Operations Directorate

Hawke's Bay clinical services planning

28 July 2017

sapere research group

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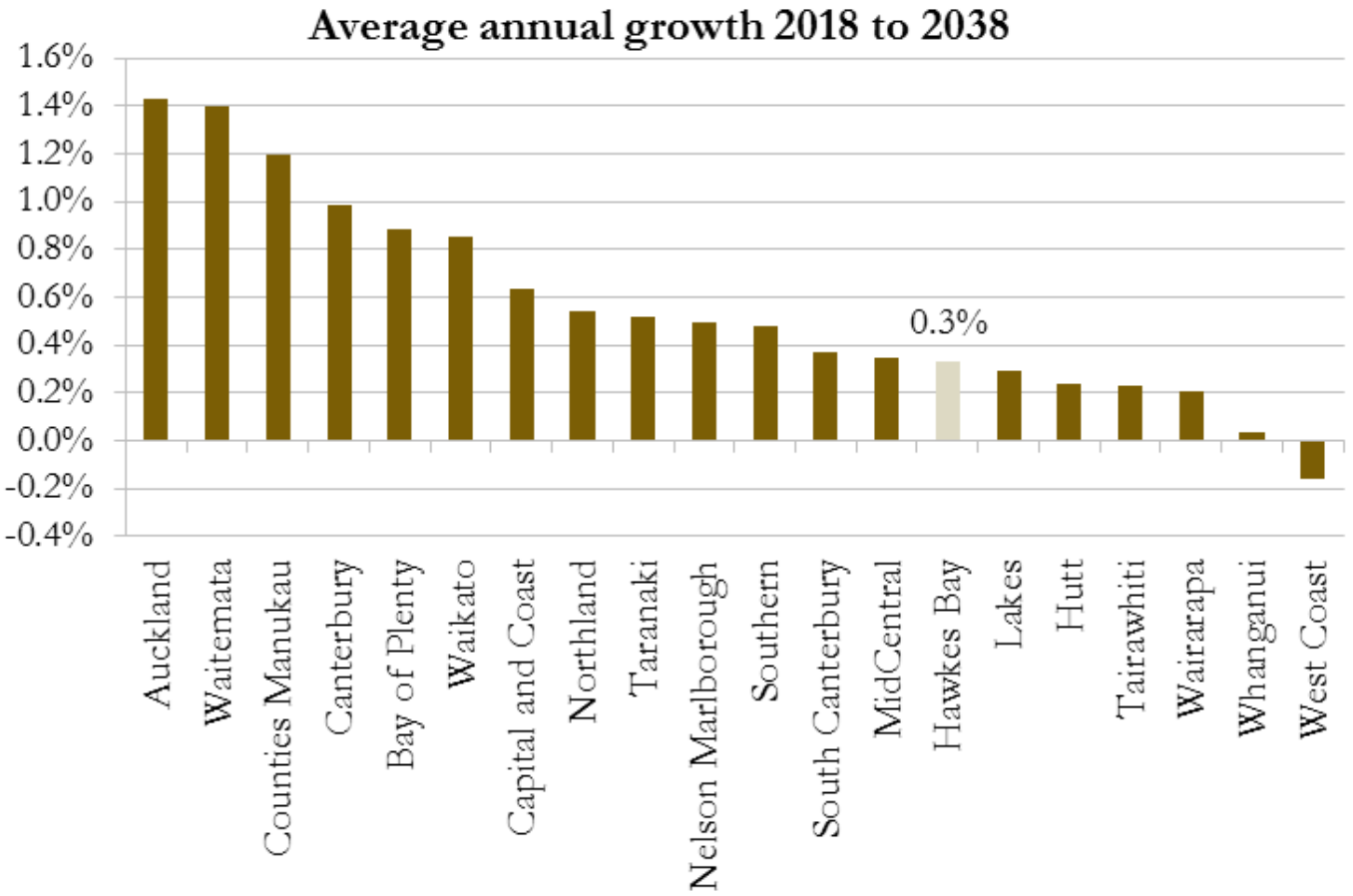
Important note: The information in this pack is draft and subject to change. The information may be subject to artefacts of data collection, coding and extraction, and requires the involvement of informed clinicians, analysts and service managers for meaningful interpretation.

The aim of this pack is to present raw information to clinicians and service managers for interpretation, commentary, and as a starting point for further analysis. This is a working document which will develop in light of clinical input, and as further service development questions and sources of information arise.

Minimal population growth over the next 20 years



Source: Projections produced by Statistics New Zealand according to assumptions specified by the Ministry of Health (2016)

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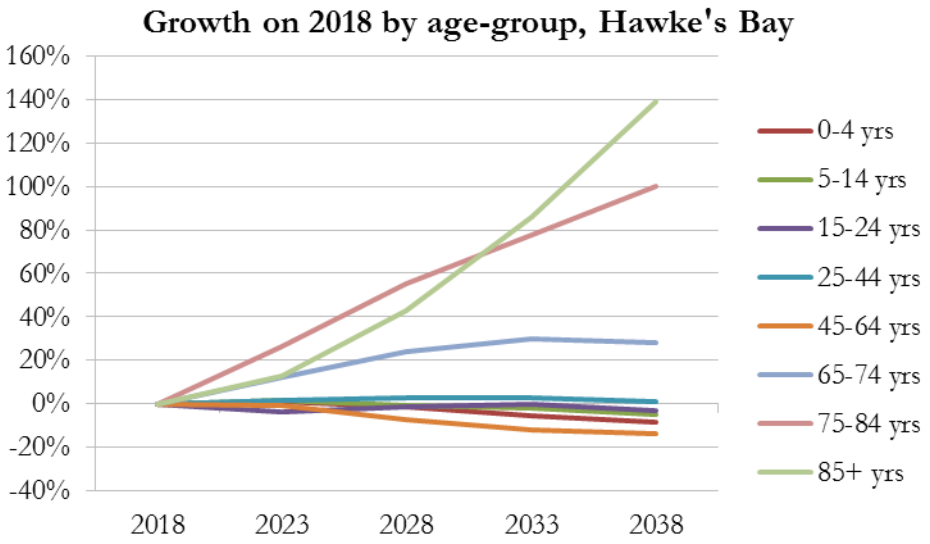
2630 fewer children & young people under 25 yrs
5520 fewer working age adults 25-64 yrs
19,350 more adults 65+ yrs

Projected population of Hawke's Bay

Age group	2018	2023	2028	2033	2038
0-4 yrs	11,150	11,230	10,970	10,540	10,190
5-14 yrs	23,550	23,860	23,330	23,140	22,450
15-24 yrs	19,410	18,650	19,110	19,340	18,840
25-44 yrs	35,190	35,650	36,180	36,180	35,550
45-64 yrs	43,700	43,300	40,470	38,400	37,820
65-74 yrs	17,550	19,700	21,720	22,770	22,520
75-84 yrs	9530	12,030	14,820	16,930	19,050
85+ yrs	3500	3950	5000	6500	8360
Total	**163,580**	**168,370**	**171,600**	**173,800**	**174,780**

Absolute increase on 2018

Age group	2018	2023	2028	2033	2038
0-4 yrs		80	-180	-610	-960
5-14 yrs		310	-220	-410	-1100
15-24 yrs		-760	-300	-70	-570
25-44 yrs		460	990	990	360
45-64 yrs		-400	-3230	-5300	-5880
65-74 yrs		2150	4170	5220	4970
75-84 yrs		2500	5290	7400	9520
85+ yrs		450	1500	3000	4860
Total		**4790**	**8020**	**10,220**	**11,200**



Source: Projections produced by Statistics New Zealand according to assumptions specified by the Ministry of Health (2016)

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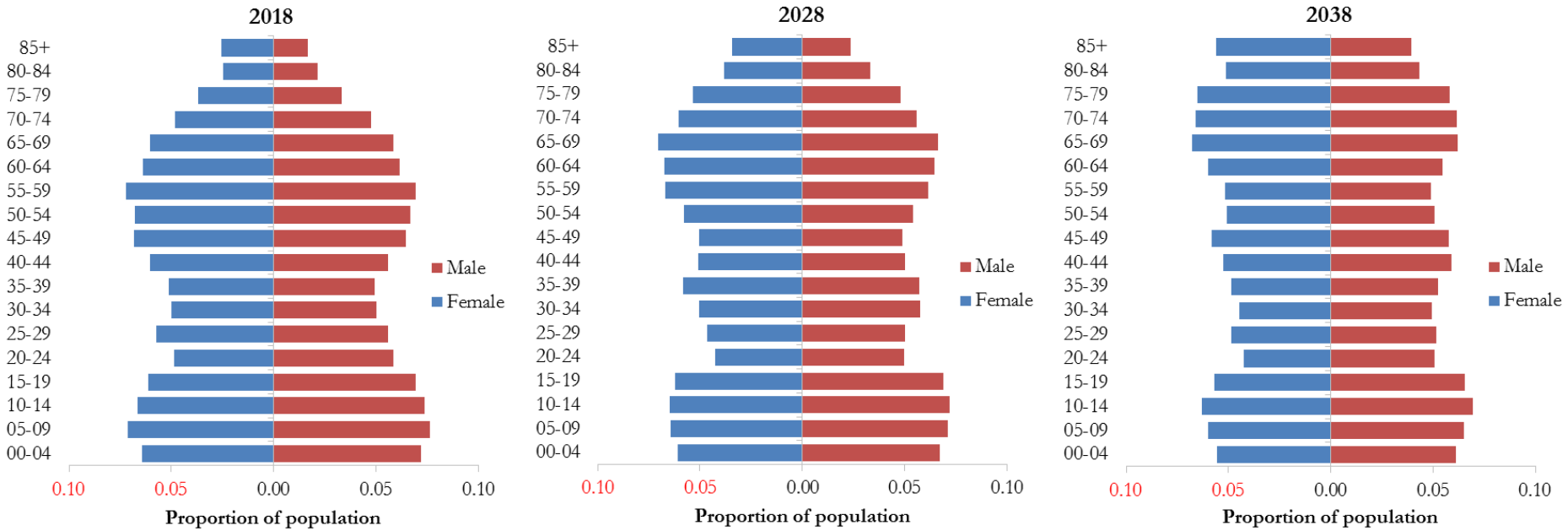
More than 1 in 4 people will be over the age of 65 in twenty years' time



Source: Projections produced by Statistics New Zealand according to assumptions specified by the Ministry of Health (2016)

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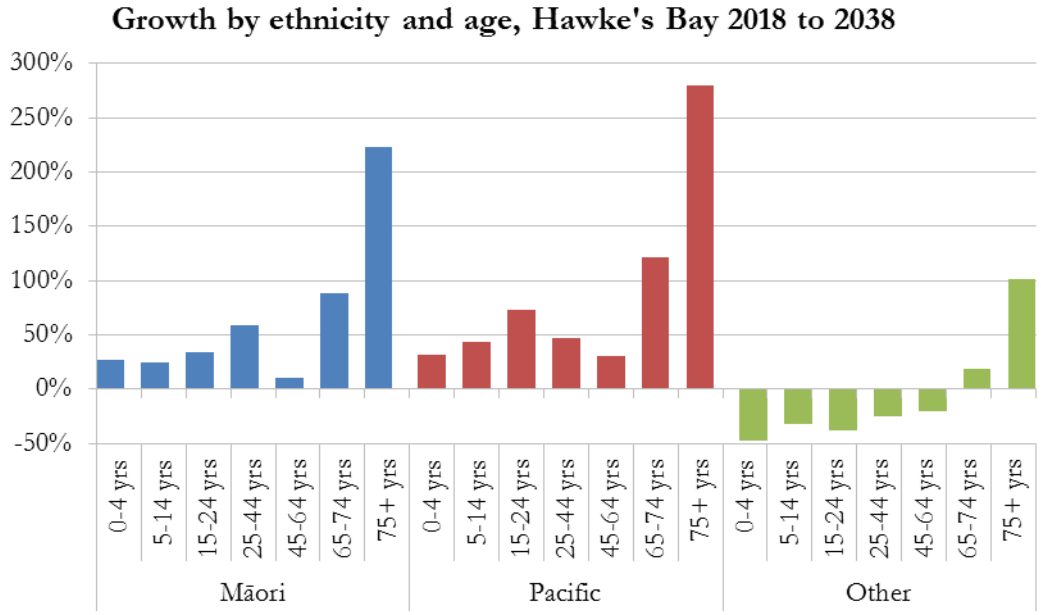
Māori and Pacific populations will grow in all age groups
Māori will make up a third of the population by 2038



	Projected population			Change 2018-2038		
Ethnicity	2018	2028	2038	Absolute growth	Total %	Average annual %
Māori	42,860	50,270	59,230	16,370	38%	1.6%
Pacific	6340	7890	9670	3330	53%	2.1%
Other	114,380	113,440	105,880	-8500	-7%	-0.4%
Total	163,580	171,600	174,780	11,200	7%	0.3%

Source: Projections produced by Statistics New Zealand according to assumptions specified by the Ministry of Health (2016)

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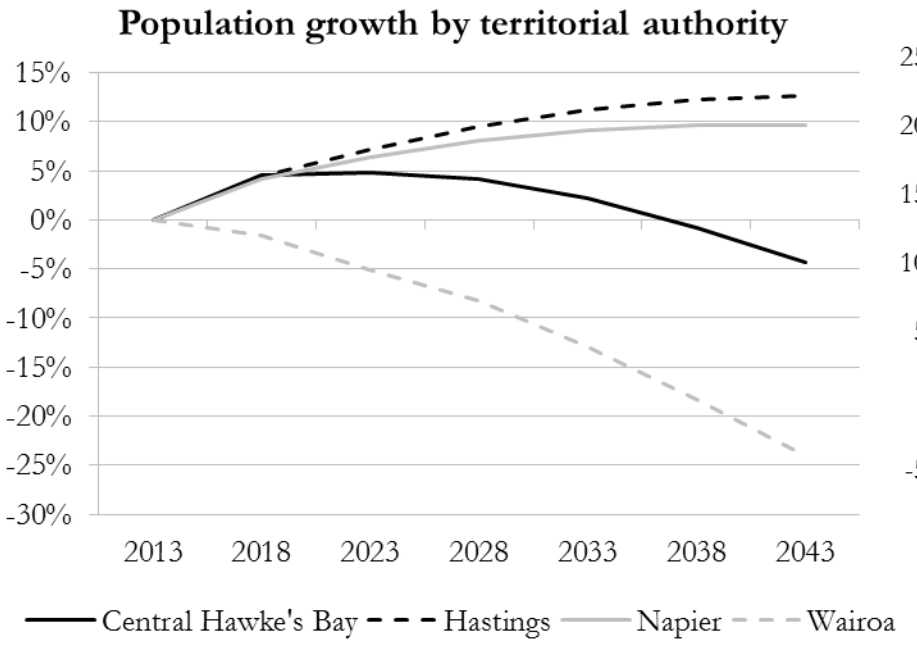
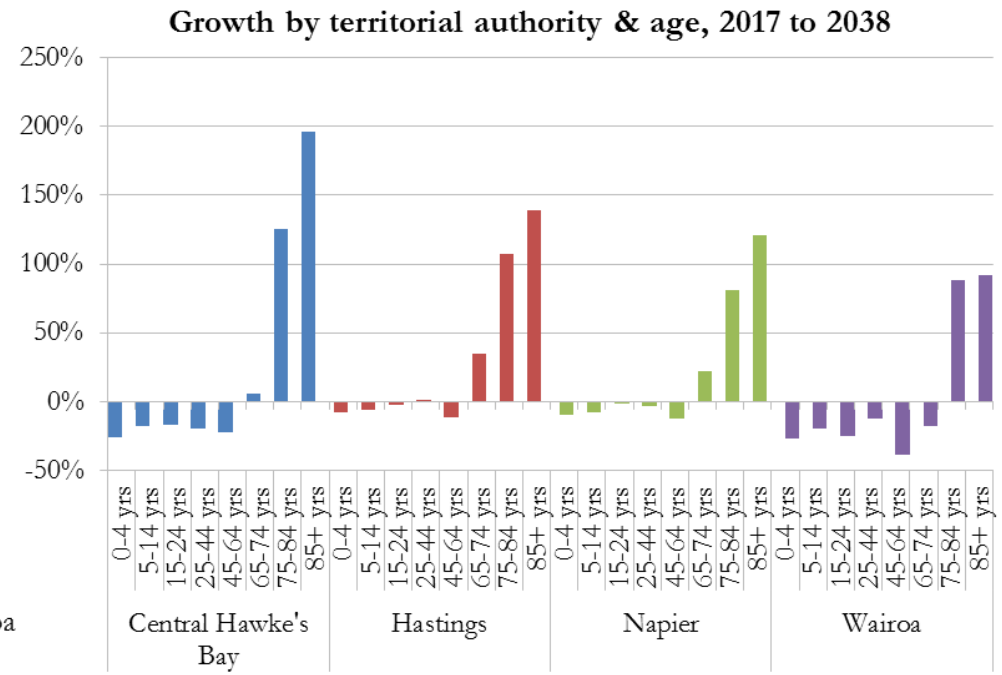
Growth in Hastings & Napier and substantial population decline in Wairoa





Source: Statistics New Zealand sub-national population projections (February 2017)

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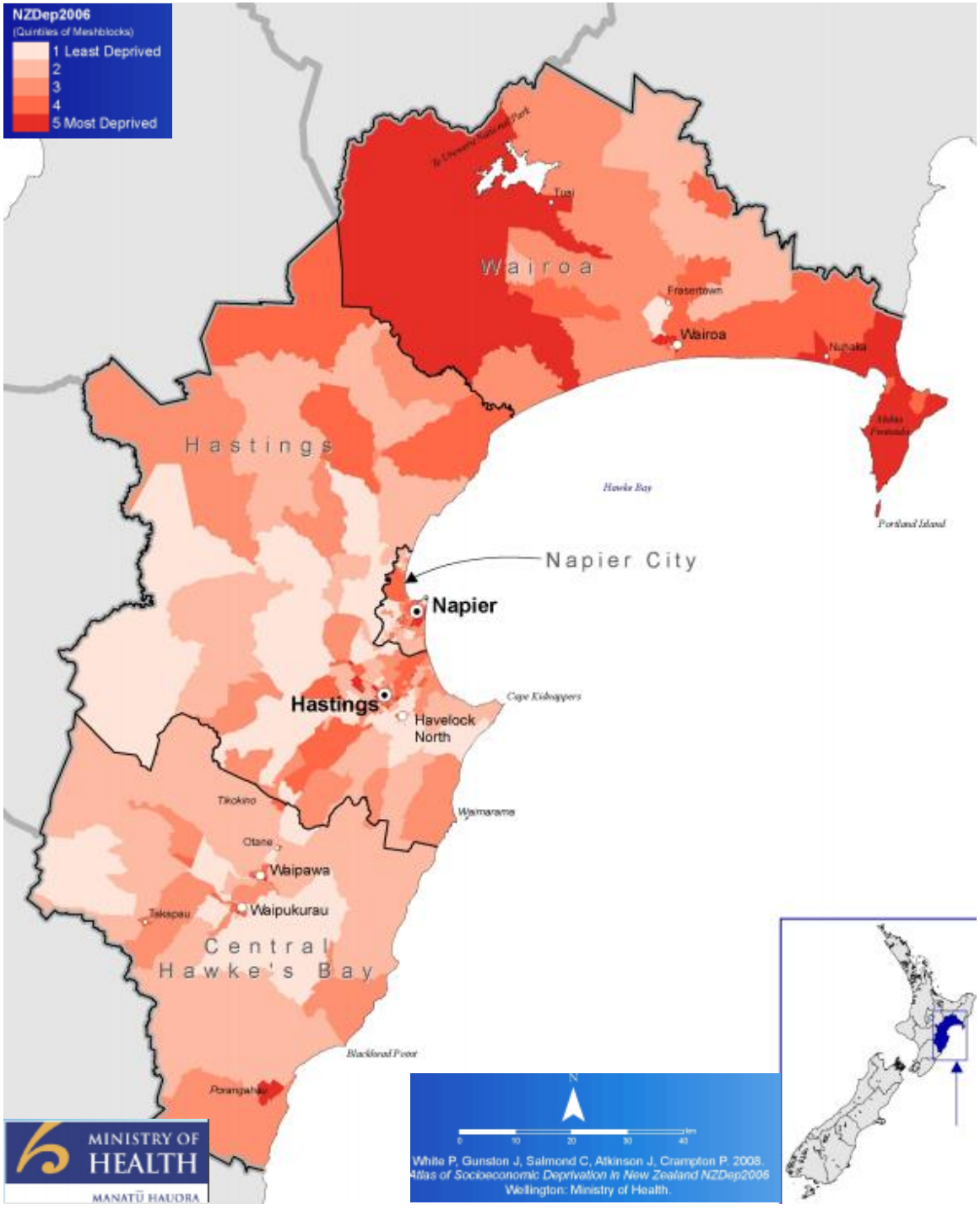

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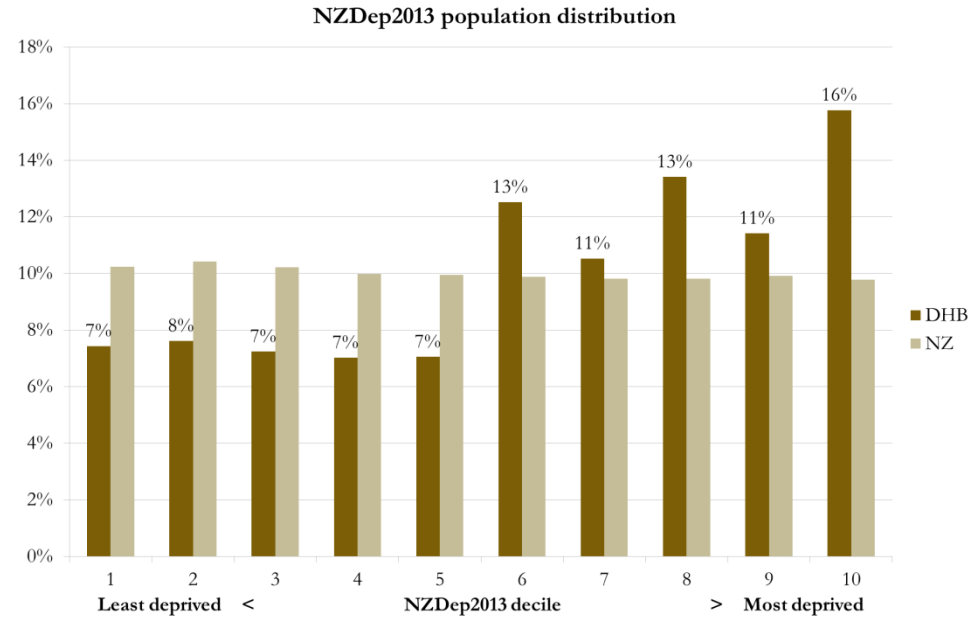
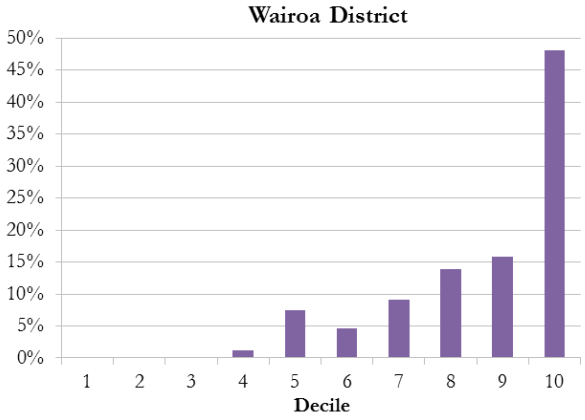
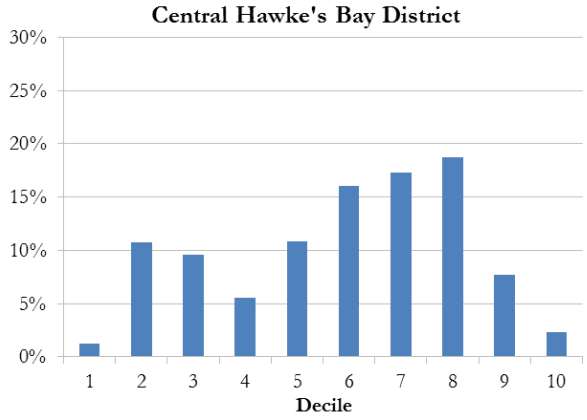
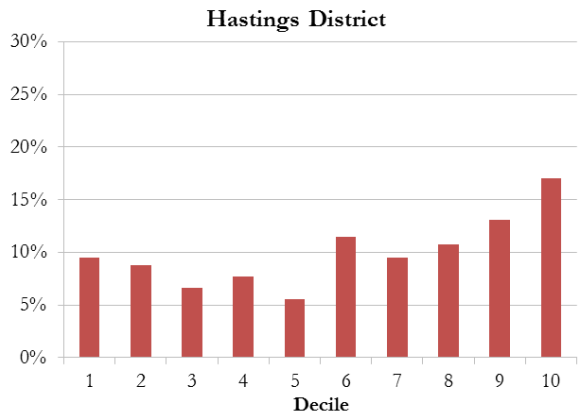
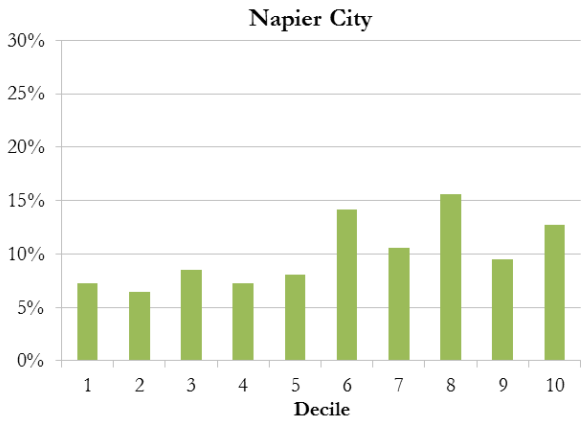
Deprivation profile is mixed across territorial authorities



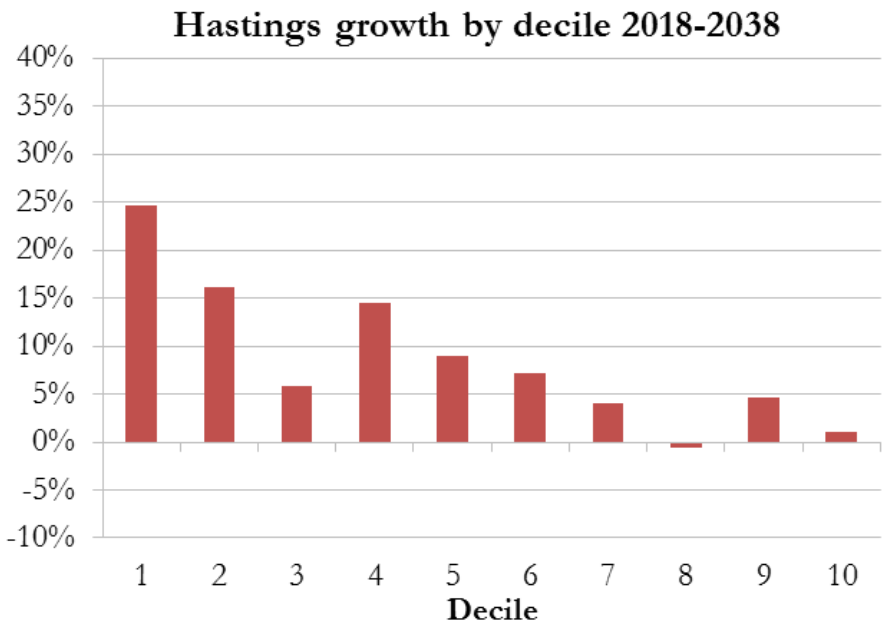


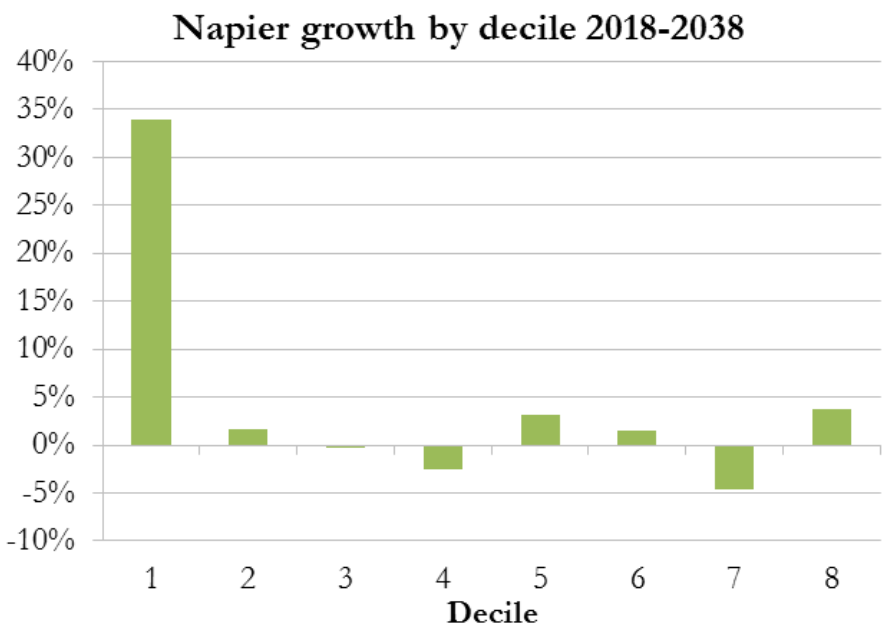






Napier's growth will be in decile 1 areas





Source: Statistics New Zealand sub-national population projections (February 2017)

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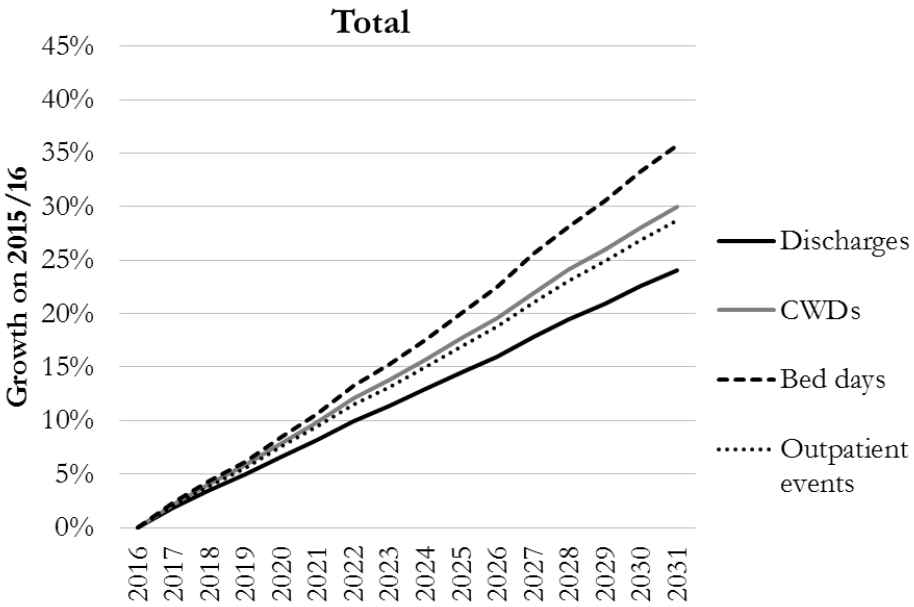
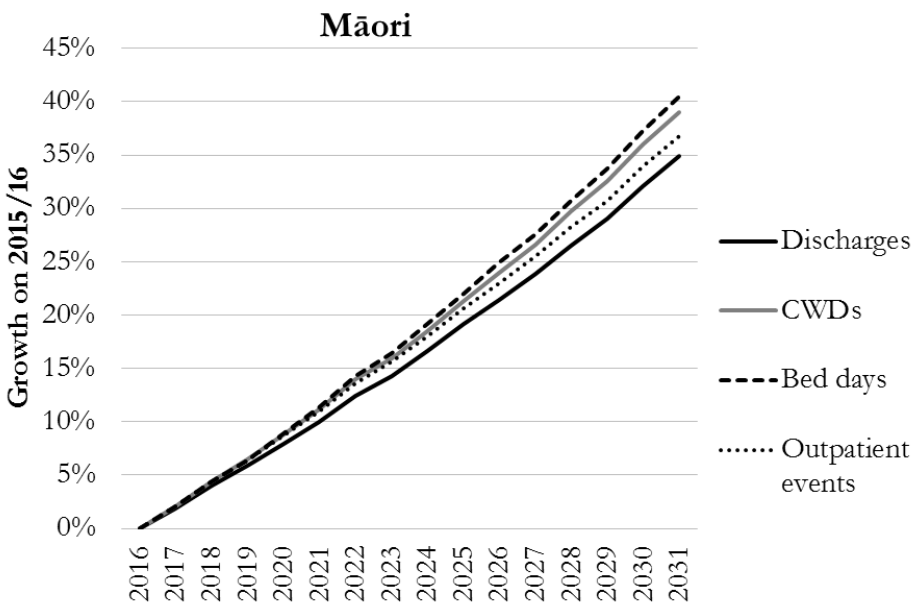
Service volume forecasts

Service volume forecasts

- Demographic forecast with 15/16 data from national collections as the base
- Assumes intervention rates by age, gender, ethnicity remain at the current level
- Applies projected population growth rates by age, gender, ethnicity (from Statistics NZ projections for MOH)
- Events for out of district patients (~3 percent) assumed to grow at the DHB average

Hospital service volume growth





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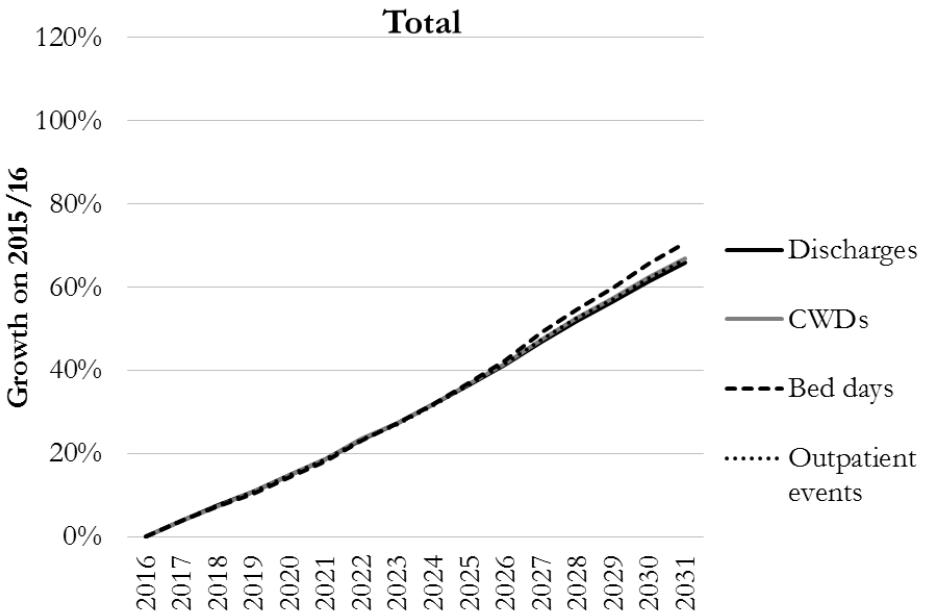
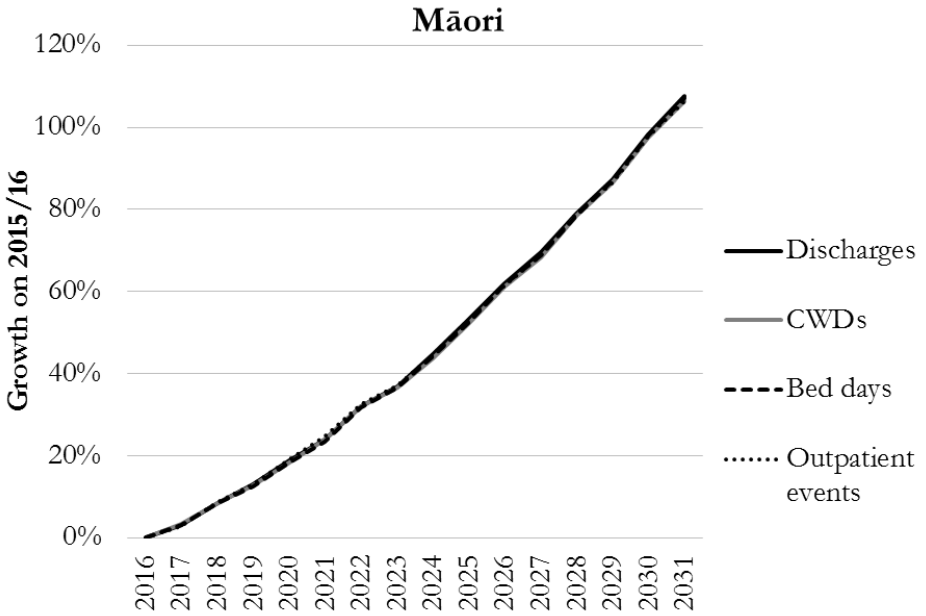
Older adults (65+ years)





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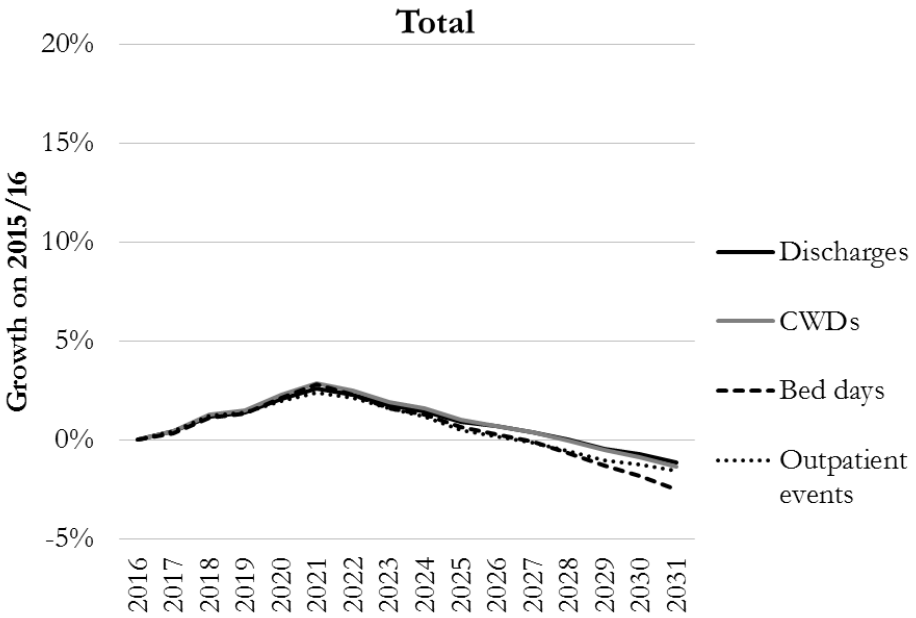
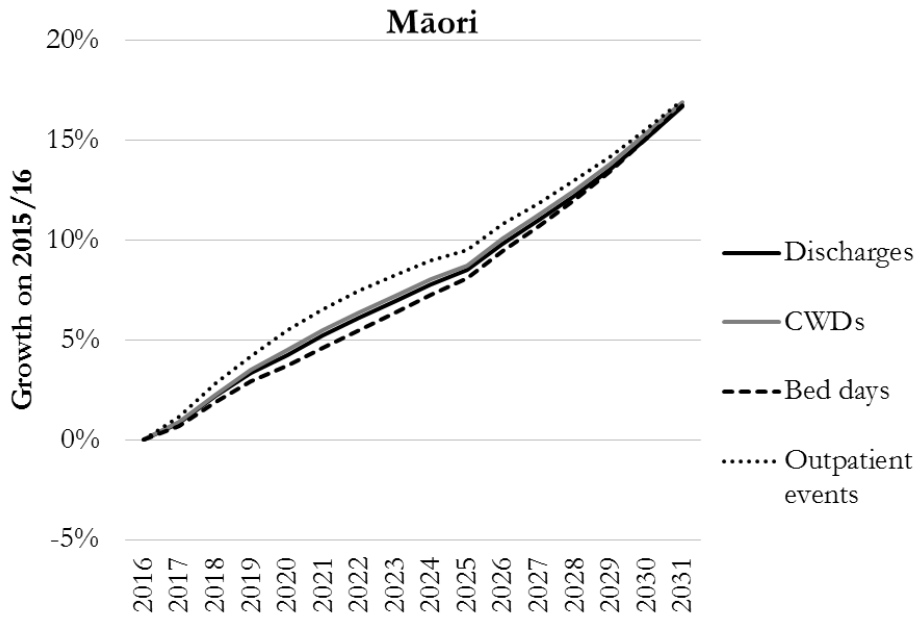
Children (0-14 years)





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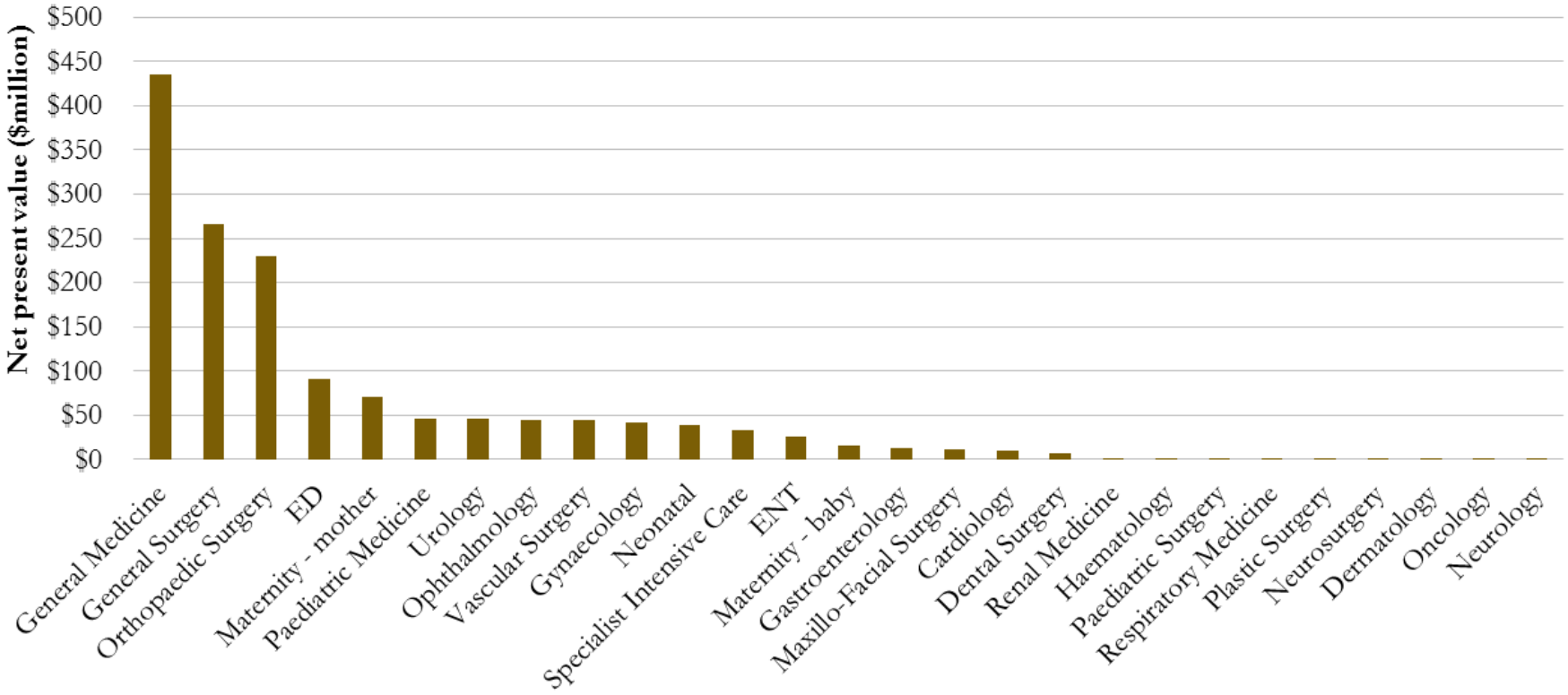
Net present value of inpatient services (casemix) 17/18 to 30/31



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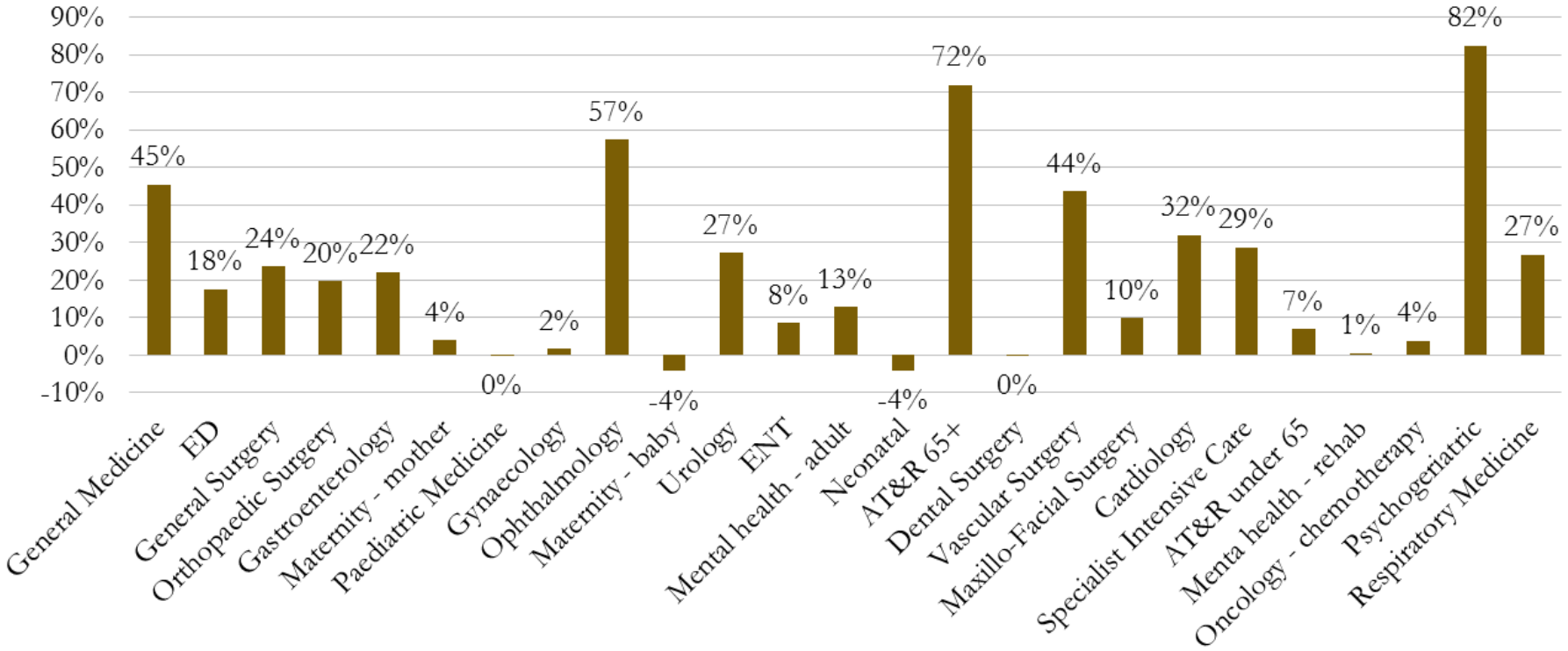
Discharge growth 15/16 to 30/31



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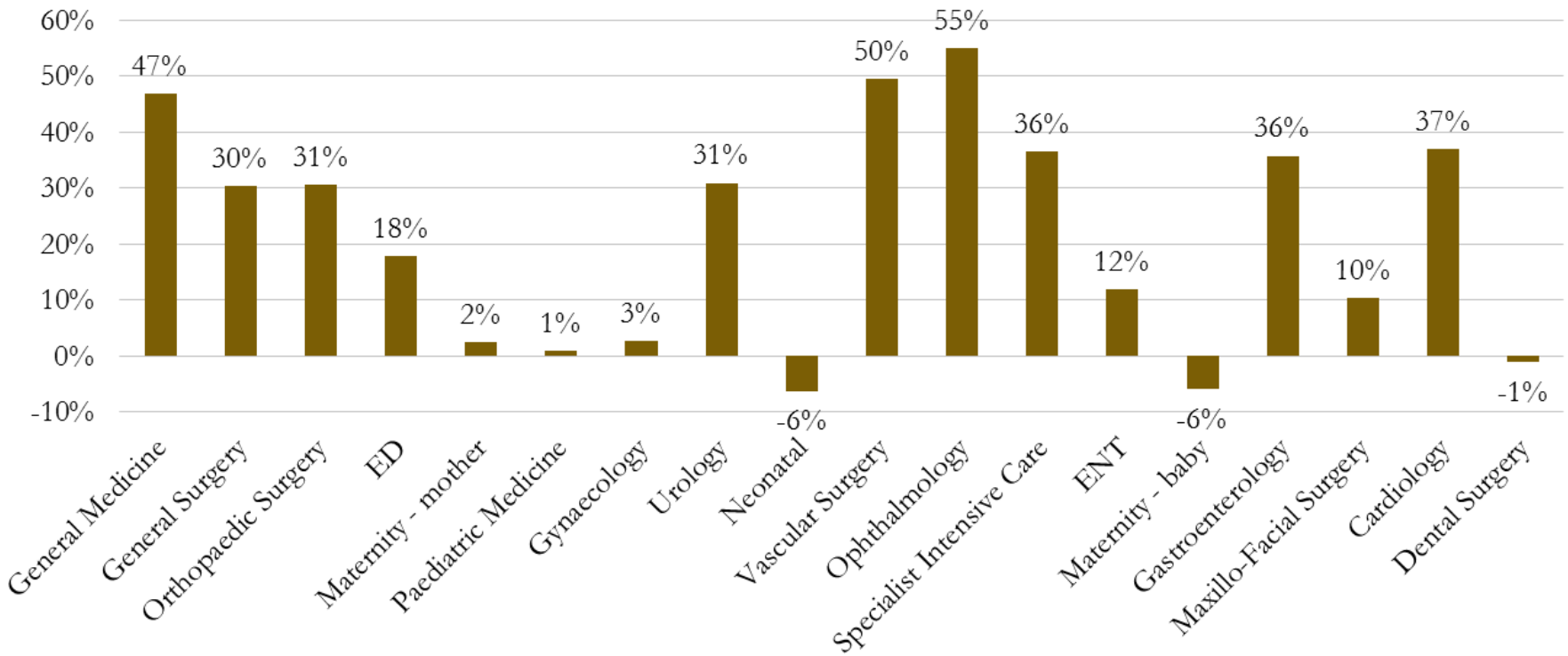
Case-weight growth 15/16 to 30/31



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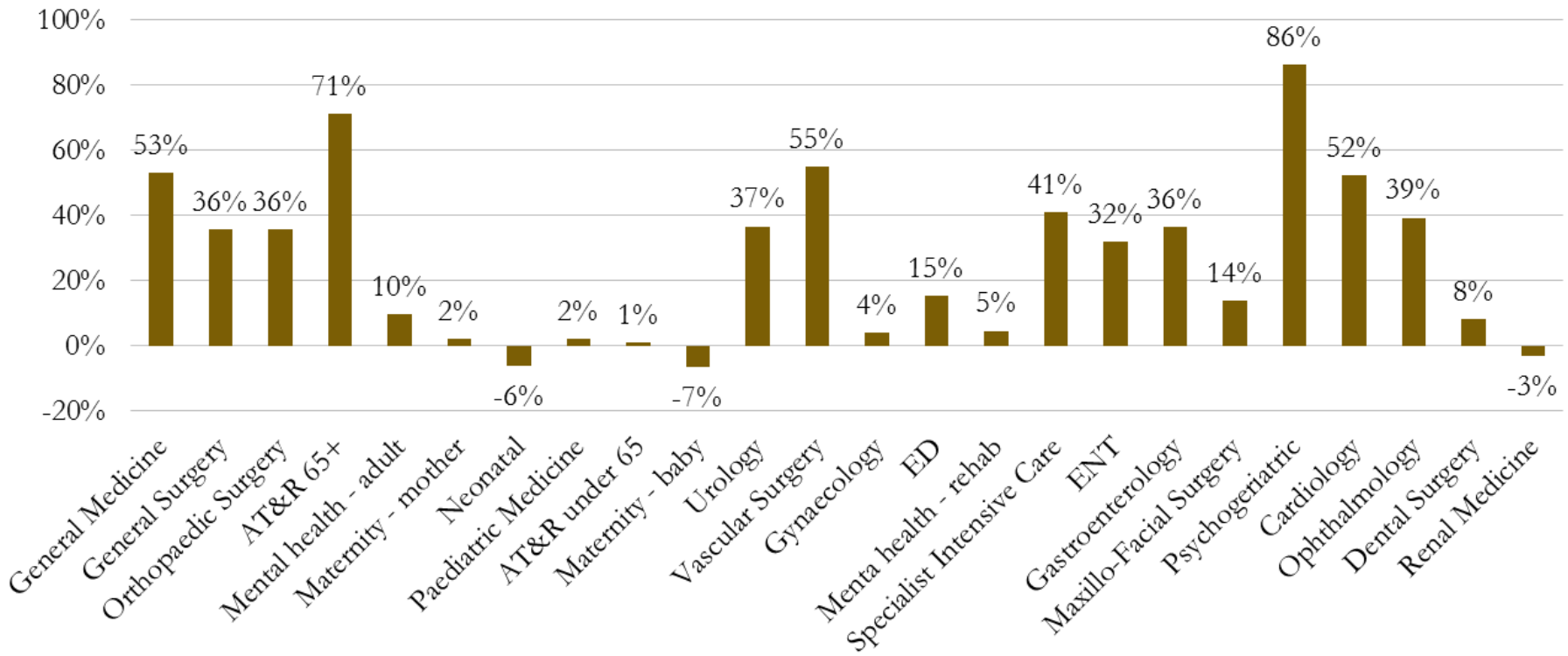
Bed day growth 15/16 to 30/31



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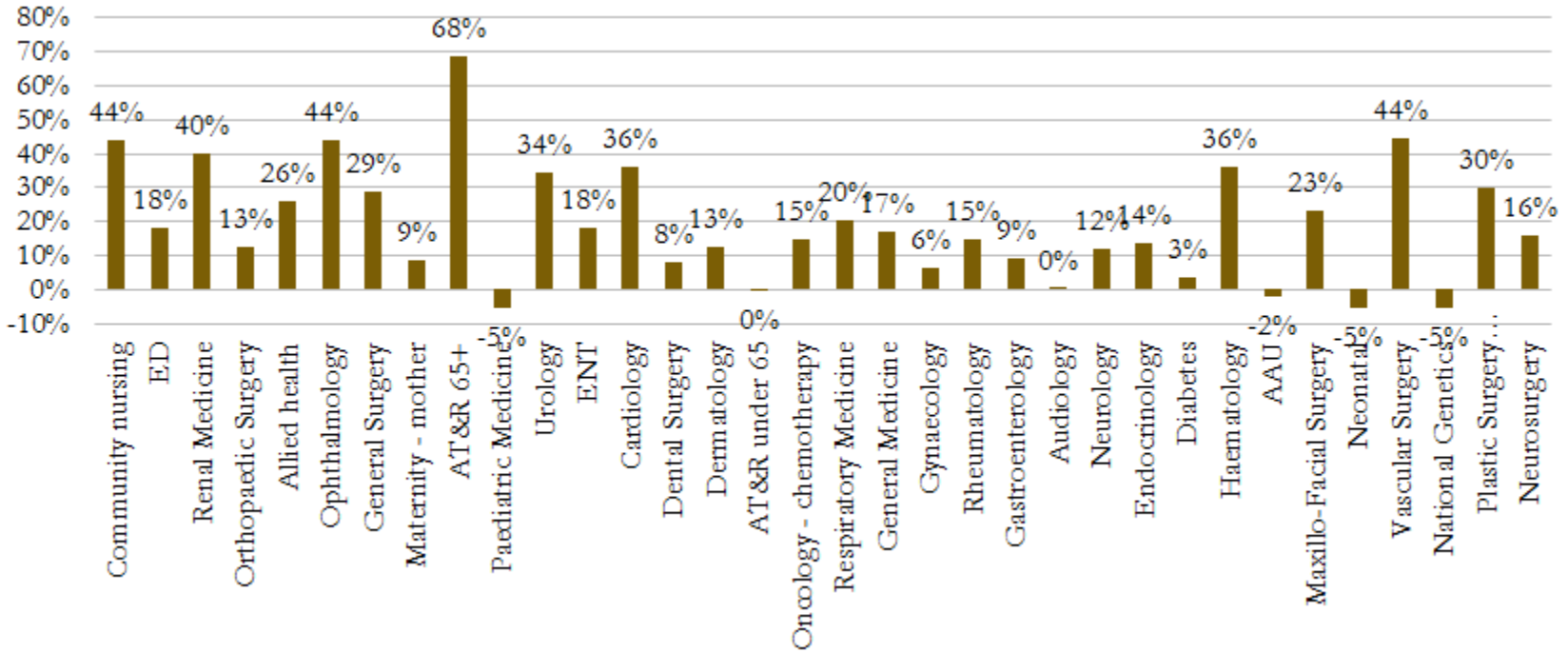
Outpatient growth 15/16 to 30/31



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Health Roundtable

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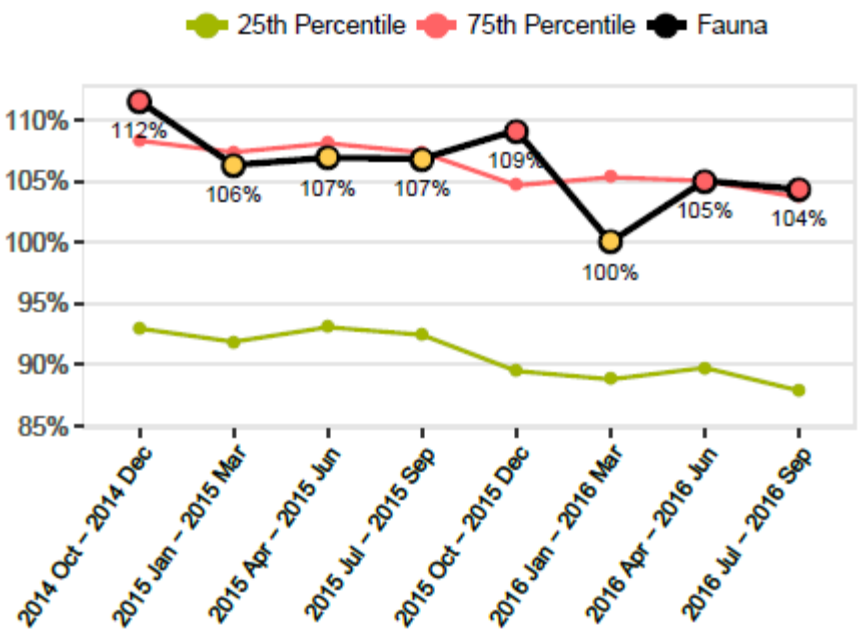
Health Roundtable – acute relative stay index

Comparison with peers (2015 Oct – 2016 Sep)

	Bed days	Expected bed days	
Salus	71,406	88,731	80%
Cougar+	199,510	229,201	87%
Echidna	72,857	80,189	91%
Vega	130,258	143,323	91%
Gemma	96,495	105,924	91%
CCDHB	149,260	160,211	93%
Whangarei	67,802	68,726	99%
DunedinNZ	91,906	92,083	100%
Malibu	112,700	110,349	102%
Frost	144,870	139,303	104%
Fauna	70,862	67,702	105%
Cosmos	131,556	124,529	106%
Orion+	228,177	214,860	106%
BOPDHBTgaNZ	94,148	88,286	107%
Midcentral	84,055	77,501	108%

0% 30% 60% 90%



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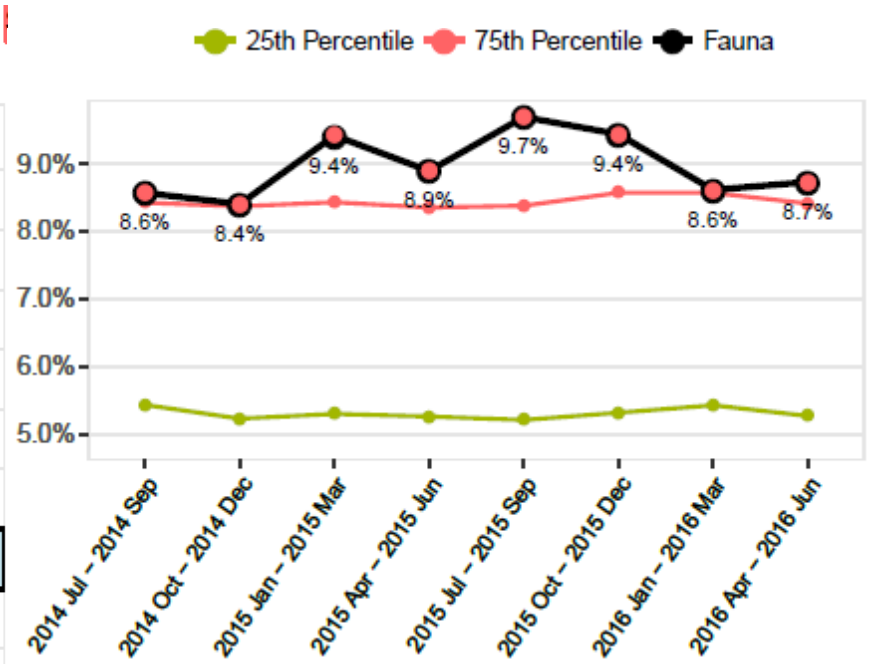
Health Roundtable – 28 day acute readmission rate



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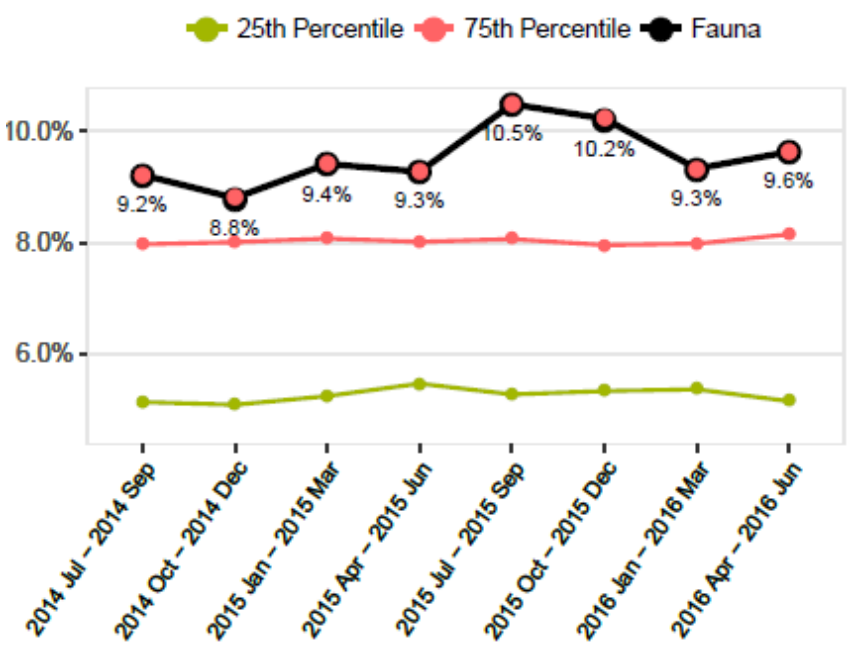
Health Roundtable – 28 day acute readmission (excl short stay)

Comparison with peers (2015 Jul – 2016 Jun)

	Readmissions	Total episodes	
Gemma	953	15,522	6.1%
Echidna	928	15,113	6.1%
Salus	1,247	19,084	6.5%
Cougar+	1,692	24,813	6.8%
Frost	1,789	25,797	6.9%
Orion+	2,867	39,208	7.3%
Whangarei	1,023	13,365	7.7%
CCDHB	2,105	26,859	7.8%
Malibu	1,745	20,965	8.3%
Cosmos	1,870	22,265	8.4%
Midcentral	1,334	15,774	8.5%
DunedinNZ	1,423	16,601	8.6%
Vega	1,862	21,083	8.8%
BOPDHBTgaNZ	1,588	17,072	9.3%
Fauna	1,506	15,176	9.9%

0.0% 2.5% 5.0% 7.5% 10.0%



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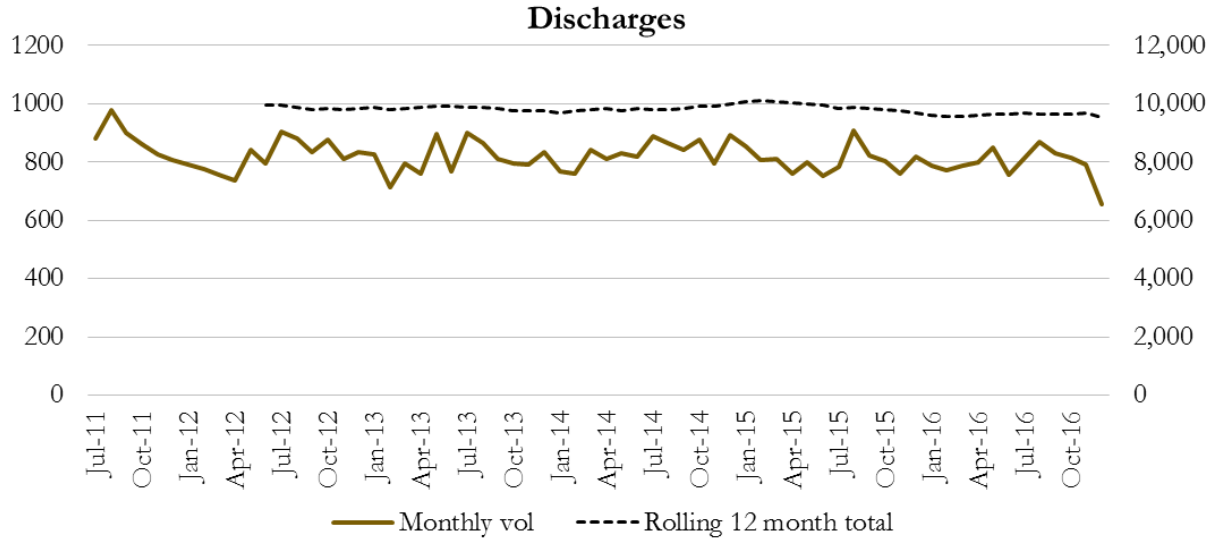
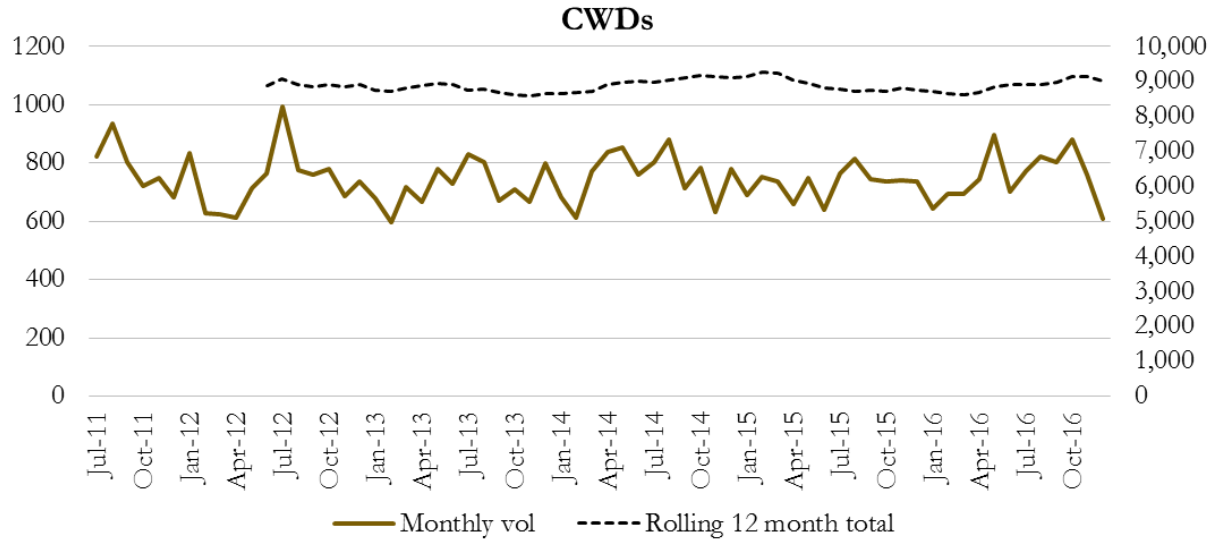
General Medicine

Trend in inpatient volumes





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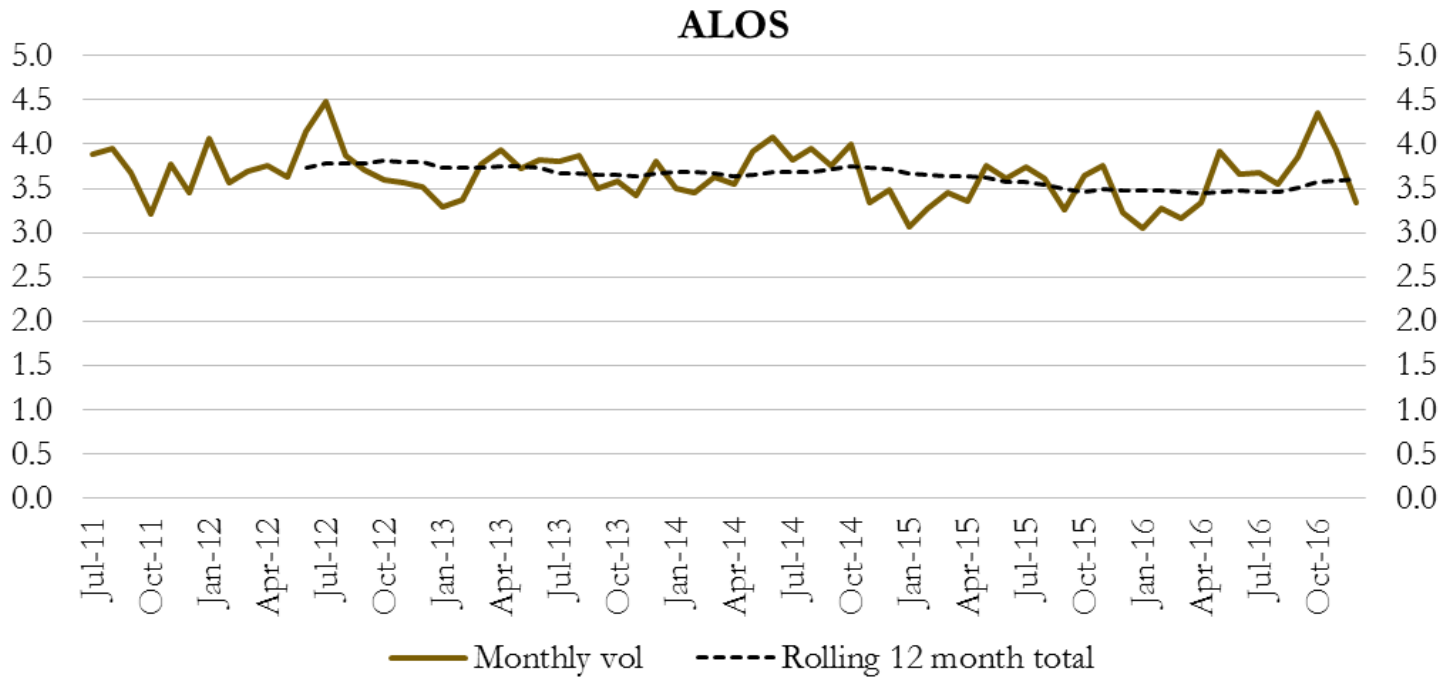
Average length of stay



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Top 10 Diagnostic Related Groups

DRG code	DRG description	2015/16 Events	%
E65B	Chronic Obstructive Airways Disease W/O Catastrophic CC	430	4%
Q61B	Red Blood Cell Disorders W/O Catastrophic or Severe CC	361	4%
F76B	Arrhythmia, Cardiac Arrest and Conduction Disorders W/O Cat or Sev CC	356	4%
F62B	Heart Failure and Shock W/O Catastrophic CC	327	3%
F74Z	Chest Pain	314	3%
F60B	Circulatory Disorders W AMI W/O Invasive Cardiac Inves Pr W/O Catastrophic CC	261	3%
E62B	Respiratory Infections/Inflammations W Severe or Moderate CC	223	2%
R61C	Lymphoma and Non-Acute Leukaemia, Sameday	218	2%
Z63B	Other Surgical Follow Up and Medical Care W/O Catastrophic CC	205	2%
E62C	Respiratory Infections/Inflammations W/O CC	184	2%
Total		**9647**	**100%**

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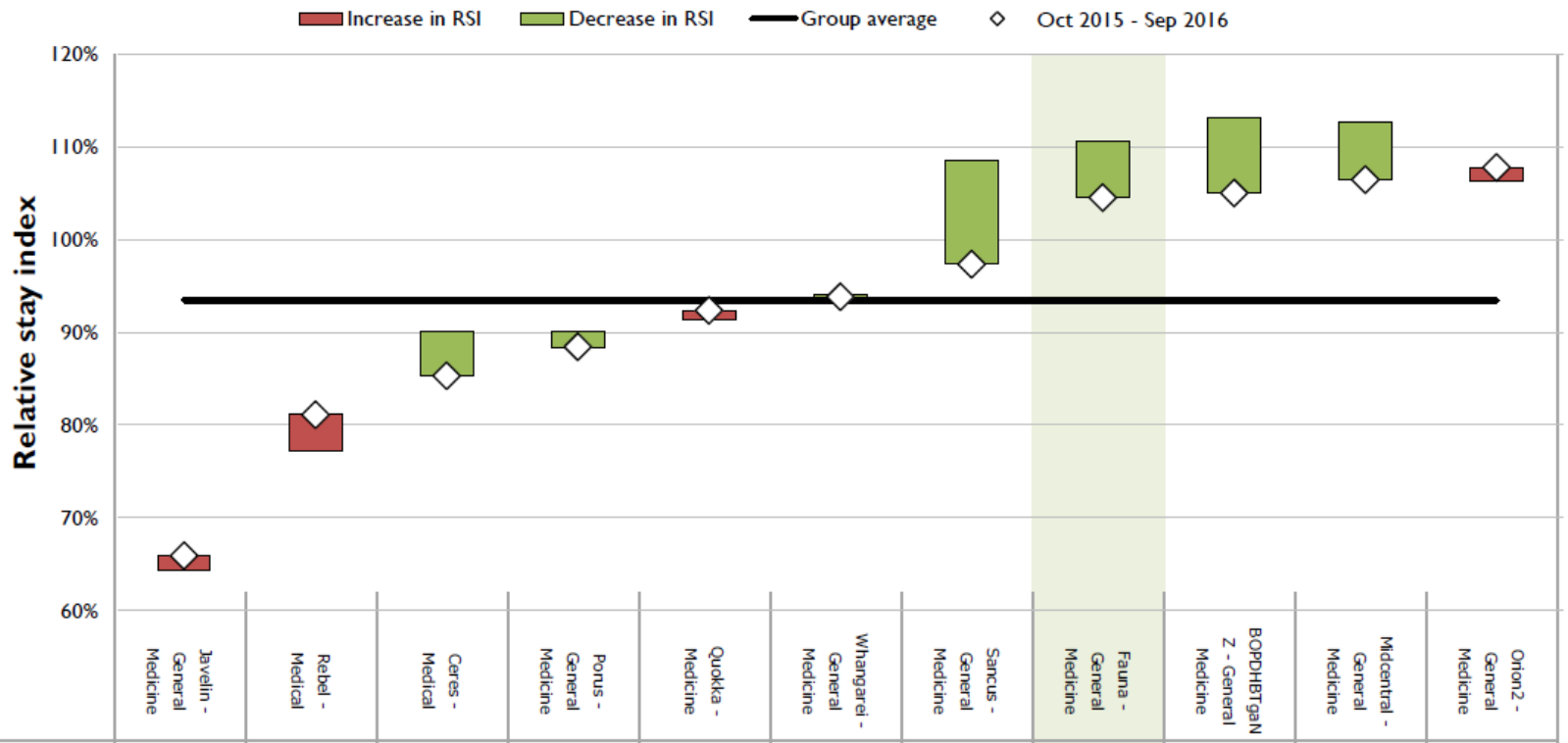
High relative stay index



	Javelin - General Medicine	Rebel - Medical	Ceres - Medical	Porus - General Medicine	Quokka - Medicine	Whangarei - General Medicine	Sancus - General Medicine	Fauna - General Medicine	BOPDHBTgaNZ - General Medicine	Midcentral - General Medicine	Orion2 - General Medicine
Episodes	8,206	8,619	6,073	4,996	7,546	6,361	6,372	7,708	7,494	5,916	10,958
ALOS	2.8	2.9	3.0	2.9	3.6	3.2	3.0	3.5	3.8	4.0	3.1
Expected ALOS	4.3	3.5	3.5	3.3	3.9	3.5	3.1	3.4	3.7	3.7	2.9
RSI	**66%**	**81%**	**85%**	**88%**	**92%**	**94%**	**97%**	**104%**	**105%**	**106%**	**108%**
Previous RSI	64%	77%	90%	90%	91%	94%	108%	111%	113%	113%	106%

Source: Health Roundtable

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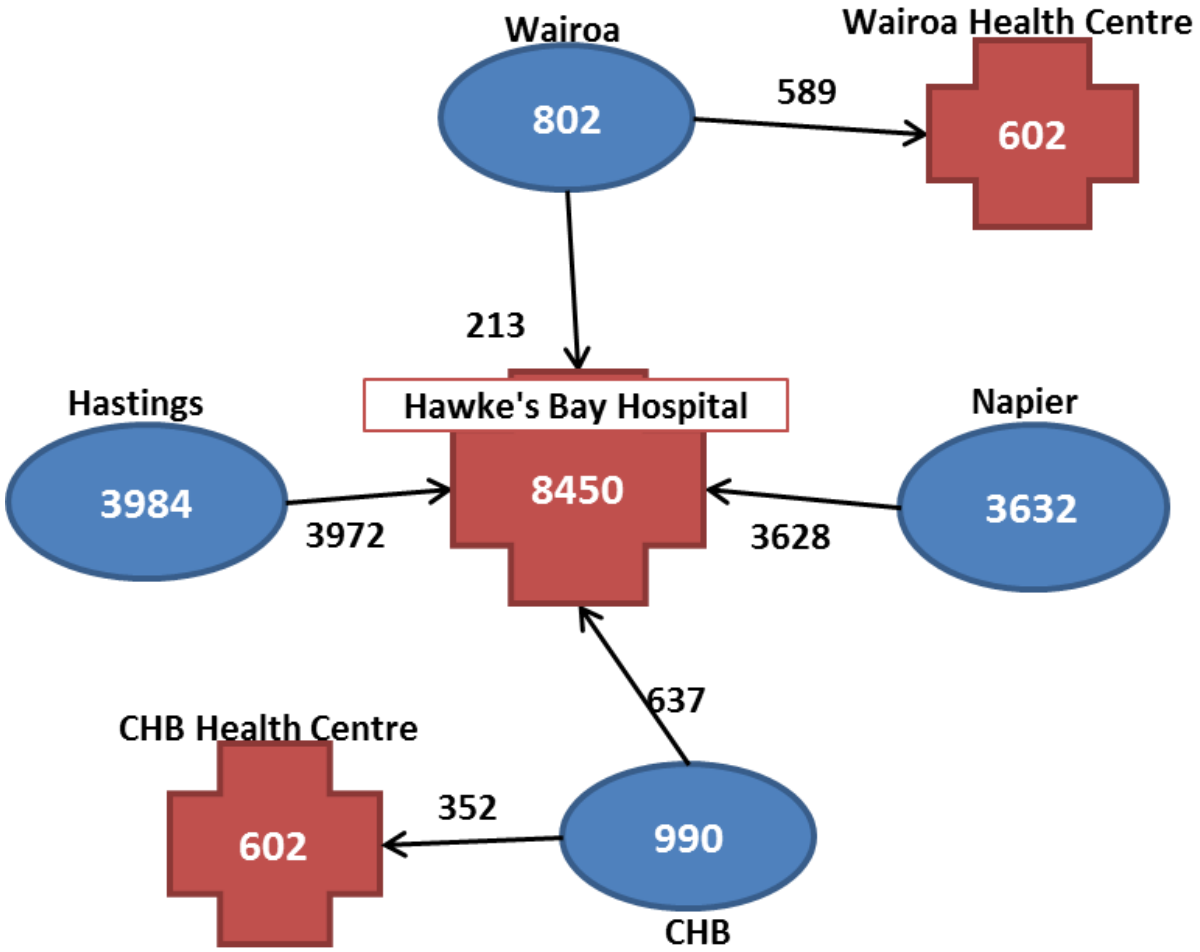
District flows 15/16 - inpatients



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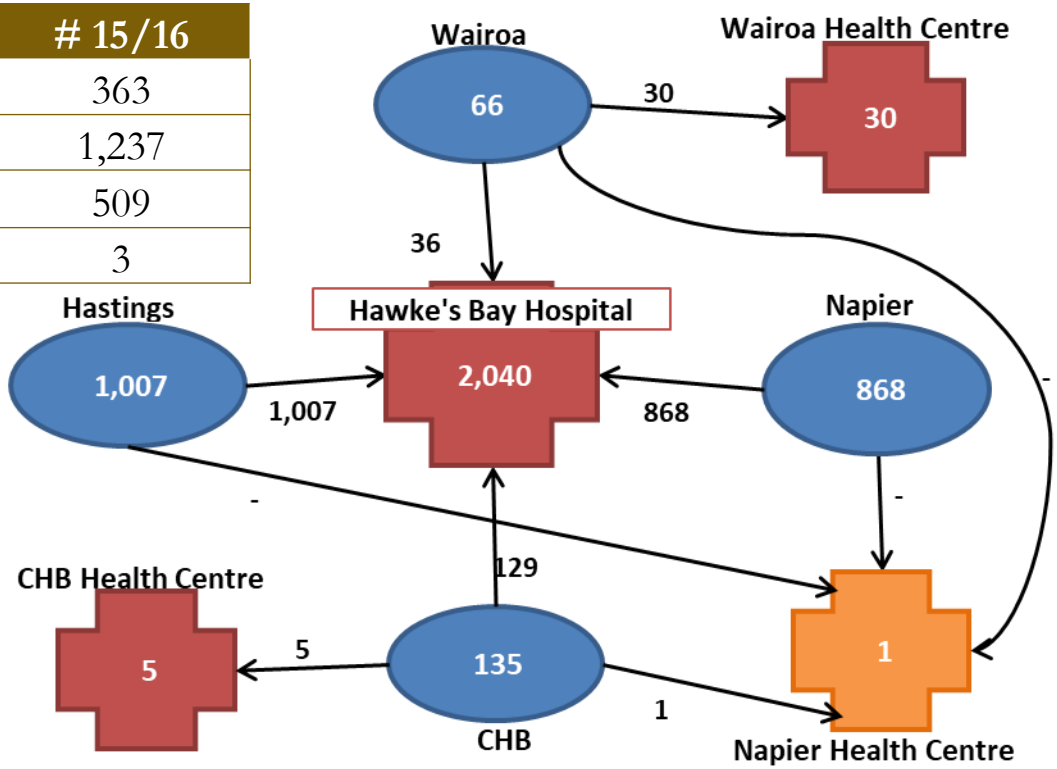
District flows 15/16 - outpatients

Type	# 15/16
FSA	363
FU	1,237
Nurse led clinic	509
Procedure	3



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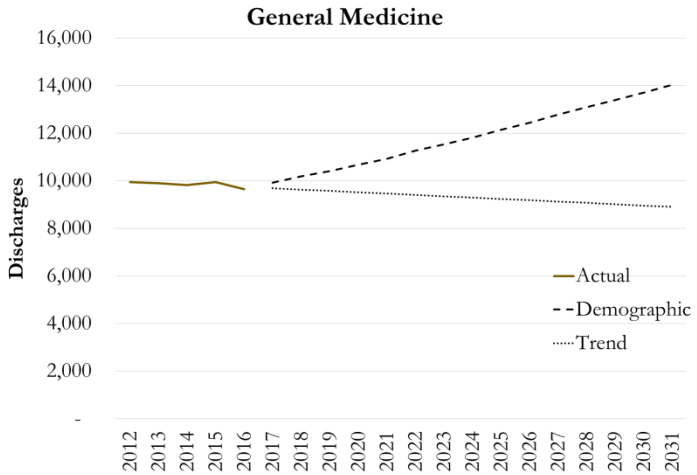
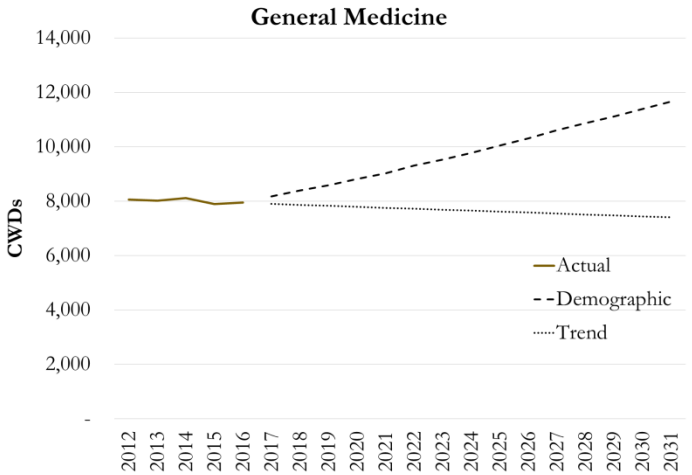
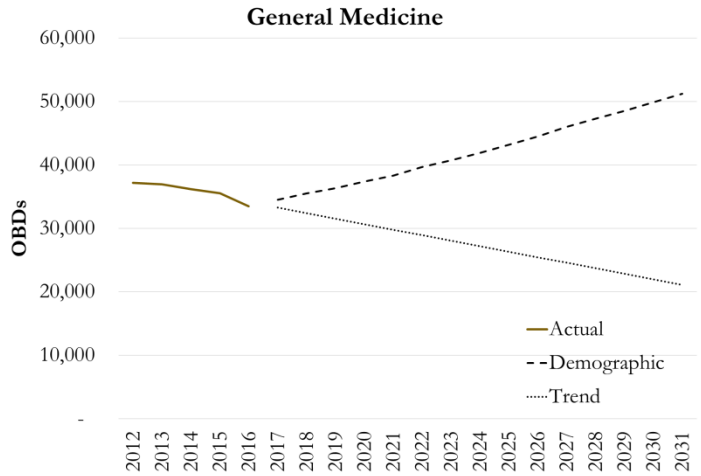
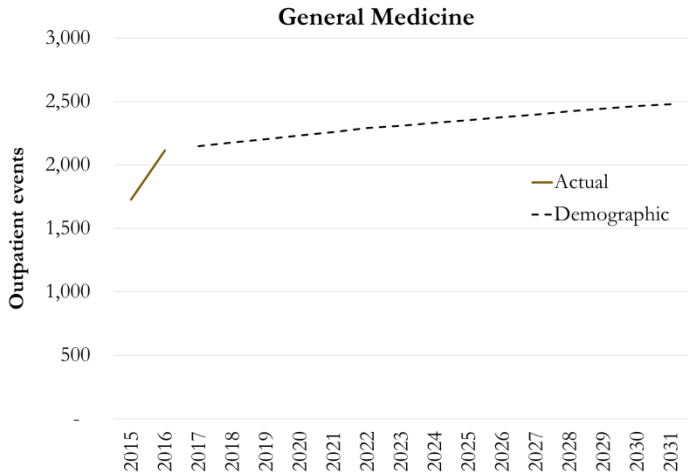
Forecast volumes









research group

Gastroenterology

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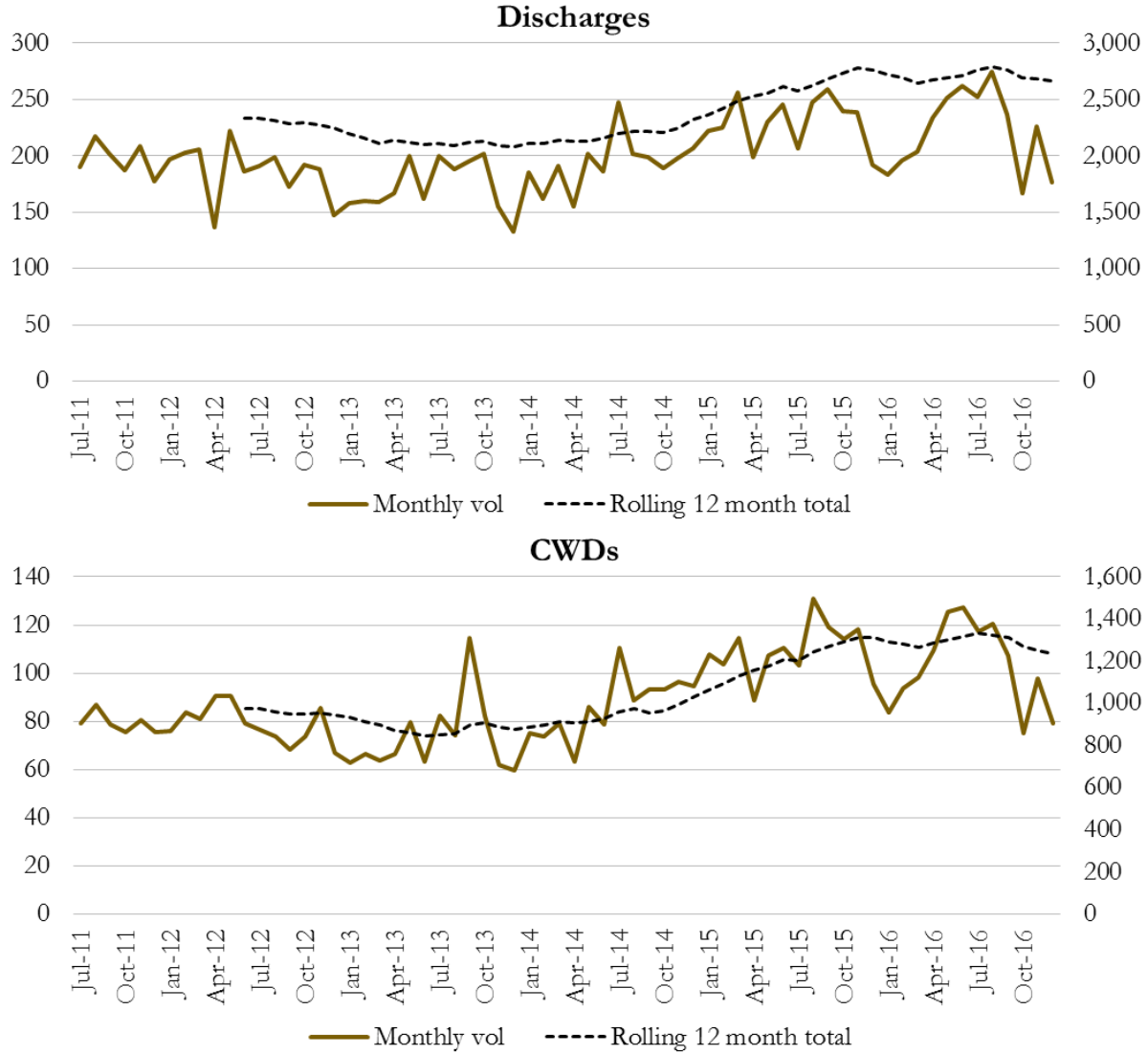
Trend in inpatient volumes



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Top 10 Diagnostic Related Groups

DRG code	DRG description	2015/16 Events	%
G48C	Colonscopy, Sameday	1000	37%
G47C	Other Gastroscopy, Sameday	633	23%
Z40Z	Endoscopy W Diagnoses of Other Contacts W Health Services, Sameday	297	11%
G46C	Complex Gastroscopy, Sameday	150	6%
Q61B	Red Blood Cell Disorders W/O Catastrophic or Severe CC	148	5%
Z64B	Other Factors Influencing Health Status, Sameday	99	4%
G48B	Colonscopy W/O Catastrophic or Severe CC	58	2%
H43B	ERCP Procedures W/O Catastrophic or Severe CC	32	1%
G46B	Complex Gastroscopy W/O Catastrophic CC	24	1%
G11Z	Anal and Stomal Procedures	24	1%
Total		**2714**	**100%**

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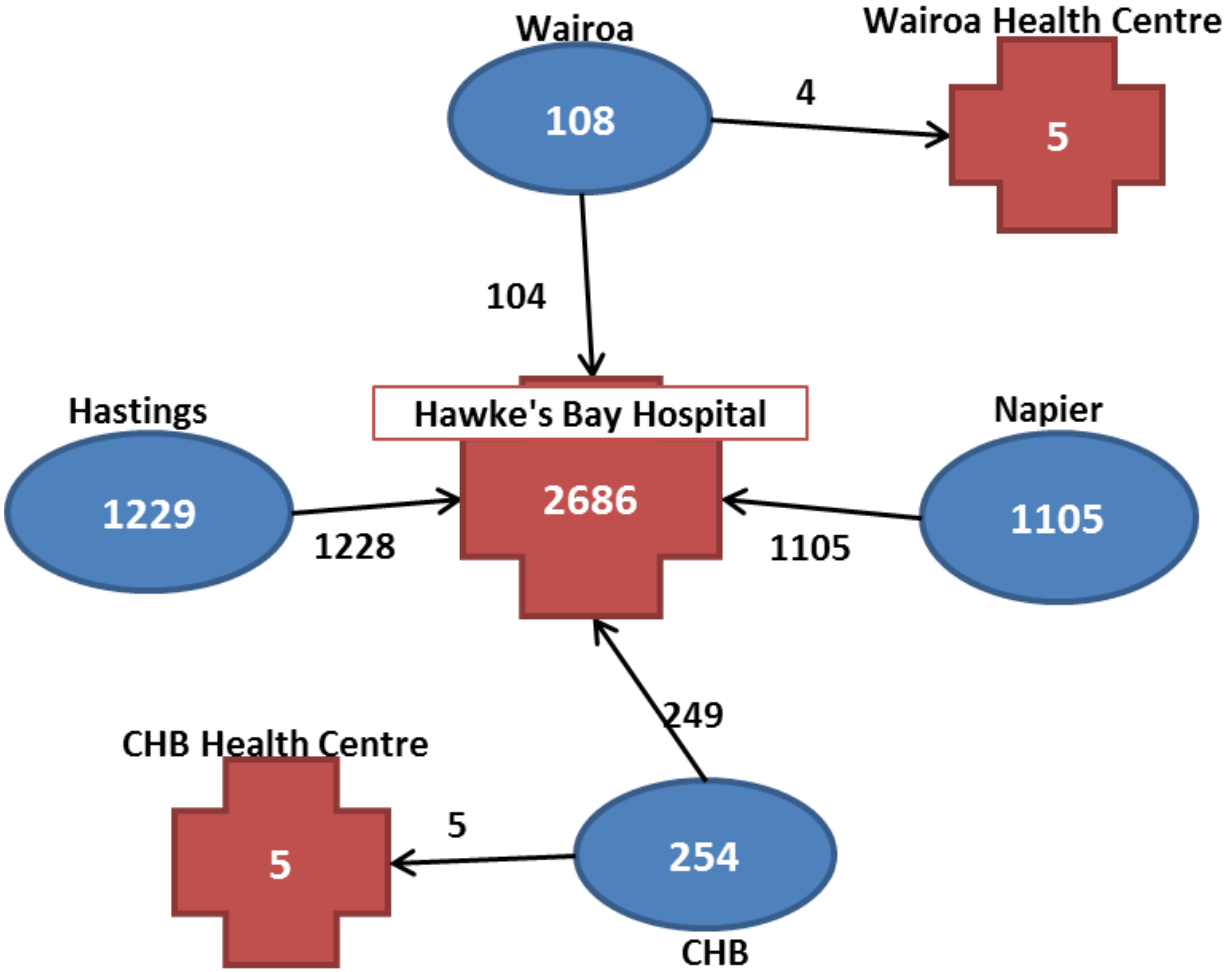
District flows 15/16 - inpatients



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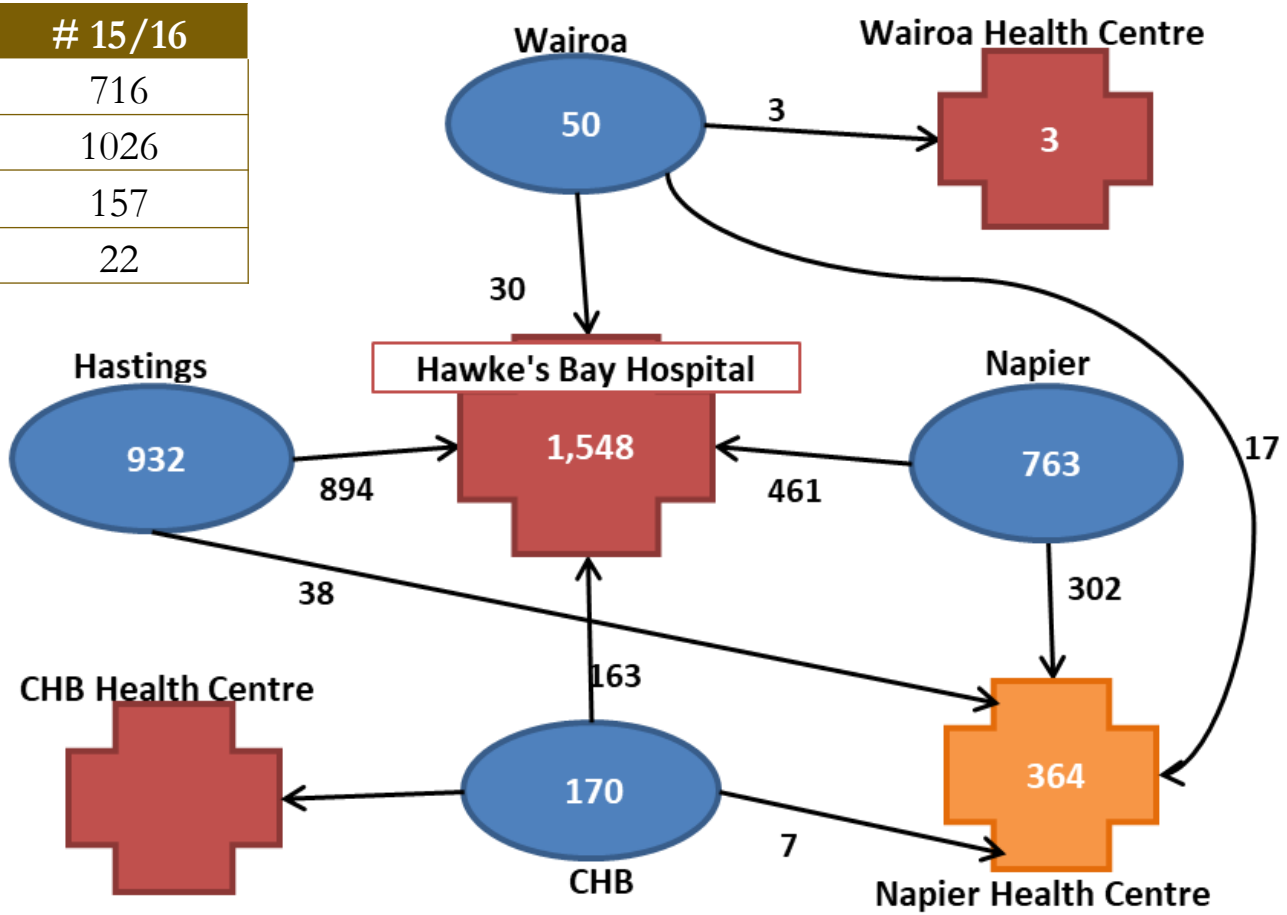
District flows 15/16 - outpatients

Type	# 15/16
FSA	716
FU	1026
Nurse led clinic	157
Procedure	22



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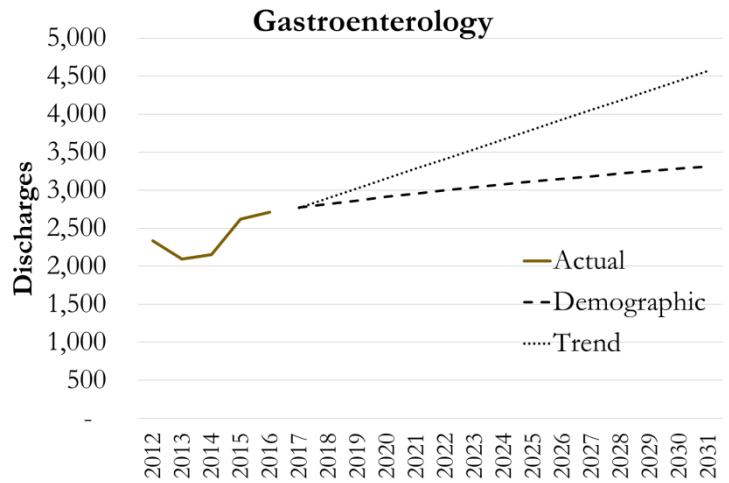
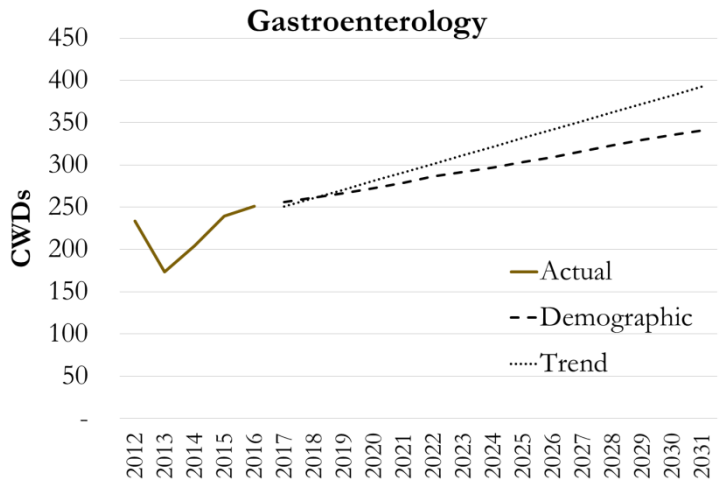
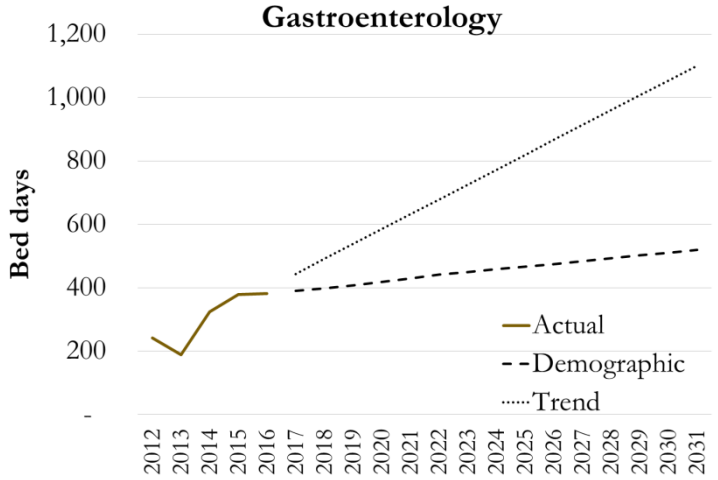
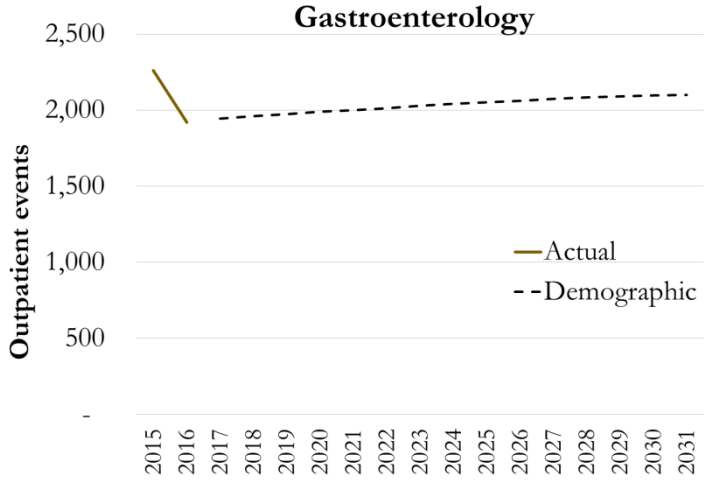
Forecast volumes









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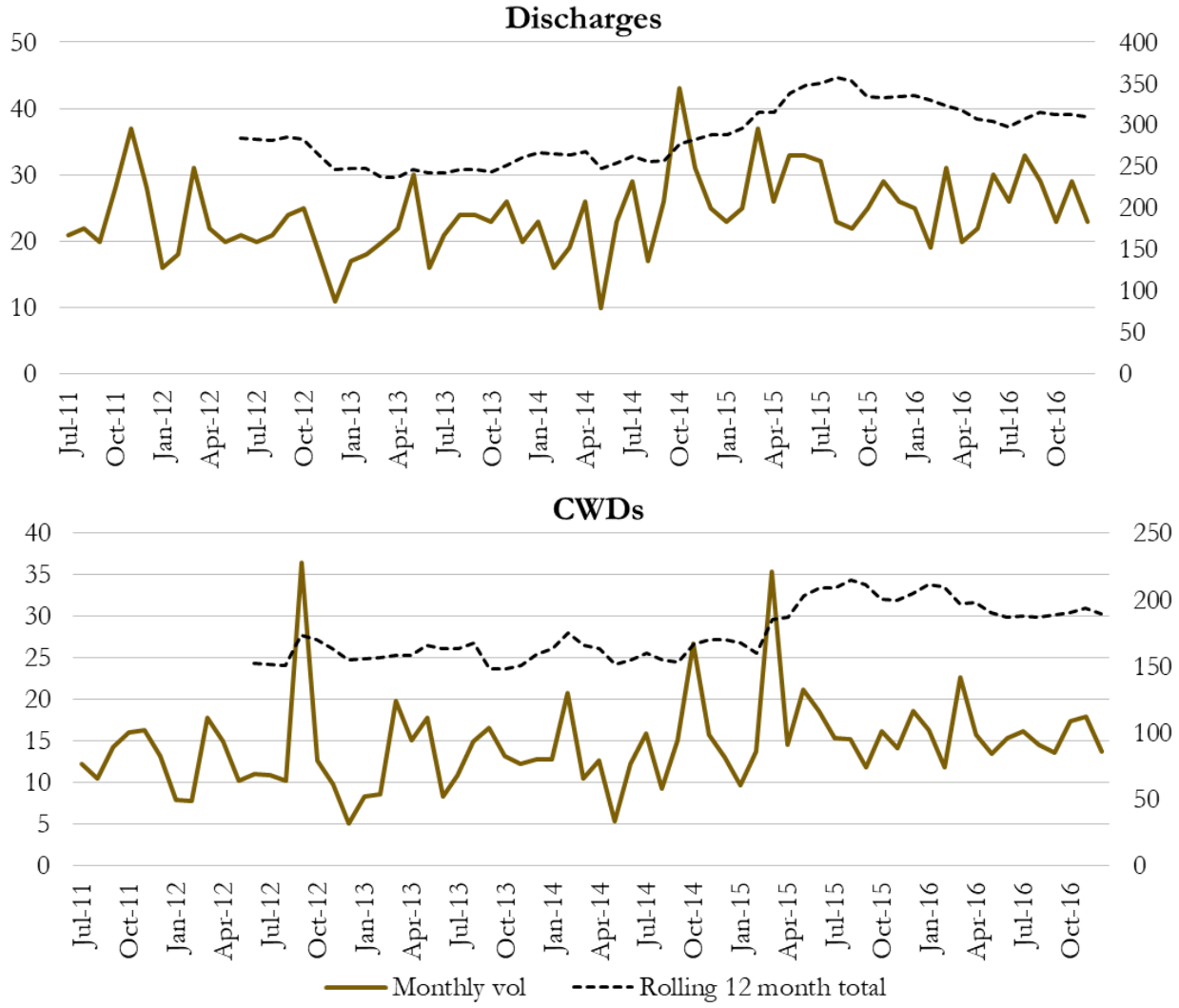
Cardiology

Trend in inpatient volumes



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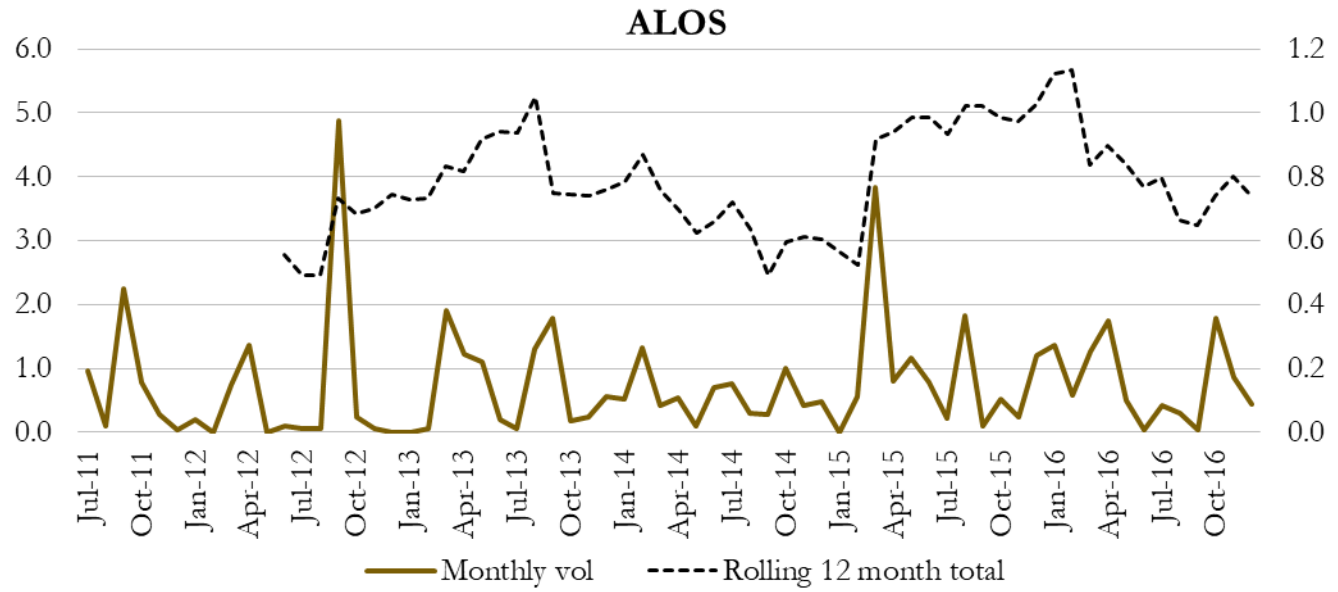
Average length of stay



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Top 10 Diagnostic Related Groups

DRG code	DRG description	2015/16 Events	%
F42C	Circulatory Disorders W/O AMI W Invasive Cardiac Inves Proc, Sameday	164	54%
F76B	Arrhythmia, Cardiac Arrest and Conduction Disorders W/O Cat or Sev CC	70	23%
F42B	Circulatory Disorders W/O AMI W Invasive Cardiac Inves Proc W/O Cat or Sev CC	17	6%
F69B	Valvular Disorders W/O Catastrophic or Severe CC	9	3%
F42A	Circulatory Disorders W/O AMI W Invasive Cardiac Inves Proc W Cat or Sev CC	4	1%
F68B	Congenital Heart Disease W/O CC	3	1%
F75B	Other Circulatory System Diagnoses W Severe or Moderate CC	3	1%
E67B	Respiratory Signs and Symptoms W/O Catastrophic or Severe CC	3	1%
F60B	Circulatory Disorders W AMI W/O Invasive Cardiac Inves Pr W/O Catastrophic CC	3	1%
B70C	Stroke and Other Cerebrovascular Disorders W/O Catastrophic or Severe CC	2	1%
Total		**304**	**100%**

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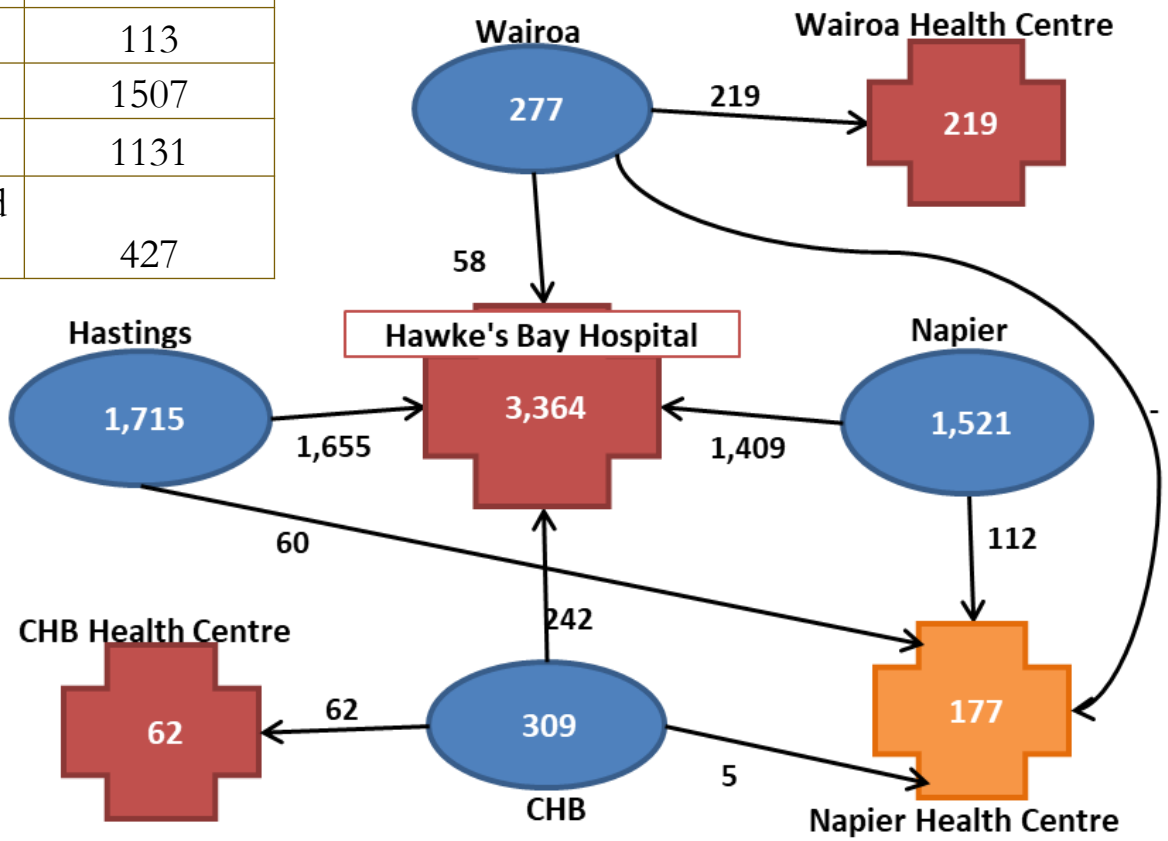
District flows 15/16 - outpatients

Type	# 15/16
FSA	791
Virtual FSA	113
FU	1507
Nurse led clinic	1131
Community referred tests	427



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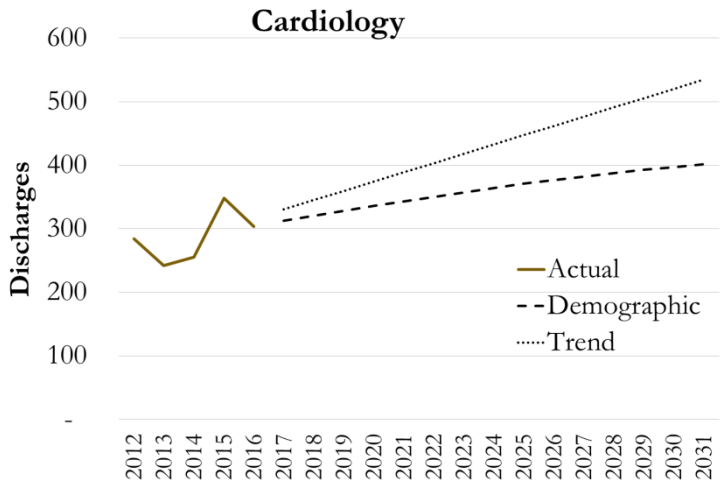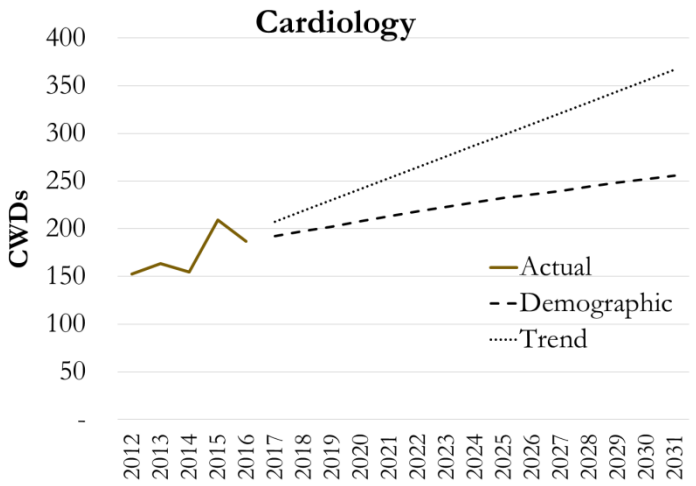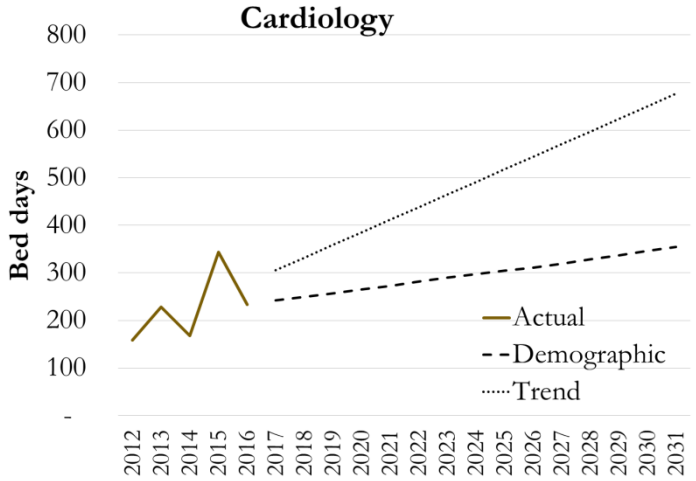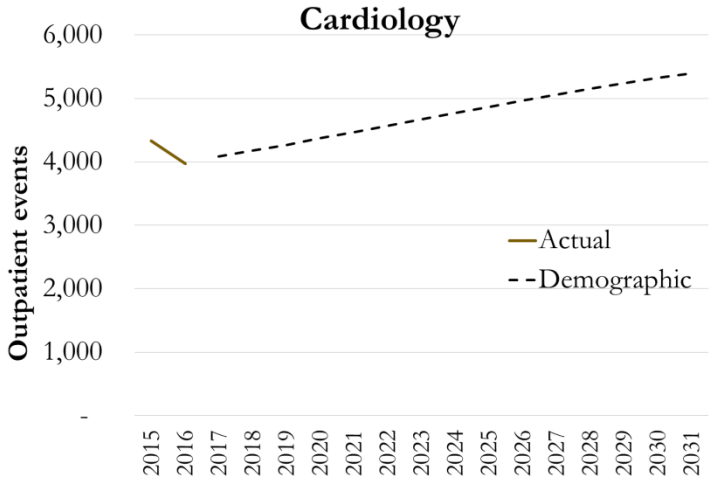
Forecast volumes