/12/2004 but where the date of discharge was in January 2005. 1138 or 52.9% were emergency cases, 373 or 17.3% were elective/planned episodes, 98 were unplanned readmissions less than 28 days following discharge from hospital for the same condition and 542 were day cases.

Age groups (years)	Males	Females	Unspecified	Total	% of all patients
0 – 4	32	22	0	54	2.56
5 – 14	55	45	0	100	4.65
15 – 24	89	89	0	178	8.24
25 – 34	65	166	0	231	10.75
35 – 44	80	128	0	208	9.64
45 – 54	147	153	0	300	13.97
55 – 64	161	135	0	296	13.77
65 – 74	171	139	0	310	14.42
75 – 84	172	162	0	334	15.53
85 – 94	57	64	0	121	5.63
95 & over	3	10	0	13	0.60
Unspecified	5	1	0	6	0.28
Total	1037	1114	0	2151	100

Table 3: Age/gender distribution of patients in completed hospital episodes

♣ This figure denotes the total number of admissions from 01/07/2004 to 31/12/2004 including day cases but excluding babies born in hospital and "ward attenders".

Ward admissions, and total admissions by method of admission, are shown schematically in table 4 and accompanying chart I.

Admitting Ward	Elective	Emergency	Day Cases	Readmissions + Unspecified	TOTAL
MGW	**85**	**418**	**232**	**72+0**	**807**
FGW	**108**	**404**	**264**	**18+0**	**794**
CCU	**15**	**186**	**3**	**4+0**	**208**
Paediatric	**34**	**100**	**10**	**3+0**	**147**
Maternity	**130**	**15**	**33**	**1+0**	**179**
SSW	**1**	**15**	**0**	**0+0**	**16**
Total	**373**	**1138**	**542**	**98+0**	**2151**

MGW: Male ward (general), FGW: Female ward (General), CCU: Critical care unit, SSW: Short stay ward (Psychiatric)

Table 4: Total admissions (including day cases) from 01/07/2004 to 31/12/2004

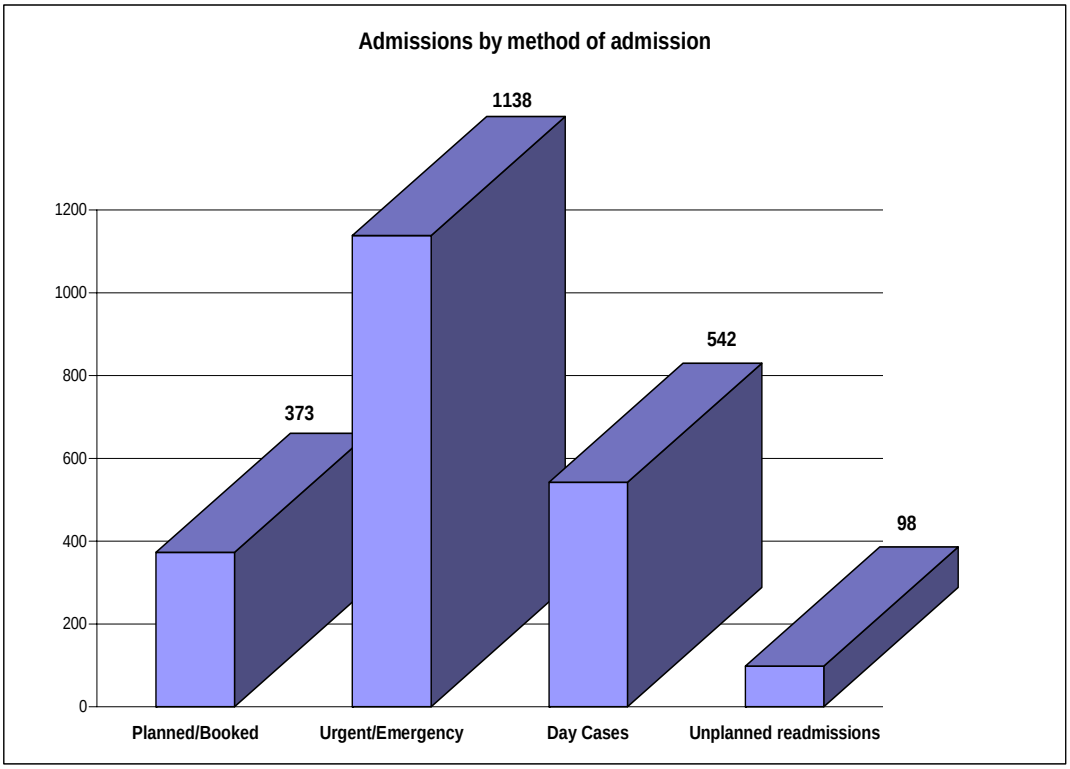


Chart I: All admissions (*excluding babies born in hospital and "ward attenders"****) by method of admission***

Comparison with ADT module – PAS system.

The ADT module – PAS system shows a total of 2134 admissions for the period considered in this report. Age and gender distribution of admissions according to the GGHHAA database and the PAS are shown in the table 5.

	GGHHAA			PAS			
Age Groups	**Males**	**Females**	**Total**	**Males**	**Females**	**Unspecified Sex**	**Total**
0 – 4	32	22	**54**	32	17	5	**54**
5 – 14	55	45	**100**	52	47	1	**100**
15 – 24	89	89	**178**	86	102	0	**188**
25 – 34	65	166	**231**	62	171	0	**233**
35 – 44	80	128	**208**	62	137	0	**199**
45 – 54	147	153	**300**	124	164	1	**289**
55 – 64	161	135	**296**	135	145	1	**281**
65 – 74	171	139	**310**	138	144	13	**291**
75 – 84	172	162	**334**	151	169	1	**321**
85 – 94	57	64	**121**	46	66	4	**116**
95 & 0ver	3	10	**13**	20	36	6	**62**
Unspecified age	5	1	**6**	0	0	0	**0**
TOTAL	**1037**	**1114**	**2151**	**904**	**1198**	**32**	**2134**

Table 5: Age/gender distributions of admissions according to GGHHAA and PAS

The largest number of admissions come from 75 – 84 age groups in both the GGHHAA database (334) and the PAS (321) system.

Admitting Ward	GGHHAA	PAS	% Response Rate
Male General Ward	**807**	**635**	**127%**
Female General Ward	**794**	**804**	**98.7%**
Critical Care Unit	**208**	**275**	**75.6%**
Paediatric Ward	**147**	**155**	**94.2%**
Maternity Ward	**179**	**205**	**96.1%**
Short stay Ward	**16**	**59**	**27.1%**
Long stay Ward	**0**	**1**	**0%**
Total	**2151**	**2134**	**100.7%**

Table 6: Percentage response rate by hospital ward

The percentage “response rate”, i.e. comparison between admissions on the GGHHAA database taken from episode data sheets sent from the hospital wards and admissions recorded on the PAS system, is shown in the table 6.

The discrepancy, or rather the higher number of admissions on the GGHHAA database and consequently the high response rate, may be explained by the fact that a number of obvious day cases are listed as “ward attenders” on the PAS system and hence are not counted with the hospital admissions in the system.

Admissions following accidents/injuries.

104 or 4.8% of all admissions were due to an external cause or injury. Of these, 29 or 27.9% were due to accidents/injuries which occurred at “home”, and 34 or 32.7% were due to accidents/injuries sustained on the road. 28 or 26.9% of the latter were due to specified road traffic accidents. Injuries sustained at the seaside accounted for 11 admissions or 10.5% of admissions to hospital due to accidents/injuries.

Admissions due to accidents/injuries had a total hospital stay of 614 days. The overall average length of stay was 5.9 days per patient.

A breakdown of the number of injuries sustained according to the site of accident/injury, which resulted in episodes of inpatient hospital care, is shown in table 7 and chart II.

Accident/Injury Site	Code	Number of cases	Hospital Stay
Home	10.0	**29**	**244**
Residential Institution	10.1	**1**	**4**
School, other institution and public administration area	10.2	**8**	**195**
Sports and athletic area	10.3	**4**	**3**
Sea	10.3a	**11**	**15**
Street/motorway	10.4	**34**	**96**
Trade or service area	10.5	**2**	**2**
Industrial and construction area	10.6	**7**	**14**
Farm	10.7	**3**	**8**
Other specifies places	10.8	**2**	**22**
Unspecified place	10.9	**3**	**11**
Total		**104**	**614**

Table 7: Number of Inpatient episodes and hospital stay due to accidents/injuries

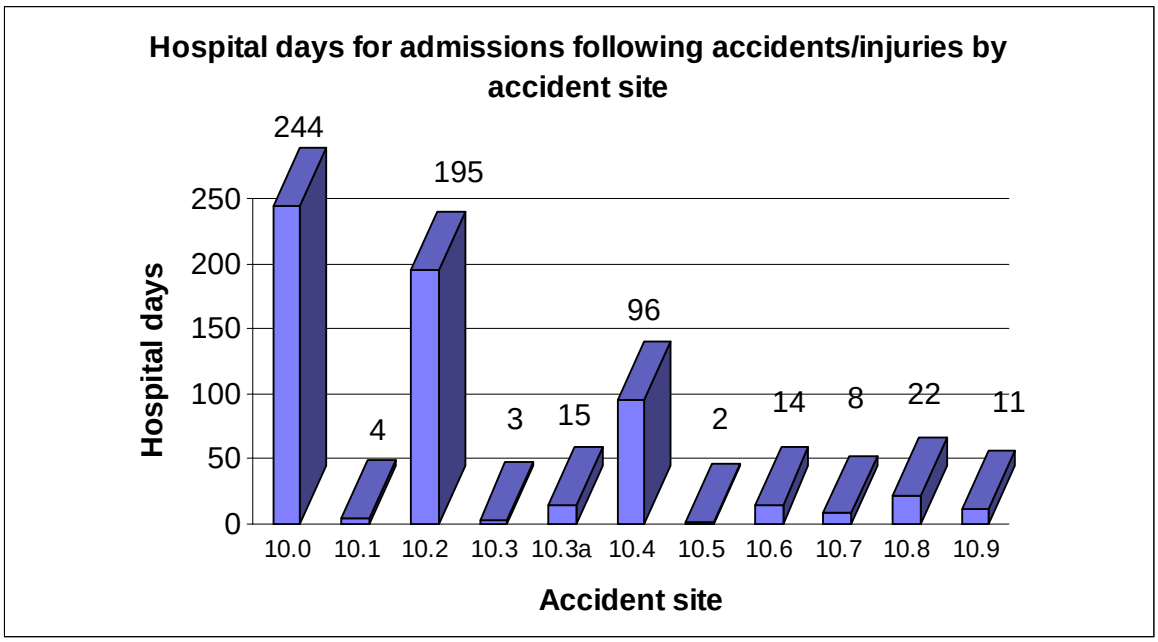


Chart II: Hospital days for "victims" of accidents/injuries by accident site

Day Cases

542 cases of reported day care admissions are recorded in the hospital activity database from 01/07/2004 to 31/12/2004. 240 of these admissions were for males and 302 for females.

The total number of day case admissions by age groups is shown in chart III.

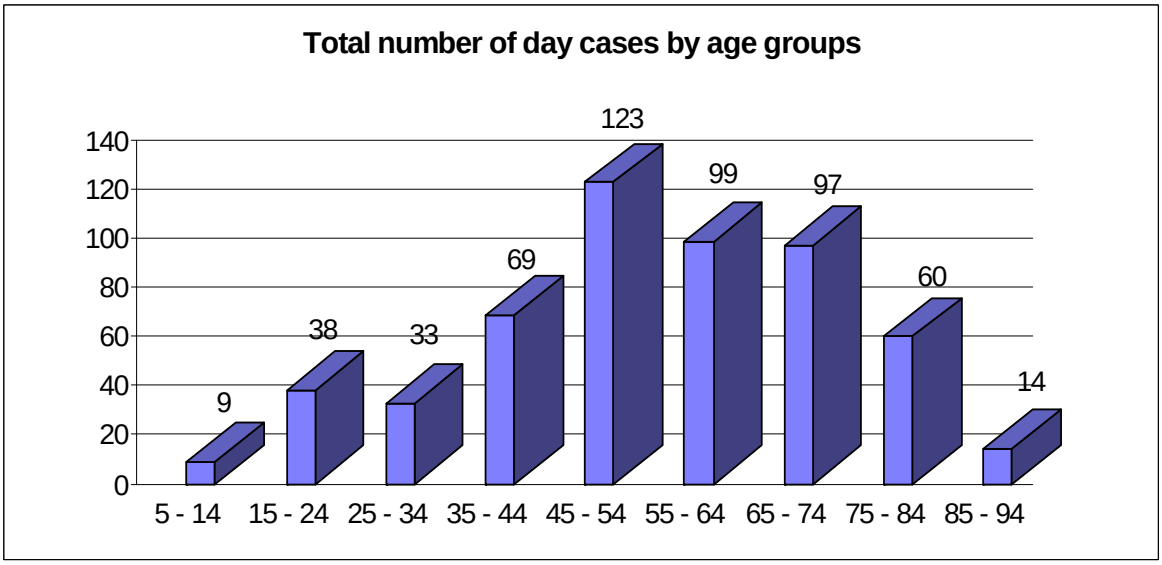


Chart III: Total day case distribution by age groups (years)

495 day cases were admitted for surgical procedures. 271 were females and 224 were males. 47 were admitted for non surgical procedures. The top two non-surgical procedures were infusion of therapeutic or prophylactic substances (ICD9 CM code: 99.29) which accounted for 25 day case admissions, and blood transfusion (ICD9 CM code: 99.03) in 11 day cases.

The distribution of day cases with surgical procedures by age groups and gender is shown in chart IV.

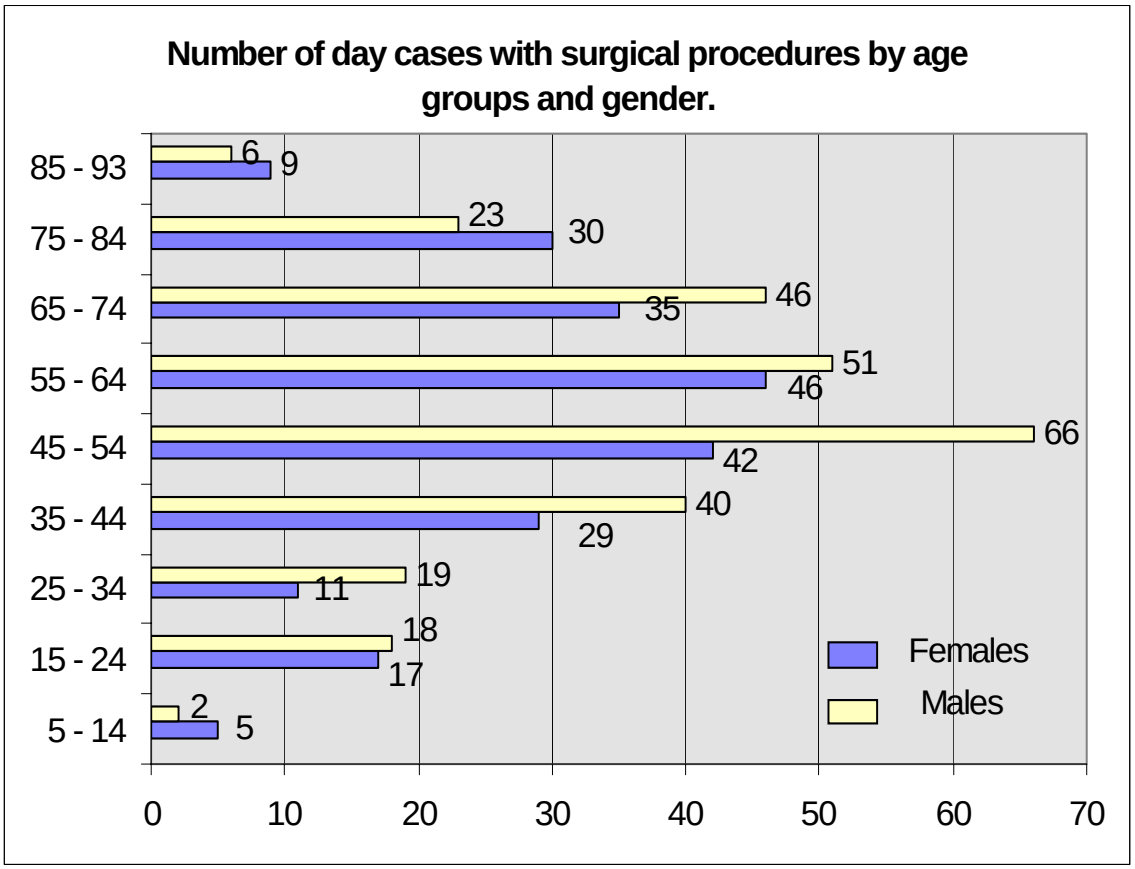


Chart IV: Age groups and gender distribution in patients admitted as day cases with surgical procedures

Of the 495 patients admitted for day case surgical procedures, 433 had one surgical procedure performed, 61 had two procedures performed, and one patient had three surgical procedures.

Other considerations re admissions

Sources of hospital admissions for the six-month period under consideration were as follows (Table 8):

Source	Number of cases	% of all Admissions
Usual Residence	1840	85.49%
Temporary/summer residence	112	5.20%
Prison	0	0%
Government Hospital	60	2.78%
Government Residential home	9	0.43%
Private hospital/clinic	0	0
Private residential home	9	0.43%
Accident site	104	4.88%
Medical Institution abroad	0	0
Unspecified	17	0.79%
Total	2151	100%

Table 8: Sources of all hospital admissions

The type of anticipated hospital inpatient care given is shown in table 9.

Care Type	Number of Admissions
Acute Care	2037
Rehabilitative care	15
Palliative care	15
Geriatric evaluation and management	5
Psycho geriatric care	1
Mental health care (Psychiatric care)	14
Maintenance care (includes "social cases")	48
New-born care	1
Other admitted care	15
Total	2151

Table 9: Admissions by type of care given

"Public referrals"[Ψ] for admission to hospital accounted for 650 or 30.2% of all hospital episodes, while 546 or 25.4% were from "private"[ΨΨ] referrals. 914 patients or 42.5% of all patients referred themselves to hospital. In 41 cases, the type of referral to hospital was not specified.

[Ψ] Public referrals include hospital referrals from other state hospital/state residential homes, geriatric hospitals and also referrals from Health Centres and by Health Centre doctors.

[ΨΨ] Private referrals include referrals from private health care facilities, including private residential home and also referrals by private community family doctors/specialists in Family Medicine.

Discharges

There are 2113 reported discharges in the GGHHAA database for the six-month period, i.e. from 01/072004 to 31/12/2004. This figure is however not actual as it does not catch those episodes where the date of admission to hospital was before the 1st. July. Since data collection started in July, these episodes do not feature in the database. As stated earlier, hospital episodes are counted via admission in this report.

Hospital stay and discharge data on hospital episodes

There were 2151 reported episodes of care, excluding "ward attenders" and babies born in hospital, at Gozo General Hospital. 542 of these were related to day cases with a hospital stay of 0 days. In-patient episodes of care (i.e.: 1609) used up a total of 9013 days of care.

The overall average length of stay (ALOS) was 4.19 days. The ALOS, excluding day cases, was 5.6 days (9013/1609). ALOS, excluding day cases, psychiatric patients (16 patients with a hospital stay of 408 days) and patients admitted for respite/maintenance care (17 patients with a hospital stay of 1064 days), who had very long hospital stays, works out at 4.78 days.

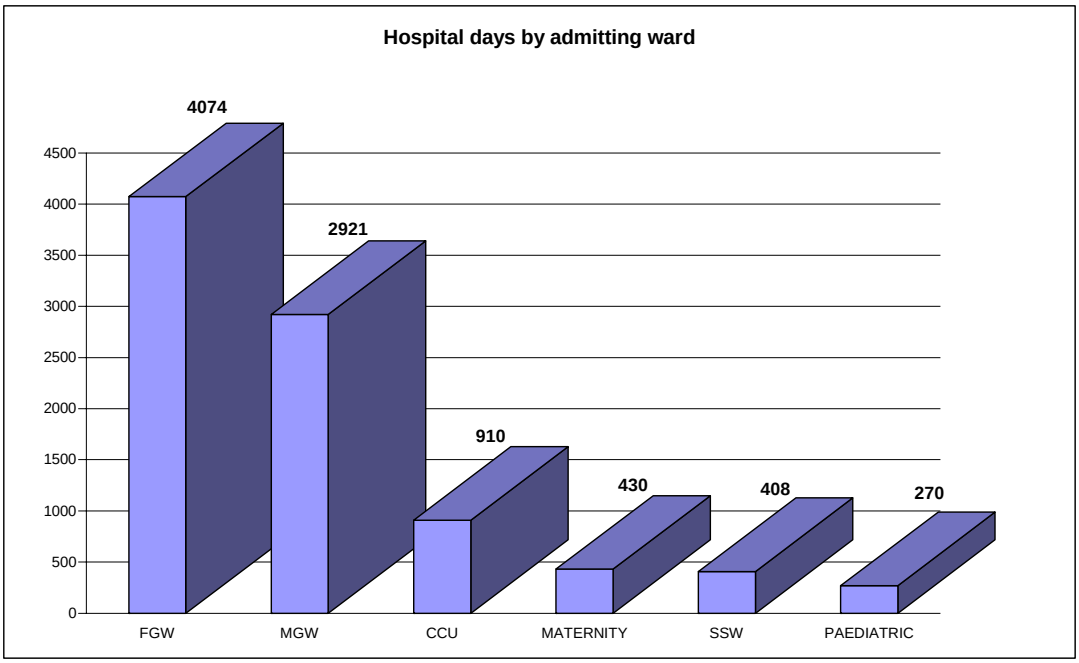
21.7% of patients were 75 years old and over and they used up 44.2% of the total days of care.

Table 10 shows the number of hospital days and overall ALOS by age groups and gender.

Age groups	Males	Hosp. Days	ALOS	Females	Hosp. Days	ALOS	TOTAL ALOS
0 – 4	32	**64**	**2.0**	22	**50**	**2.3**	**2.1**
5 – 14	55	**95**	**1.7**	45	**80**	**1.8**	**1.7**
15 – 24	89	**166**	**1.86**	89	**158**	**1.8**	**1.8**
25 – 34	65	**209**	**3.2**	166	**358**	**2.1**	**2.4**
35 – 44	80	**160**	**2.0**	128	**352**	**2.75**	**2.5**
45 – 54	147	**366**	**2.5**	153	**599**	**3.9**	**3.2**
55 – 64	161	**616**	**3.8**	135	**323**	**2.4**	**3.2**
65 – 74	171	**666**	**3.9**	139	**754**	**5.4**	**4.6**
75 – 84	172	**892**	**5.2**	162	**1630**	**10.1**	**7.5**
85 – 94	57	**434**	**7.6**	64	**786**	**12.3**	**10.1**
95 & >	3	**21**	**7.0**	10	**221**	**22.1**	**18.6**
Unspecified age	5	**10**	**2.0**	1	**3**	**22.1**	**2.2**
TOTAL	1037	**3699**	**3.56**	1114	**5314**	**4.77**	**4.19**

Table 10: Hospital days and ALOS by age groups and gender

Charts V and VI show schematically hospital days by Ward of admission, and by Speciality respectively.



FGW: Female Ward (General), MGW: Male Ward (General), CCU: Critical care unit, SSW: Short stay ward

Chart V: Total hospital days by ward of admission

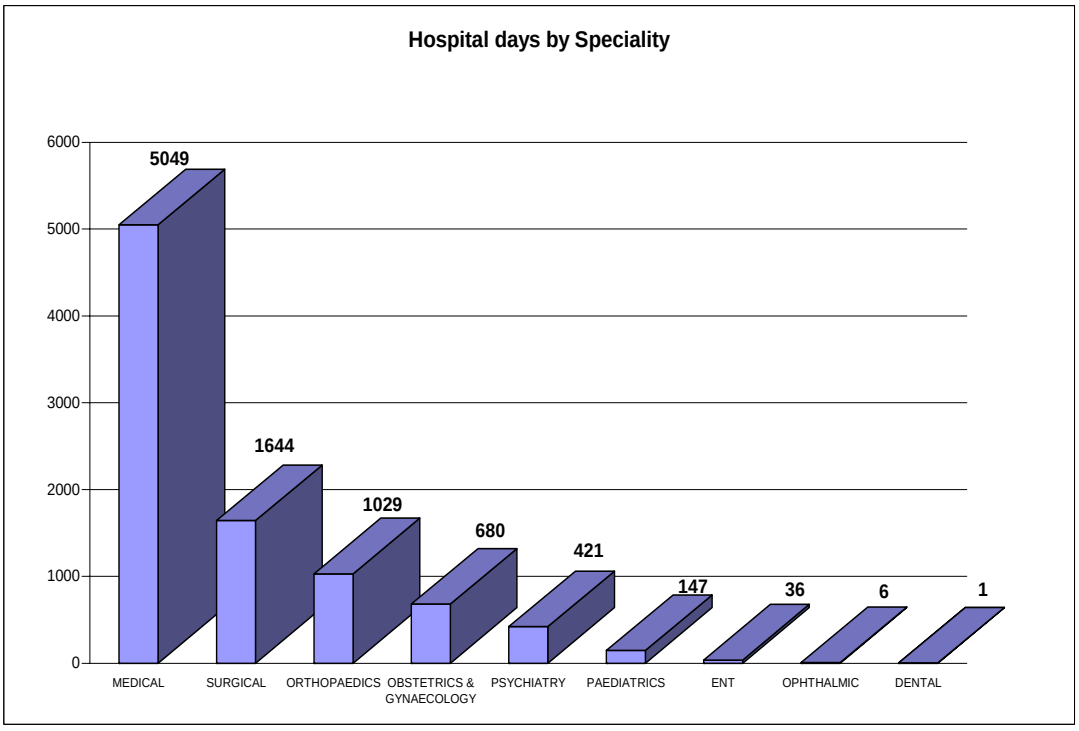


Chart VI: Hospital days by Speciality

1982 in-patients (92.1%) were discharged on medical advice, 99 (4.6%) were discharged at request, and 10 patients had no specified method of discharge. 60 patients (2.8%) were discharged dead.

Table 11 shows the destination of the discharged patients (excluding those people admitted where the outcome of the episode was death).

Discharge Destination	Number of discharges	% of discharges
Usual Residence (including temporary/summer residence)	**1997**	**92.8%**
Government Hospital	**44**	**2.0%**
Government Residential Home	**31**	**1.4%**
Private hospital/Clinic	**0**	**0%**
Private Residential home	**4**	**0.2%**
Medical Institution abroad	**2**	**0.1%**
Unspecified	**13**	**0.6%**
Total	**2091**	**97.2%**

Table 11: Discharge destination as percentage of all discharges

60 patients were discharged dead. Chart VII shows the age group distribution of these patients.

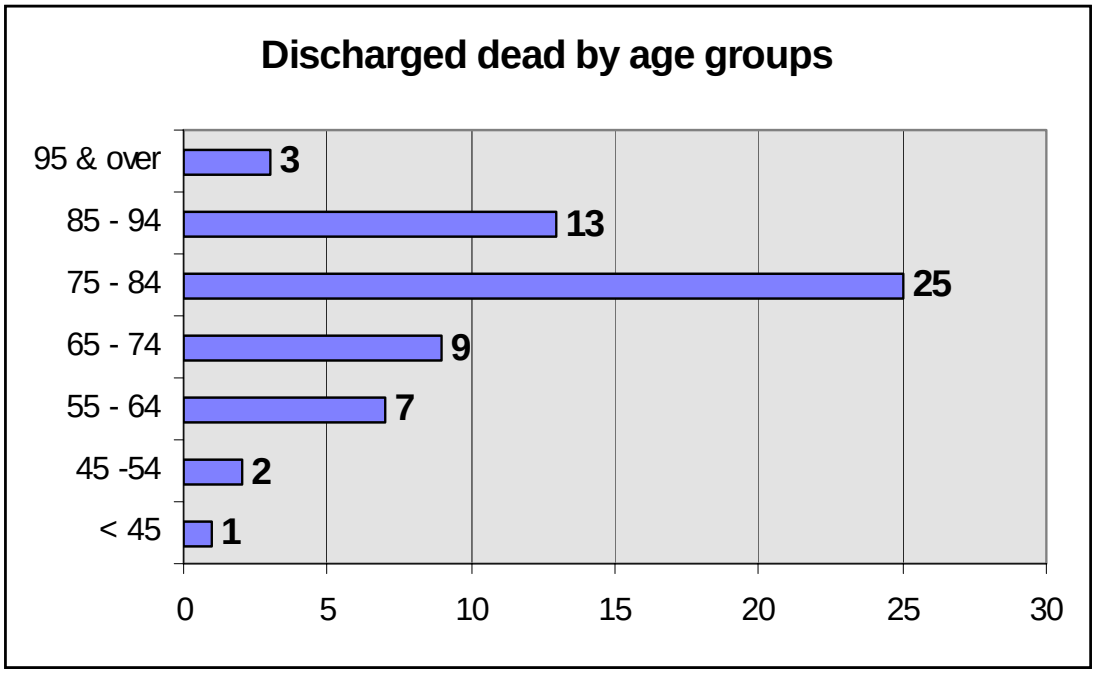


Chart VII: Discharged dead by age groups from 01/07/2004 to 31/12/2004

The following table shows the number of patients discharged dead and the rate of deaths for hospital discharges by selected diagnosis.

ICD-10 Code	Main Diagnosis	Number of Deaths		% of "discharges" for same condition		Deaths as % of all inpatient discharges
		< 65 yrs	> 65 yrs	< 65 yrs	> 65 yrs	
I64	Cerebrovascular accident	**0**	**9**	**0%**	**47.4%**	**0.55%**
C--.--	Cancer	**5**	**9**	**38.5%**	**52.9%**	**0.87%**
J22	Chest infection	**1**	**9**	**5.9%**	**20%**	**0.62%**
A41.9	Septicaemia	**0**	**3**	**0%**	**100%**	**0.19%**
I26.9	Pulmonary embolism	**0**	**2**	**0%**	**100%**	**0.12%**
I50.0	Congestive heart failure	**0**	**2**	**0%**	**20%**	**0.12%**
J18.9	Pneumonia - unspecified	**0**	**2**	**0%**	**100%**	**0.12%**
	Other	**4**	**14**	**0.41%**	**2.82%**	**1.12%**
	Subtotal	10	50	0.99%	8.40%	
	Total	**60**				**3.73%**

This table has been worked out on a total of 1609 episodes of inpatient care. 1008 episodes were in inpatients aged 65 or under and 595 episodes were in inpatients who were over 65 years of age. The age in 6 patients was unspecified and these were not entered in the calculation.

Table 12: Number & rate of deaths for hospital discharges by age and selected main diagnosis

Table 13 shows some of measures used to study hospital utilisation.

Measure of Utilisation	July – Dec. 2004
Total number of episodes considered in this report	**2151**
"Discharge" Rate per 10,000 population	**680 ***
Total number of bed days	**9013**
Rate of bed days per 10,000 population	**2850 ***
Overall ALOS in days	**4.19**
ALOS ,excluding day cases	**5.3**
ALOS, excluding day cases, psychiatric & "respite" patients	**4.78**

***** *based on total Gozo population of 31617 – NSO Demographic review, 2003.*

Table 13: Selected measures of hospital utilisation

The overall discharge rate for patients 75 years of age and over was 148 per 10,000 population. This was significantly higher than the rate of 98 per 10,000 population for patients 65–74 years of age.

Table 14 shows bed statistics for selected "acute" wards at Gozo General Hospital. These include Female General Ward (FGW), Male General Ward (MGW), Critical Care Unit (CCU), Maternity, and the Paediatric ward. Short Stay Ward (SSW) has not been included with these analysis as the response rate by this ward according to data on the PAS system is only 27% and hence the figures would not be reliable.

Ward	Number of bed days used	Average daily bed occupancy	Average % bed occupancy	Overall Average length of Stay (days)	Average Turnover	Average Turnover interval (days)
FGW	**4074**	**22.1**	**71.4**	**5.13**	**25.6**	**2.0**
CCU	**910**	**4.9**	**70.6**	**4.4**	**29.7**	**1.8**
MGW	**2921**	**15.8**	**51.2**	**3.6**	**26.0**	**3.4**
Maternity	**430**	**2.3**	**18**	**2.4**	**13.8**	**10.9**
Paediatrics	**270**	**1.5**	**9.8**	**1.8**	**9.8**	**16.9**
"Acute" Wards – overall *	**8605**	**46.8**	**48.2**	**4.0**	**22.0**	**4.3**

- *These wards include the wards mentioned in the rows above. Bed statistics for Short Stay Ward have not been included as the response rate for this ward according to data in PAS is only 27.1%.*

Table 14: Bed Statistics for selected "acute" wards

Diagnosis

Hospital use measures, i.e. number of discharges and discharge rate, and bed days, bed day rate and overall average length of stay (ALOS) for selected main diagnostic categories are shown in tables 15 and 16. The categories displayed account for more than half of the discharges and days of care at Gozo General Hospital in the six-month period being considered.

ICD-10 code	Diagnosis	Discharges	
		Number of discharges	Discharge rate*
D25.9	Myoma of uterus - unspecified	**10**	3.16
D64.9	Anaemia - unspecified	**22**	6.94
E14	Unspecified Diabetes Mellitus	**21**	6.64
E16.2	Hypoglycaemia - unspecified	**13**	4.11
F10.0	Acute alcohol intoxication	**10**	3.16
F32.9	Depressive episode - unspecified	**14**	4.43
G45.9	Transient cerebral ischaemic attack - unspecified	**17**	5.38
H26.9	Cataract - unspecified	**54**	17.08
I45.9	Heart block - unspecified	**11**	3.48
I48	Atrial fibrillation/flutter	**28**	8.85
I50.0	Congestive heart failure	**11**	3.48
I64	Stroke/Cerebrovascular accident	**23**	7.27
I80.2	Deep vein thrombosis	**12**	3.79
J20.9	Acute bronchitis - unspecified	**9**	2.85
J22	Acute lower respiratory tract infection/chest inf.	**62**	19.61
K30	Dyspepsia	**18**	5.69
K40.9	Unilateral or unspecified inguinal hernia	**26**	8.22
K42.9	Umbilical hernia without complications	**11**	3.48

ICD-10 code	Diagnosis	Discharges	
		Number of discharges	Discharge rate*
K52.9	Non infective gastroenteritis - unspecified	**57**	18.02
K62.5	Haemorrhage of anus/rectum / rectal bleeding	**39**	12.33
M54.9	Dorsalgia / backache - unspecified	**9**	2.85
N23	Unspecified renal colic	**47**	14.86
N39.0	Urinary tract infection – site not specified	**15**	4.74
N80.9	Endometriosis - unspecified	**10**	3.16
N85.2	Bulky/enlarged uterus	**10**	3.16
N92.0	Menorrhagia	**23**	7.27
O80.9	Single spontaneous delivery	**98**	30.99
O82.0	Delivery by elective LSCS	**21**	6.64
O82.1	Delivery by emergency LSCS	**11**	3.48
R00.2	Palpitations	**9**	2.85
R06.0	Dyspnoea	**19**	6.01
R07.4	Chest pain – unspecified	**60**	18.97
R10.1	Upper abdominal pain/epigastric pain	**62**	19.61
R10.3	Pain localized to lower abdomen	**24**	7.59
R10.4	Unspecified abdominal pain	**82**	25.93
R11	Nausea and vomiting	**9**	2.85
R31	Unspecified haematuria	**21**	6.64
R33	Retention of urine	**11**	3.48
R42	Dizziness / vertigo – not specified	**12**	3.79
R50.9	Fever - unspecified	**18**	5.69
R53	General physical deterioration	**11**	3.48
R55	Syncope and collapse / fainting	**35**	11.07
S09.9	Unspecified head injury	**44**	13.92
S72.--	Miscellaneous fractures of femur	**20**	6.32
Z75.5	Respite care (include social cases)	**17**	5.38

**: Based on total population estimate of 31617 according to Demographic Review 2003 - NSO*

Table 15: Number of discharges and discharge rate from hospital by selected main discharge diagnosis

ICD-10 Code	Diagnosis	Hospital Bed Days		ALOS (days)
		Number of hospital days	*Rate per 10,000 population	
D25.9	Myoma of uterus - unspecified	**41**	12.97	**4.10**
D64.9	Anaemia - unspecified	**23**	7.27	**1.04**
E14	Unspecified Diabetes Mellitus	**136**	43.01	**6.48**
E16.2	Hypoglycaemia - unspecified	**58**	18.34	**4.46**
F10.0	Acute alcohol intoxication	**5**	1.58	**0.50**
F32.9	Depressive episode - unspecified	**339**	107.22	**24.21**
G45.9	Transient cerebral ischaemic attack	**42**	13.28	**2.47**

ICD-10 Code	Diagnosis	Hospital Bed Days		ALOS (days)
		Number of hospital days	* Rate per 10,000 population	
H26.9	Cataract - unspecified	**2**	0.63	**0.04****
I45.9	Heart block - unspecified	**40**	12.65	**3.64**
I48	Atrial fibrillation/flutter	**66**	20.87	**2.36**
I50.0	Congestive heart failure	**44**	13.92	**4.00**
I64	Stroke/Cerebrovascular accident	**403**	127.46	**17.52**
I80.2	Deep vein thrombosis	**77**	24.35	**6.42**
J20.9	Acute bronchitis - unspecified	**27**	8.54	**3.00**
J22	Acute lower respiratory tract infection/chest infection	**750**	237.21	**12.10**
K30	Dyspepsia	**2**	0.63	**0.11**
K40.9	Unilateral or unspecified inguinal hernia	**87**	27.52	**3.35**
K42.9	Umbilical hernia without complications	**28**	8.85	**2.54**
K52.9	Non infective gastrenteritis - unspecified	**215**	68.00	**3.77**
K62.5	Haemorrhage of anus/rectum / rectal bleeding	**28**	8.85	**0.72**
M54.9	Dorsalgia / backache - unspecified	**30**	9.49	**3.33**
N23	Unspecified renal colic	**111**	35.11	**2.36**
N39.0	Urinary tract infection – site not specified	**56**	17.71	**3.73**
N80.9	Endometriosis - unspecified	**26**	8.22	**2.60**
N85.2	Bulky/enlarged uterus	**32**	10.12	**3.20**
N92.0	Menorrhagia	**10**	3.16	**0.43**
O80.9	Single spontaneous delivery	**237**	74.96	**2.42**
O82.0	Delivery by elective LSCS	**95**	30.05	**4.52**
O82.1	Delivery by emergency LSCS	**73**	23.09	**6.64**
R00.2	Palpitations	**9**	2.85	**1.00**
R06.0	Dyspnoea	**82**	25.93	**4.31**
R07.4	Chest pain – unspecified	**165**	52.19	**2.75**
R10.1	Upper abdominal pain/epigastric pain	**85**	26.88	**1.37**
R10.3	Pain localized to lower abdomen	**62**	19.61	**2.58**
R10.4	Unspecified abdominal pain	**157**	49.66	**1.91**
R11	Nausea and vomiting	**20**	6.32	**2.22**
R31	Unspecified haematuria	**39**	12.33	**1.86**
R33	Retention of urine	**55**	17.39	**5.00**
R42	Dizziness / vertigo – not specified	**46**	14.55	**3.83**
R50.9	Fever - unspecified	**96**	30.36	**5.33**
R53	General physical deterioration	**67**	21.19	**6.09**
R55	Syncope and collapse / fainting	**98**	30.99	**2.80**
S09.9	Unspecified head injury	**94**	29.73	**2.14**

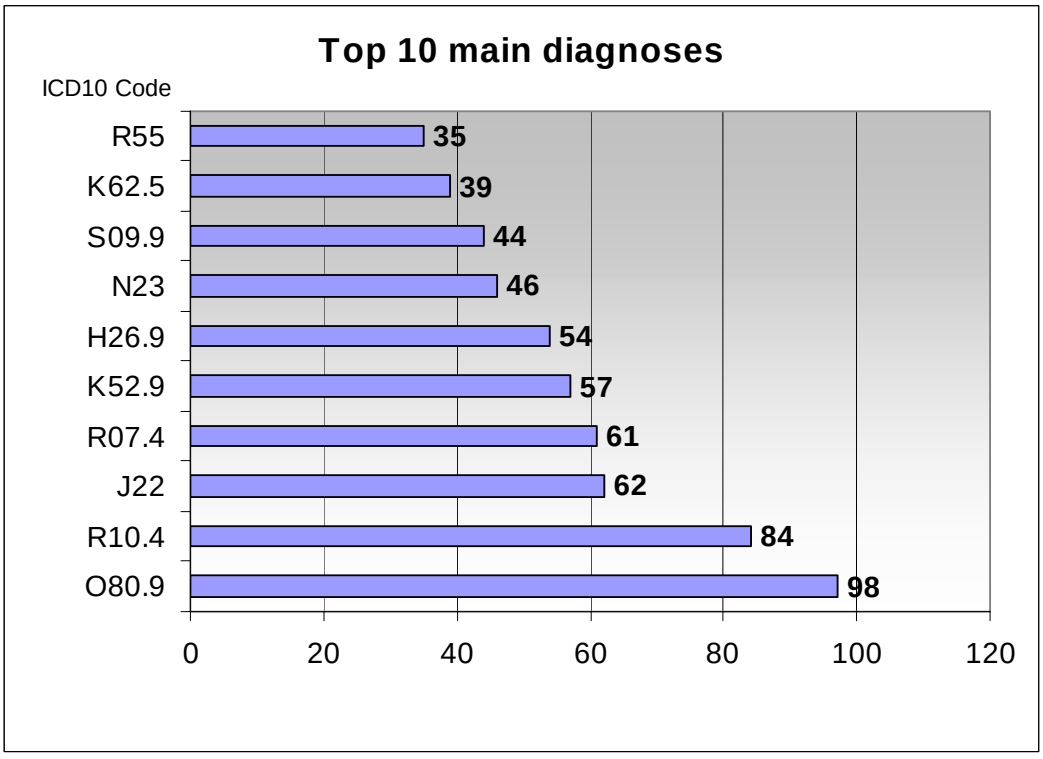
ICD-10 Code	Diagnosis	Hospital Bed Days		ALOS (days)
		Number of hospital days	* Rate per 10,000 population	
S72.--	Miscellaneous fractures of femur	**511**	161.62	**25.55**
Z75.5	Respite care (include social cases)	**1064**	336.53	**62.59**

**: Based on total population estimate of 31617 according to Demographic Review 2003 – NSO*
********: *1 episode out of 54 episodes where the diagnosis was "cataract"*

Table 16: Number of hospital bed days, hospital bed day rate & ALOS by selected main discharge diagnosis

The top 10 main diagnosis are shown in chart VIII.

Many of the "main diagnosis" are actually symptoms and not diseases as such. In many of these cases the patients were discharged without a definitive diagnosis as they were due for further investigation. The relatively high number of admissions for gastro-enteritis represents the peaking of this complaint during the summer months. The ICD10 code, K52.9, which is the code for *non infective gastro-enteritis and colitis, unspecified*, was allocated to these cases as no causative organism was reported and the cases usually subsided within a couple of days.



Code: R55: fainting/collapse, K62.5: rectal bleeding, S09.9: head injury – unspecified, N23: renal colic, H26.9: cataract, unspecified, K52.9: gastroenteritis, causative organism not specified, R07.4: non-specific chest pain, J22: unspecified lower respiratory tract infection/chest infection, R10.4: abdominal pain, region not specified, O80.9: spontaneous vaginal delivery.

Chart VIII: Top 10 main diagnosis

A total of 98 patients discharged were females hospitalised for spontaneous deliveries (ICD-10 code: O80.9). Another 32 women were delivered by lower segment Caesarean section. This accounts for the 130 deliveries during the time interval of this report. Females with spontaneous deliveries made up 4.5 % of all discharges for this period, their average length of stay was short (2.43 days) and they used 2.6% of inpatient bed days of care.

Patients with a main diagnosis of heart disease accounted for 100 discharges and this amounts to 4.6% of all patients. They had an average length of stay of 5.83 days and used up 583 or 6.5% of the total bed days. These patients include those with main diagnoses of hypertension and hypertensive heart disease, acute myocardial infarction, chronic ischaemic heart disease and other ischaemic heart disease, congestive heart failure, and cardiac arrhythmias (ICD10 codes:I10-I15, I20-I25, I30-I52) . Myocardial infarction and ischaemic heart disease were the main diagnosis for 21% of discharges for heart disease. There were six discharges with a main diagnosis of chronic ischaemic heart disease and the patients were in the 70 and over age bracket.

Malignant neoplasms (ICD-10 codes: C00 – C97) were the main diagnosis for 35 patients or 1.6% of all discharges. The average length of stay for discharged patients with malignant neoplasms was 9.91 and they used 3.85% of the total bed days. The 55 to 64 age group shows the largest number of episodes with a main diagnosis of malignant neoplasm. Malignant neoplasms recorded include neoplasms of the breast, cervix, ovaries, oesophagus, colon, lung, skin cancers, leukaemias, and metastatic and disseminated tumours.

Fractures of the femur (ICD-10 code: S72) accounted for 20 or 0.93% of all hospital discharges. These had an average length of stay of 25.5 days and used up 5.7% of bed days.

Chronic obstructive pulmonary disease (ICD-10 codes: J44) accounted for 9 discharges or 0.42% of all hospital discharges. The average length of stay was 5.22 days. There were 12 discharges with a main diagnosis of asthma (J45) and they used up 33 bed days. 74 discharges were for a main diagnosis of acute infections of the lower respiratory tract, including acute bronchitis and pneumonia (J12 – J22). These had an average length of stay of 10.73 days and accounted for 794 or 8.81% of all bed days.

In all patients who were aged 65 years or older (778), cerebrovascular disease (I60–I69) was the main diagnosis for 21 patients or 2.7% of this group of patients; 5 patients or 0.6% were recorded with pneumonia, unspecified, or aspiration pneumonia; and 17 or 2.2% were treated for fractures.

Procedures

One or more diagnostic or therapeutic procedures were performed on 1055 inpatients treated at Gozo General Hospital between July and December 2004. This represents 49% of admissions for care. 19 of these patients had

their procedures at St. Luke's Hospital, Malta as there were no facilities available at Gozo General Hospital. These procedures included 14 CAT scans and 5 coronary angiograms. In two of the latter cases, an angioplasty procedure (PTCA) was subsequently carried out.

Surgical procedures

At least one surgical procedure was reported in 908 patients, or 42.2% of all admissions (Charts IX & X). 495 of these patients or 54.5% were admitted as day cases. 79 of the patients with surgical procedures had two reported procedures while another 2 had three procedures. Thus a total of 987 surgical procedures were performed in the six-month period being considered.

The proportion of patients with at least one surgical procedure ranged from 5.1% of patients aged 14 years and under, to 43.3% of patients aged 55 years and over. The highest number of surgical procedures was performed on patients in the 45 to 55 age group (156 procedures or 17.2%). At least one surgical procedure was performed on 59.7% of females and 40.3% of males (Tables 17 & 18 and Charts IX & X).

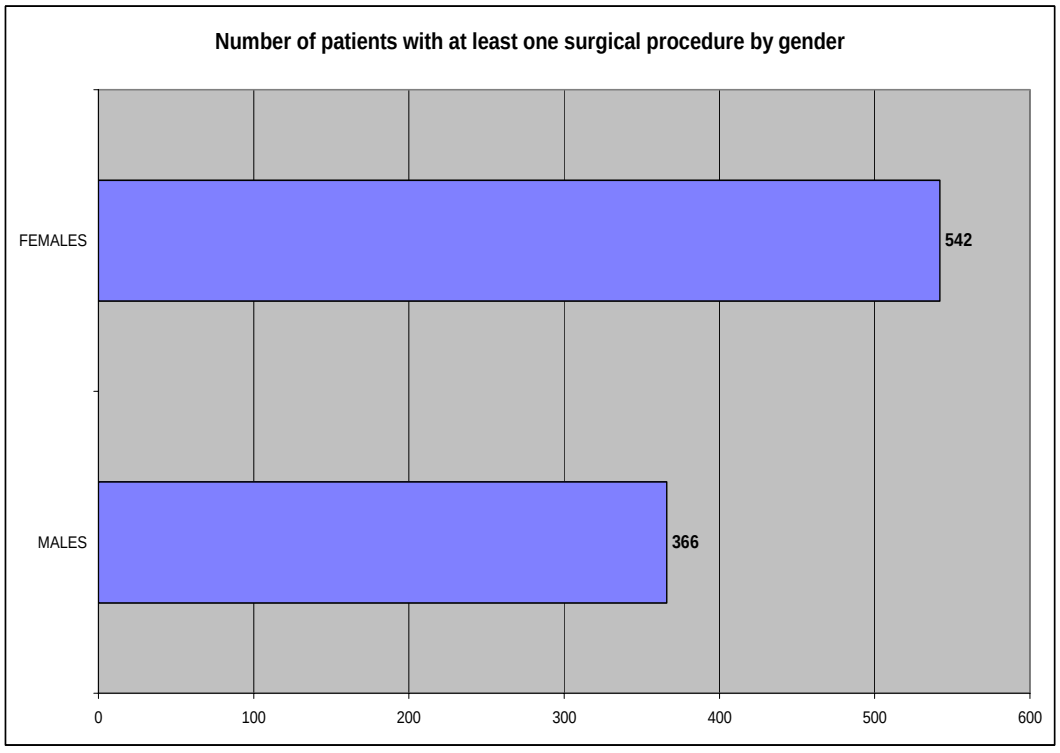


Chart IX: Number of patients with at least one surgical procedure by gender

Characteristics	All discharged patients	Patients without procedures	Patients with procedures	*Patients with surgical procedures
All patients	2151	1096	1055	908
By age:				
0 – 14 years	154	106	49	47
15 – 44 years	617	261	355	311
45 – 64 years	596	258	338	297
65 years and over & unspecified age	784	471	313	253
By gender				
Male	1037	614	424	366
Female	1114	482	631	542

***: Numbers refer to main or first listed operation/procedure.*

Table 17: Number of patients discharged from hospital with or without procedures by age groups and gender

Procedure and ICD-9 CM code	Number performed	% Rate of episodes
All surgical procedures	987	45.9
Colonoscopy – 45.23	103	4.8
Gastroscopy – 44.13	90	4.2
Cataract extraction – 13.19	62	2.9
Diagnostic D&C – 69.09	58	2.7
Excision of lesion of skin/subcutaneous tissue – 86.3	48	2.2
Lower segment Caesarean section – 74.1	32	1.5
Total hysterectomy & BSO – 68.4/ 65.61	26	1.2
Cystoscopy – 57.32	23	1.1
Inguinal hernia repair – unilateral – 53.00	22	1.0
Release of carpal tunnel – 04.43	19	0.9
Removal of lesion of eyelid, not specified – 08.20/08.22	17	0.8
Open reduction/internal fixation of fracture - femur – 79.35	15	0.7
Bronchoscopy – 33.22	13	0.6
Appendicectomy – 47.09	13	0.6
Insertion of cardiac pacemaker – 00.50	12	0.5

Table 18: Number and rate of all listed surgical procedures for discharged patients by selected surgical procedures

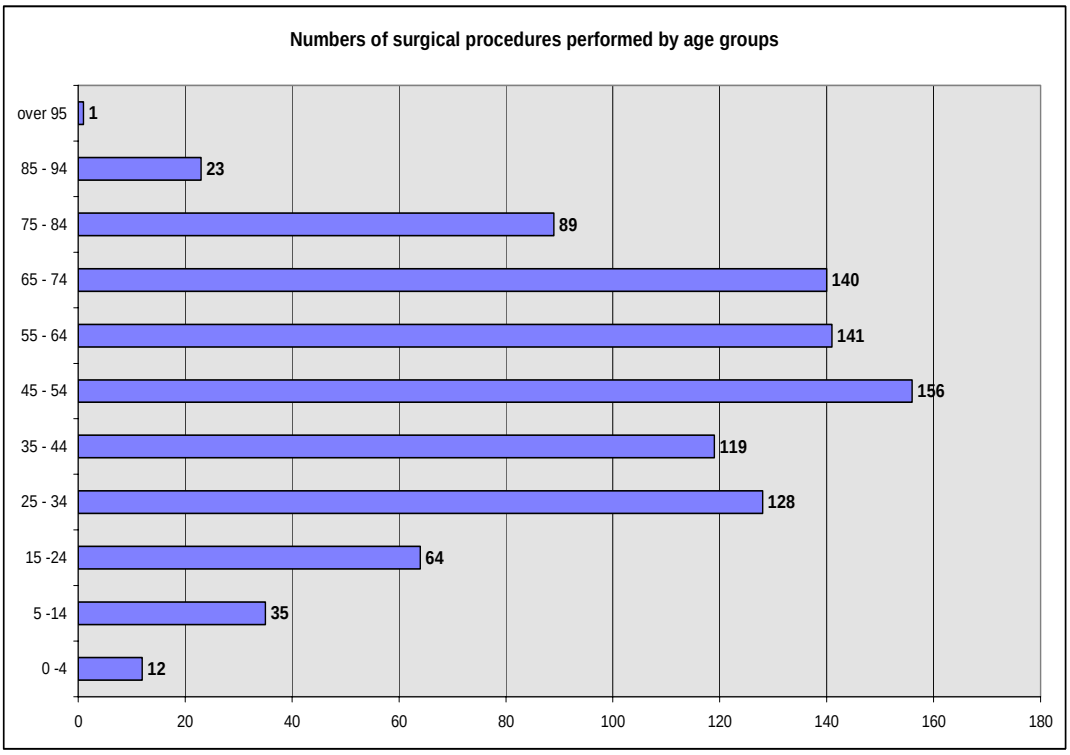
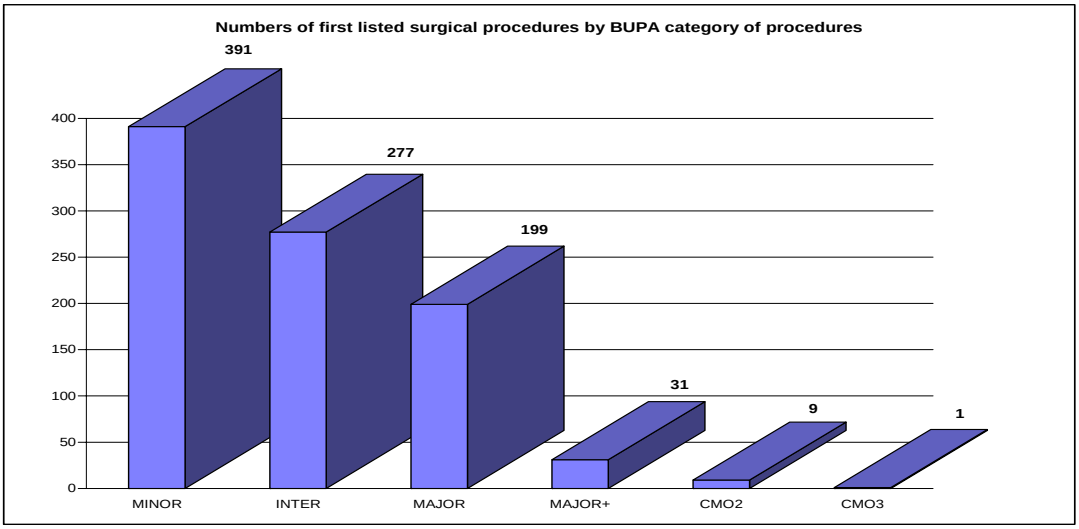


Chart X: Numbers of main/first listed surgical procedures by age groups (years)

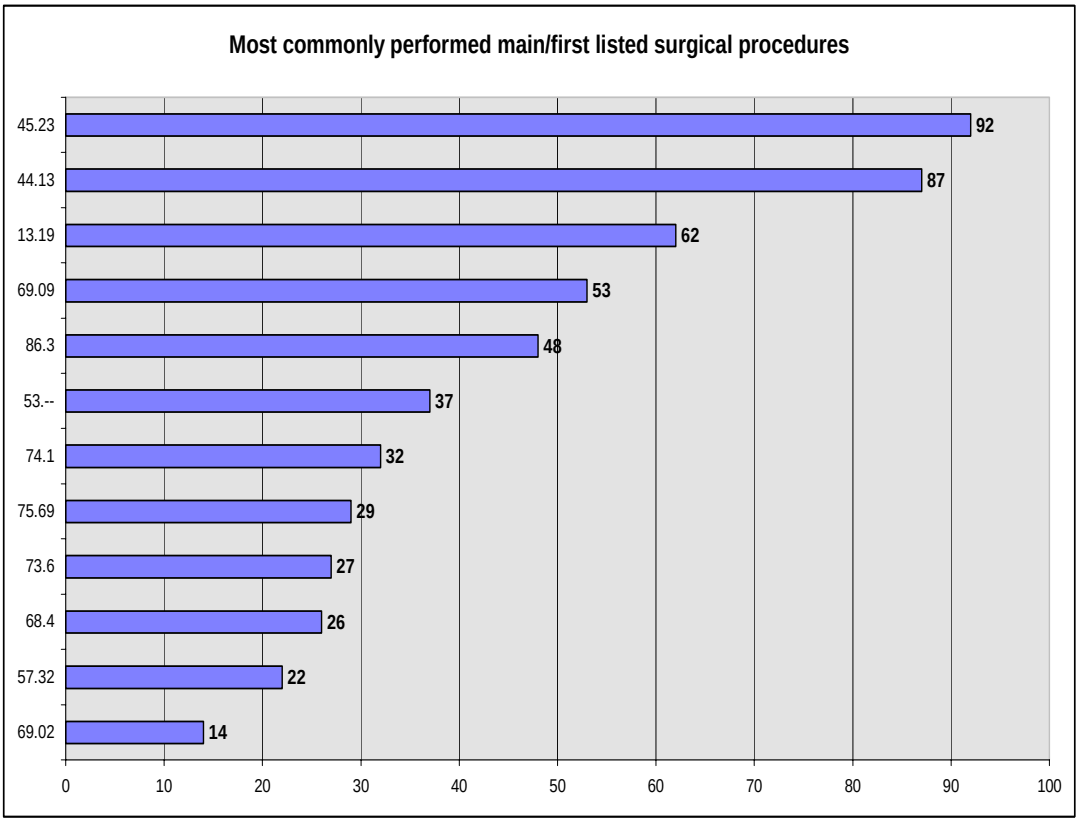
Main/first listed surgical procedures by category of operation/procedure are depicted in the following chart.



Categories are according to BUPA lists of procedures i.e. minor, intermediate, major, major+, complex major 1 (CMO1), complex major 2 (CMO2), complex major 3 (CMO3).

Chart XI: Numbers of main/first listed surgical procedure by category of procedure

Chart XII shows the most common surgical procedures, listed as the main procedure, carried out from July to December 2004.

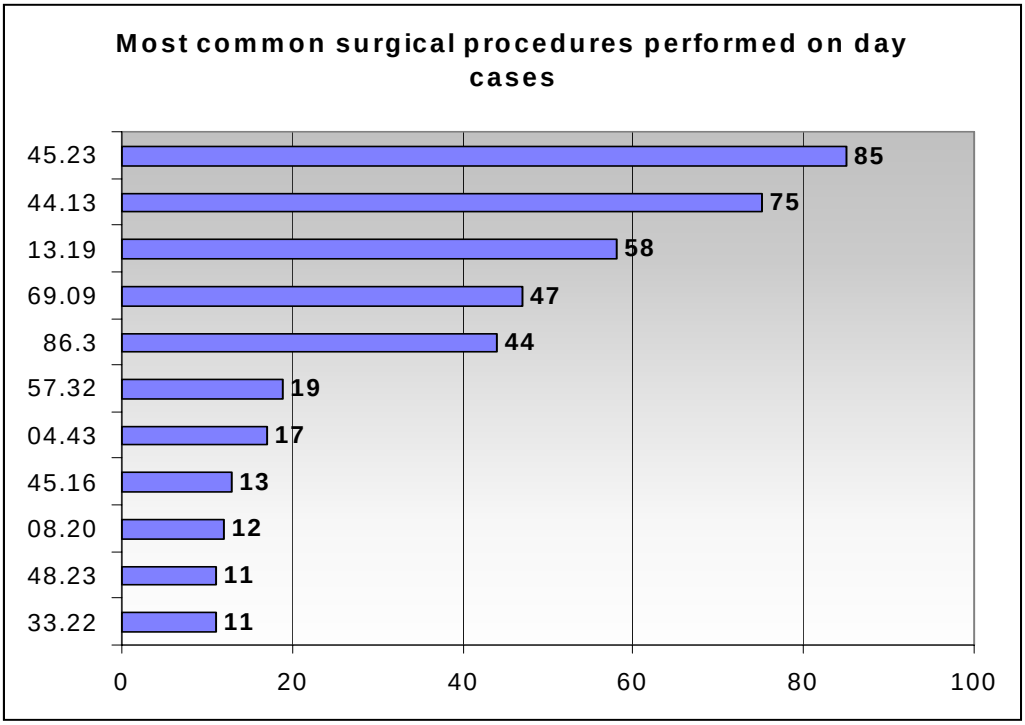


ICD9 CM code: 45.23: Colonoscopy, 44.13: gastroscopy, 13.19: cataract extraction, 69.09: Other dilatation& curettage (D&C), 86.3: local excision of lesion of skin &subcutaneous tissue, 53.--: various hernia repairs (inguinal, umbilical, incisional), 74.1: lower segment Caesarean section, 75.69: repair of current obstetric laceration, 73.6: episiotomy & repair, 68.4: total abdominal hysterectomy, 57.32: other cystoscopy, 69.02: evacuation of retained products of conception (ERPC)

Chart XII: Most common first listed surgical procedures (diagnostic/therapeutic) performed

Day case surgical procedures

Out of a total of 542 day cases, 495 or 91.3% of day care patients had a diagnostic or therapeutic main surgical procedure recorded in the database. The most common surgical procedures performed on day cases are shown schematically in chart XIII.



ICD9 CM code: 45.23: colonoscopy, 44.13: gastroscopy, 13.19: cataract extraction, 69.09: dilatation & curettage (D&C), 86.3: local excision of lesion of skin & subcutaneous tissue, 57.32: other cystoscopy, 04.43: release of carpal tunnel, 45.16: oesophagogastroduodenostomy (OGD), 08.20: removal of lesion of eyelid, 48.23: proctosigmoidoscopy, 33.22: bronchoscopy.

Chart XIII: Most common surgical procedures performed on day cases

The numbers of surgical procedures performed on day cases are shown, broken down by category according to the BUPA schedule of procedures, in the following chart (Chart XIV).

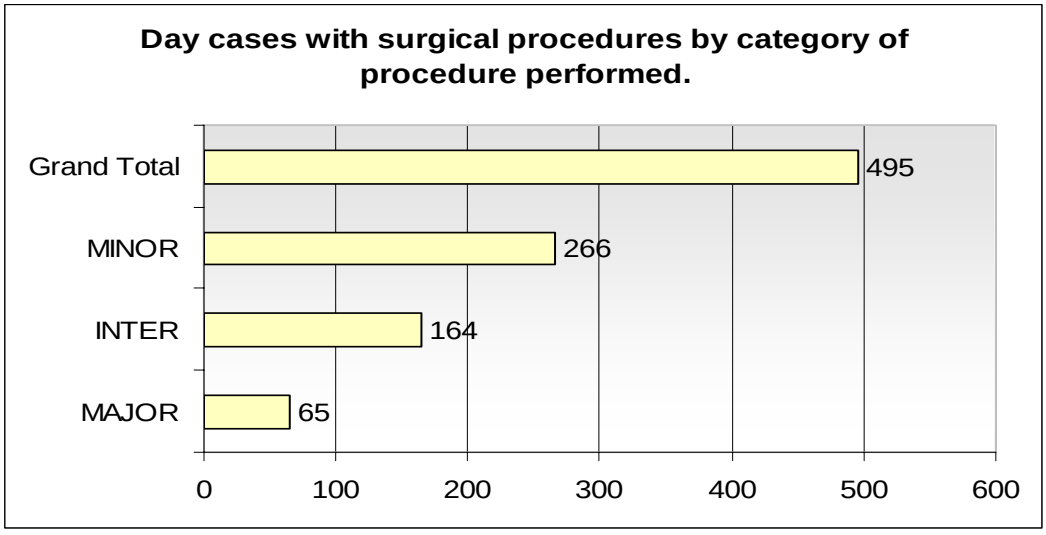
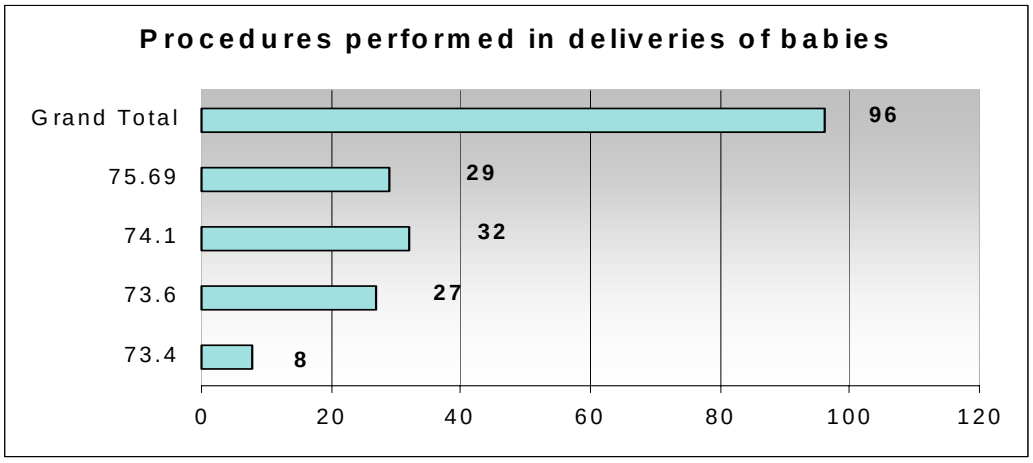


Chart XIV: Surgical procedures on day cases by category of procedure

Other considerations

Three common obstetric procedures i.e. episiotomy and repair, Caesarean section, and repair of obstetric laceration, accounted for 9% of all surgical procedures performed. 32 Caesarean sections were performed; of these 31 were elective procedures and 11 were emergency sections. The rate for Caesarean section per 100 deliveries was 24.6 (%). There were 27 episiotomies and 29 lacerations per 100 vaginal deliveries.

The numbers of obstetric procedures performed are depicted in chart XV.



73.4: Medical Induction of labour, 73.6: Episiotomy & repair, 74.1: lower segment Caesarean section , 75.69: repair of current obstetric laceration

Chart XV: Surgical and non surgical Obstetric procedures performed

Surgical procedures on the female genital tract and organs, excluding obstetric procedures, made up 118 or 12% of all surgical procedures. These included pelvic floor repair, hysterectomy, hysterectomy with bilateral salpingo-oophorectomy, diagnostic D&Cs, evacuation of retained products of conception (ERPC) and procedures on the cervix.

Surgical procedures on the digestive system amounted to 295 (30%) including diagnostic and screening endoscopies. The most common surgical operations performed on the digestive system were inguinal hernia repair, umbilical hernia repair and exploratory laparotomy. They accounted for 4.7% of all surgical procedures performed throughout the period considered in this report.

84 operations on the musculo-skeletal system were recorded. These made up 8.5% of all surgical procedures performed. They included reduction of fractures and fixation (26), removal of implanted devices (K wires etc.) from bone (6), six knee replacements, three partial or total hip replacements, six operations on tendons or tendon sheaths and eleven amputations.

There were 28 operations on the nose, mouth and pharynx. These included tonsillectomy, with or without adenoidectomy, and adenoidectomy (13 operations), and six operations involving surgical dental extraction and surgical restoration of teeth by filling.

Non surgical procedures.

A total of 125 non-surgical procedures are recorded on the database. 45 of these were performed on day care patients. 43 procedures were carried out on males and 82 were carried out on females.

These episodes include 37 patients admitted for various diagnostic X Ray studies and Ultrasound studies (37), 22 patients admitted for blood transfusion, 32 patients admitted for infusion of therapeutic or prophylactic substances and 9 patients admitted for cardioversion.

Out patients sessions.

There were a total of 41232 out patient episodes at Gozo General Hospital throughout 2004. 11586 appointments involved new cases (referrals) and 29646 were follow-up appointments.

Clinic	New Cases	Follow-up Cases	Total
Medical	790	2613	3403
Diabetic	110	1663	1773
Anti Coagulant (ACC)	19	1194	1213
Schedule V clinic	1522	2083	3605
Neurology Clinic	20	57	77
Asthma Clinic	2	33	35
Pacemaker Clinic	2	226	228
VCC*	5	170	175
Acupuncture Clinic	22	333	355
Dental Clinic	2712	3990	6702
ENT Clinic	694	386	1080
Audiogram Clinic	3	140	143
Speech therapy Clinic	113	1351	1464
Psychiatric Clinic	72	1166	1238
Surgical Clinic	944	1876	2820
Orthopaedics Clinic	653	906	1559
Obs./Gynae. Clinic	636	1420	2056
Dermatology Clinic	464	695	1159
Paediatrics Clinic	254	1281	1535
Podology Clinic	1425	5398	6823
Radiotherapy Clinic	46	665	711
Ophthalmic Clinic	1065	1934	2999
Dietician Clinic	13	66	79
Totals	**11586**	**29646**	**41232**

* *Visiting Consultant Clinic. Also used for "cardiac" patients.*

Table19: Breakdown of out patients appointments for Gozo General Hospital throughout 2004 by clinic and category of appointment

The data in this table does not reside in the NHIS database but was collected from Gozo General Hospital as it was felt that it compliments the picture of overall activity at the hospital.

Appendix

A **hospital** is a licensed establishment primarily engaged in providing medical, diagnostic, and treatment services that include physician, nursing, and other health services to inpatients and the specialised accommodation services required by inpatients. Hospitals may also provide outpatient services as a secondary activity.

Hospitalisation studies give a broad picture of the general health and health care treatment of the population. Hospital episodes may be counted either through admissions or through discharges. The number of hospital discharges is the more commonly used measure of the utilisation of hospital services.

A **patient** is a person who is formally admitted for inpatient care in a hospital.

The number of **hospital episodes** refers to a count of the number of NHIS records submitted by the participating hospital that relate to episodes of hospital care during the current year.

Inpatient care beds accommodate patients who are formally admitted (or 'hospitalised') to an institution for treatment and/or care and who stay for a minimum of one night in the hospital or other institution providing inpatient care.

A **bed-day** is a day during which a person is confined to a bed and in which the patient stays overnight in a hospital.

One-day cases (**day cases**) are defined as patients admitted to and discharged from inpatient treatment on the same calendar day. Day cases are excluded from inclusion in counts of inpatient care beds and bed days as both of these incorporate a patient who stays overnight (even if it is for one night) in hospital in their definition.

Discharge refers to the formal release of a patient by a hospital. It implies the termination of a period of hospitalisation or episode of care by death, or by disposition to place of residence, residential or nursing home, or another hospital. The terms "discharges" or "discharged patients" may be used synonymously.

Discharge rates are expressed by the number of discharges per 100,000 population. However for local purposes, rates are expressed per 10,000 population in this report.

A **new-born** baby is a patient admitted by birth to a hospital.

Average length of stay (ALOS) is calculated by dividing the number bed days by the number of separations (discharges including deaths) during the

year. The latter will include day cases. The calculated ALOS may thus be biased depending on the relative proportion of day cases.

The **number of bed-days** used is the total amount of use that has been made of beds during the period under study. It is in fact the sum of the occupied bed counts.

The **average daily bed occupancy** refers to the mean number of patients occupying a bed per day. It is calculated by dividing the number of hospital days by the number of days in the period being studied.

The average **Percentage bed occupancy rate** is the percentage of available bed-days that were actually used during the period. Calculation here requires dividing the number of used or occupied bed days by the product of days of the year or part thereof, and the number of available beds i.e. available bed days, multiplied by a hundred.

The **average turnover** is the mean number of patients that have occupied any one particular hospital bed during the period under consideration. It is usually calculated by dividing the total number of discharges by the average number of available beds.

The **average turnover interval** refers to the mean length of time (in days) that a hospital bed is left empty between successive patients. It is calculated by subtracting the number of bed-days used from the number of bed-days available and then dividing the result by the number of disposals (discharges) during the period.

Care type. This may be:

Acute care:
The clinical intent or treatment goal is to manage labour (obstetric), cure illness or provide definitive treatment of injury, perform surgery, relieve symptoms of illness or injury (excluding palliative care), reduce severity of an illness or injury, protect against exacerbation and/or complication of an illness and/or injury which could threaten life or normal function, perform diagnostic or therapeutic procedures

Rehabilitative care:
This is care in which the clinical intent or treatment goal is to improve the functional status of a patient with an impairment, disability or handicap. It is usually evidenced by a multi-disciplinary rehabilitation plan comprising negotiated goals and indicative time frames which are evaluated by a periodic assessment using a recognised functional assessment measure.

Palliative care:
This is care in which the clinical intent or treatment goal is primarily quality of life for a patient with an active, progressive disease with little or no prospect of

cure. It is usually evidenced by an interdisciplinary assessment and/or management of the physical, psychological, emotional and spiritual needs of the patient; and a grief and bereavement support service for the patient and their carers/family.

Geriatric evaluation and management:
This is care in which the clinical intent or treatment goal is to maximise health status and/or optimise the living arrangements for a patient with multi-dimensional medical conditions associated with disabilities and psychosocial problems, who is usually (but not always) an older patient.

Psychogeriatric care:
This is care in which the clinical intent or treatment goal is improvement in health, modification of symptoms and enhancement in function, behaviour and/or quality of life for a patient with an age-related organic brain impairment with significant behavioural or late onset psychiatric disturbance or a physical condition accompanied by severe psychiatric or behavioural disturbance.

Mental health care (Psychiatric care)
This is care restricted to admitted patients receiving care in psychiatric hospitals or in designated psychiatric units in acute hospitals.

Maintenance care
This is care in which the clinical intent or treatment goal is prevention of deterioration in the functional and current health status of a patient with a disability or severe level of functional impairment. It involves care when it has been established that the patient does not require further complex assessment or stabilisation, and requires care over an indefinite period. This care includes that provided to a patient who would normally receive care in another setting e.g. at home, or in a residential aged care service, by a relative or carer, that is unavailable in the short term. Many of the “social” cases in local state hospitals fall into this category.

New-born care
This is initiated when the patient is born in hospital or is nine days old or less at the time of admission. New-born care continues until the care type changes or the patient is discharged.

Persons with mental illness may receive any one of the care types (except new-born care). Classification then depends on the principal clinical intent of the care received.

A **procedure** is a surgical or non surgical process, diagnostic procedure, or special treatment reported on the medical record of a patient.

Discharges with procedures refer to the number of patients discharged from hospital during the period of the report who underwent at least one procedure during their hospitalisation.

All listed procedures refer to the number of procedures listed on the patient's medical record sheet. Non-surgical procedures are usually not considered to be surgical operations. They include radiography, radiotherapy, physical medicine and rehabilitation procedures. Surgical operations include all the procedures, which are not listed with "non-surgical procedures". Some centres do not consider diagnostic endoscopies as surgical operations.