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school of health research

Data Supplement to Final Report
National Aboriginal & Torres Strait Islander Chronic Illness Care

Phase 1 Current Status Data (2012-2013)
Phase 2 Trend Data (2005-2013)

Engaging Stakeholders in Identifying Priority Evidence-Practice Gaps and Strategies for Improvement in Primary Health Care (ESP Project)

ABCD NATIONAL RESEARCH PARTNERSHIP
Improving practice through research
One21seventy
National Centre for Quality Improvement in Indigenous Primary Health Care

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The ABCD National Research Partnership is led by Menzies School of Health Research and funded by the National Health and Medical Research Council (ID No.545267) and the Lowitja Institute. The Partnership includes Aboriginal Community Controlled Health Organisation peak bodies and members services, government health departments, academic institutions, and primary health care services in five states and territories: the Northern Territory, Queensland, South Australia, Western Australia and New South Wales. Ethical approval has been granted by the Human Research Ethics Committees in all jurisdictions where there are participating health services.

1. Phase 1 data report - identifying priority evidence-practice gaps

The V&M audit tool was used in 123 different health centres in 2012 or 2013 (Table 1.1 & 1.2). The T2D tool was the most commonly used of the V&M audits, followed by CKD, HT and CHD. The health centres had used the V&M audit tools for varying numbers of cycles prior to 2012/2013, and the prior experience of use of the tools varied between jurisdictions (Table 1.2). The data included in the analysis for this report were extracted in December 2013. Across all audit types, a total of 6,523 records were audited in the 123 health centres in 2012 or 2013. The majority of health centres were in remote communities and were government managed (Table 1.3).

1.1. Identifying priority evidence-practice gaps

The priorities for improvement, or priority evidence-practice gaps, reported in the Phase 1 Report were determined by identifying items in the national clinical audit and systems assessment data that reflected:

a) basic aspects of clinical care that were being delivered and recorded at a high level of performance by the majority of services, but that were being delivered at a much lower level by a proportion of services;
b) aspects of care where there was more general wide variation in recorded delivery of care;
c) important aspects of comprehensive PHC that were generally recorded at low levels; and,
d) components of PHC centre systems that were relatively poorly developed.

These criteria were used by the ABCD Project team to identify a preliminary set of priorities. The preliminary priorities are presented below for summary purposes.

Management plans and scheduled services

1. Strengthen efforts that enhance the delivery and recording of care across the scope of indicators of best practice care.
2. Focus support particularly on:
    a. Those health centres at the lower end of the range in order to maximise coverage of good quality care in all communities.
    b. Improve coverage of dilated eye checks for people with T2D and HT
    c. Improve coverage of adult vaccinations, especially for people with CKD, CHD, and HT.
    d. Improve documentation and implementation of follow-up plans and review and adjustment of medications for people with recent high BP readings, especially for people with CKD, CHD, HT, and CHF.

Risk factors, brief Interventions and referrals

1. Strengthen efforts to monitor and promote healthy weight across the service population, including through increasing attention to monitoring waist circumference and BMI in all adults attending for care, especially those with chronic conditions.
2. Increase use of absolute cardiovascular risk assessment.
3. Explore appropriate approaches to identification and assessment of illicit drug use as a risk factor for vascular and metabolic conditions.
4. Improve delivery and recording of brief interventions in health centres at the lower end of the range in order to maximise coverage of good quality care in all communities.
5. Improve referral of smokers for support through quit programs. In particular, address the relatively low levels of referral for patients with CKD, CHD, HT, and

CHF compared to those with T2D. This is a relatively accessible and cost-effective intervention for this important risk factor.

Assessment and support regarding emotional wellbeing

1. Enhance capability and consistency across PHC services in assessment and support regarding emotional wellbeing for patients with CKD, CHD, HT, and CHF as well as those with T2D and other chronic conditions.

Current treatment

1. Strengthen efforts to encourage practitioners to adhere to evidence-based treatment guidelines, with particular attention to health centres where prescribing patterns are outside the usual range of use of specific medications, and to 'cornerstone' medications for management of specific conditions (e.g. metformin or insulin for type 2 diabetes).
2. Strengthen efforts to encourage adherence to evidence-based treatment guidelines for patients with CKD, CHD, HT, and CHF.

Investigations and follow-up of abnormal findings

1. Strengthen attention to regular monitoring of HbA1c, with particular attention to improving monitoring in these health centres with relatively low levels of monitoring.
2. Strengthen attention to review and appropriate adjustment of medication for patients with a recent abnormal HbA1c result, and documentation of review and adjustment of medication.
3. Strengthen attention to documenting plans for follow-up, and of review and appropriate adjustment of medication for patients with a recent abnormal total cholesterol/HDL result, for all patients with T2D, CKD, CHD, HT and CHF.

Health centre systems

1. Strengthen systems in general in those health centres with relatively low scores. As a starting point, it may be appropriate to focus on supporting health centres that have scores in the lowest 20%, with a particular focus on those items with the lowest scores.

2. Strengthen systems for more effective links between health centres and communities, other health services and other resources.

General

1. Expand and strengthen QI activities for CKD, CHD, HT and CHF.

1.2. Presentation of audit data: horizontal box and whisker plots

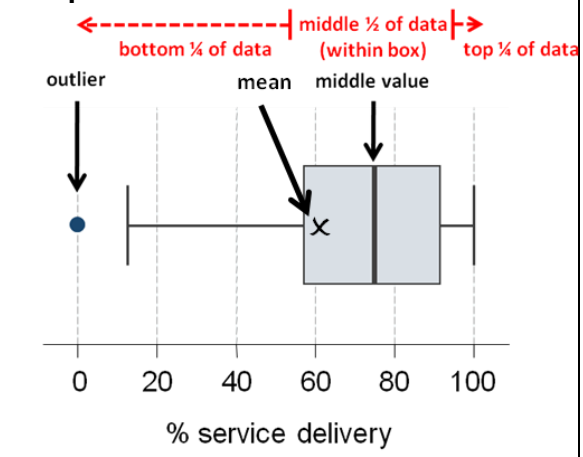
The mean percent delivery of each service item is calculated for each health centre and displayed within a 'box and whisker plot' to show the distribution (or variation) in delivery of that item across health centres.

Box and whisker plots show (Figure 1):

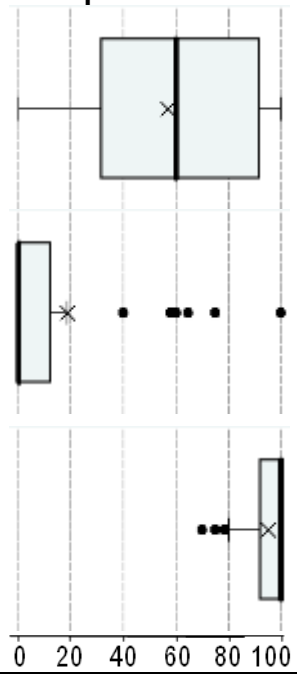
- the minimum and maximum values (ends of whiskers if no outliers);
- outliers which are values far away from most other values in the data set (or a distance that is greater than 1.5 times the length of the box);
- the range of service item delivery by dividing the dataset into quarters:
  - the box represents the middle 50% of the dataset, and the line within the box represents the median (or middle value);
  - the right hand whisker (and outliers if present) represents the top 25% of the data
  - the left hand whisker (and outliers if present) represents the bottom 25% of the data; and
- the longer the box plot, the greater the range (or variation).

Figure 1.1: How to interpret box and whisker plots

Interpretation:



Examples:



- Wide variation in service delivery (range 0-100%).
- Health centres relatively equally dispersed across the range. 25th to 75th centile is 30-90%.
- Majority of centres at lower end of range (between 0-20%) with a few health centres at higher levels – up to 100%.
- Smaller variation in service delivery (range 70-100%).
- All centres at higher end with 75% of centres in the 90-100% range.

Table 1.1: Most recent V&M audit, by audit type and systems assessment completed in 2012 or 2013 (number of patient records audited, number of health centres)

		T2D			CKD			CHD			HT			CHF			SAT		
		2012	2013	Total	2012	2013	Total	2012	2013	Total	2012	2013	Total	2012	2013	Total	2012	2013	Total
QLD	#Records	652	1,215	1,867	46	309	355	346	165	511	213	732	945	85	7	92			
	#Centres	21	39	60	6	33	39	14	27	41	8	30	38	4	4	8	22	32	54
SA	#Records	160	152	312		35	35		19	19	10	27	37		15	15			
	#Centres	4	4	8		1	1		1	1	1	1	2		1	1	1	1	2
WA	#Records	86	30	116		60	60				65	1	66						
	#Centres	3	1	4		2	2				2	1	3				3	2	5
NT	#Records	497	1,035	1,532	41	239	280	34	67	101	44	100	144	31	5	36			
	#Centres	15	35	50	2	11	13	3	5	8	4	8	12	2	4	6	11	18	29
Total	#Records	1,395	2,432	3,827	87	643	730	380	251	631	332	860	1,192	116	27	143			
	#Centres	43	79	122	8	47	55	17	33	50	15	40	55	6	9	15	37	53	90

Table 1.2: Most recent V&M audit completed, by audit cycle in 2012 or 2013 (number of health centres)

	Last V&M Audit Cycle Completed								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
QLD	7	8	24	8	9	4			60
SA	4	2	2						8
WA	2				1		2		5
NT	4	12	17	2	7	1	4	3	50
Total	17	22	43	10	17	5	6	3	123

Table 1.3: Characteristics of health centres and patients whose records were audited during 2012-2013, by audit type (number & %)

		T2D		CKD		CHD		HT		CHF	
Primary Health Care Centres		**Total 122**		**Total 55**		**Total 50**		**Total 55**		**Total 15**	
Location	Urban	11	9%	3	5%	8	16%	1	2%	3	20%
	Regional	17	14%	11	20%	12	24%	12	22%	3	20%
	Remote	94	77%	41	75%	30	60%	42	76%	9	60%
Governance	Government	102	84%	43	78%	42	84%	44	80%	9	60%
	Community Controlled	20	16%	12	22%	8	16%	11	20%	6	40%
Size of population served	≤500	57	47%	27	49%	23	46%	30	55%	3	20%
	501-999	26	21%	10	18%	12	24%	10	18%	4	27%
	≥1000	39	32%	18	33%	15	30%	15	27%	8	53%
Completed V&M audit cycles	Baseline	17	14%	4	7%	8	16%	6	11%	2	13%
	1-2 cycles	63	52%	29	53%	29	58%	31	56%	6	40%
	≥3 cycles	42	34%	22	40%	13	26%	18	33%	7	47%
Number of audited records		**3827**		**730**		**631**		**1192**		**143**	
Age (mean & range)		53	(15-94)	56	(16-93)	61	(19-98)	58	(15-91)	62	(24-90)
Gender	Males	1673	44%	323	44%	410	65%	605	51%	92	64%
	Females	2154	56%	407	56%	221	35%	587	49%	51	36%
Indigenous status	Indigenous	3215	84%	664	91%	313	50%	924	78%	90	63%
	Non-indigenous	431	11%	48	7%	268	42%	229	19%	51	36%
	Not stated	181	5%	18	2%	50	8%	39	3%	2	1%
Attended within past 12 months		3762	98%	728	100%	626	99%	1180	99%	143	100%
Reason for last attendance	Chronic Disease	2603	68%	463	63%	502	80%	777	65%	107	75%
	Acute care	789	21%	152	21%	71	11%	229	19%	13	9%
	Other	435	11%	115	16%	58	9%	186	16%	23	16%
Profession patient first seen by	AHW	539	14%	125	17%	48	8%	161	14%	3	2%
	Nurse	2088	55%	364	50%	350	55%	594	50%	61	43%
	GP	740	19%	192	26%	116	18%	355	30%	43	30%
	Specialist	102	3%	17	2%	13	2%	18	2%	7	5%
	Allied Health	280	7%	22	3%	100	16%	59	5%	28	20%
	Other	33	1%	7	1%	3	0.5%	3	0.3%	1	0.7%
	Not stated	45	1%	3	0.4%	1	0.2%	2	0.2%	0	0%

1.3. Type 2 diabetes data

Management plans and scheduled services

The figures in this section show health centre percentages of T2D patients who have a record of a chronic disease management plan and a record of receiving scheduled services as per recommended guidelines within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.2: Record of current management plans for T2D patients within 12 months of audit at health centres during 2012-2013.

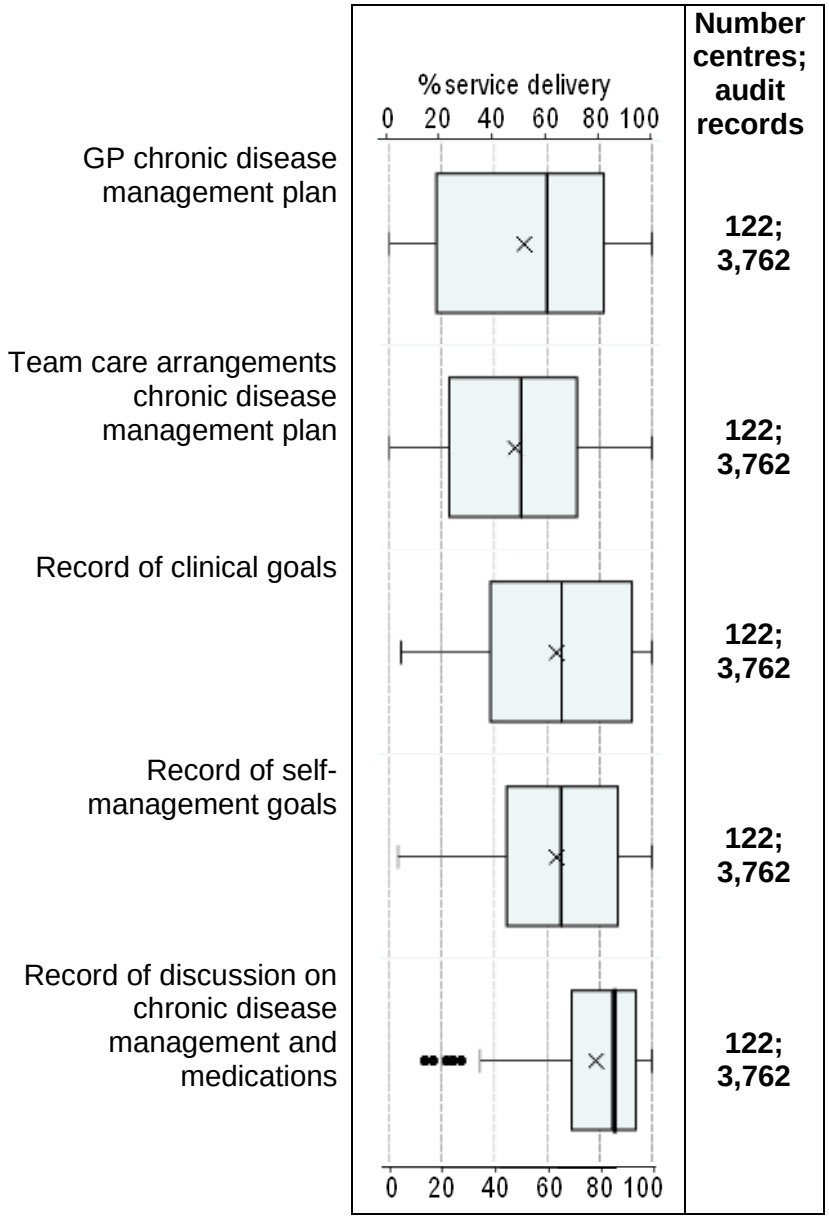


Figure 1.3: Record of scheduled services received by T2D patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.

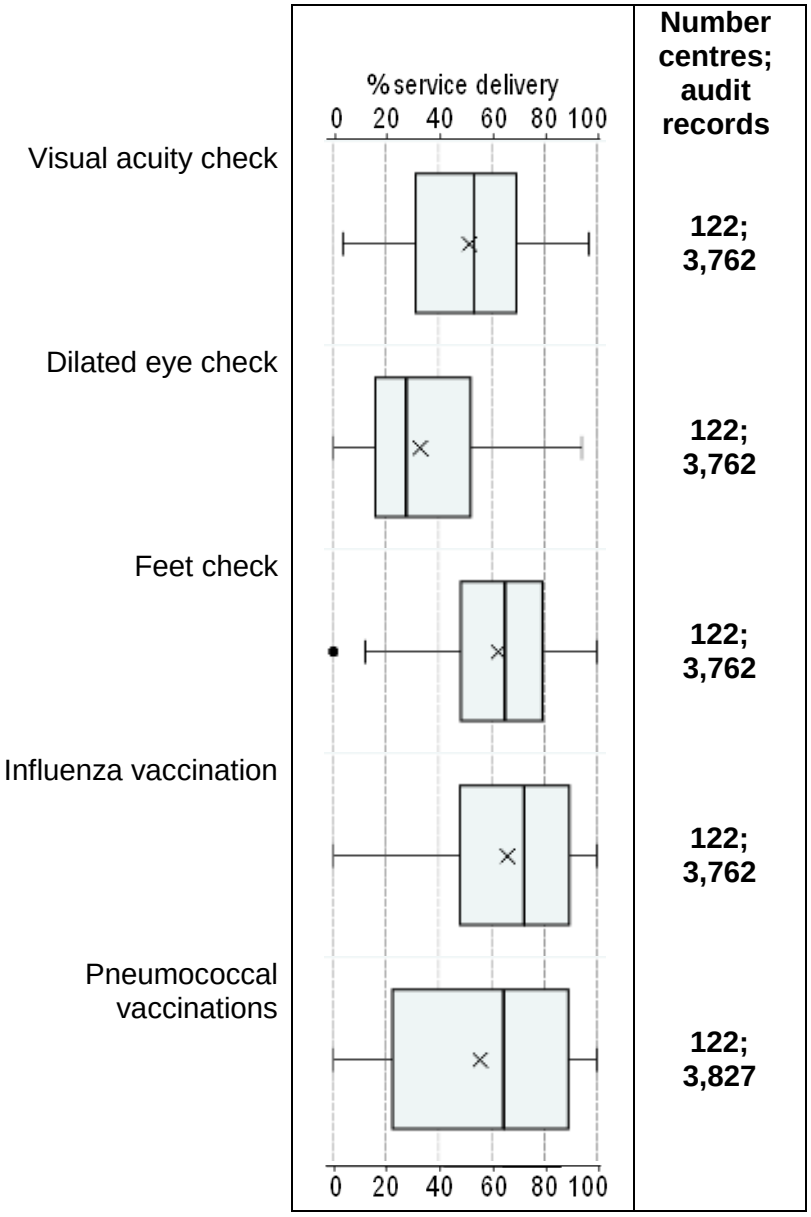
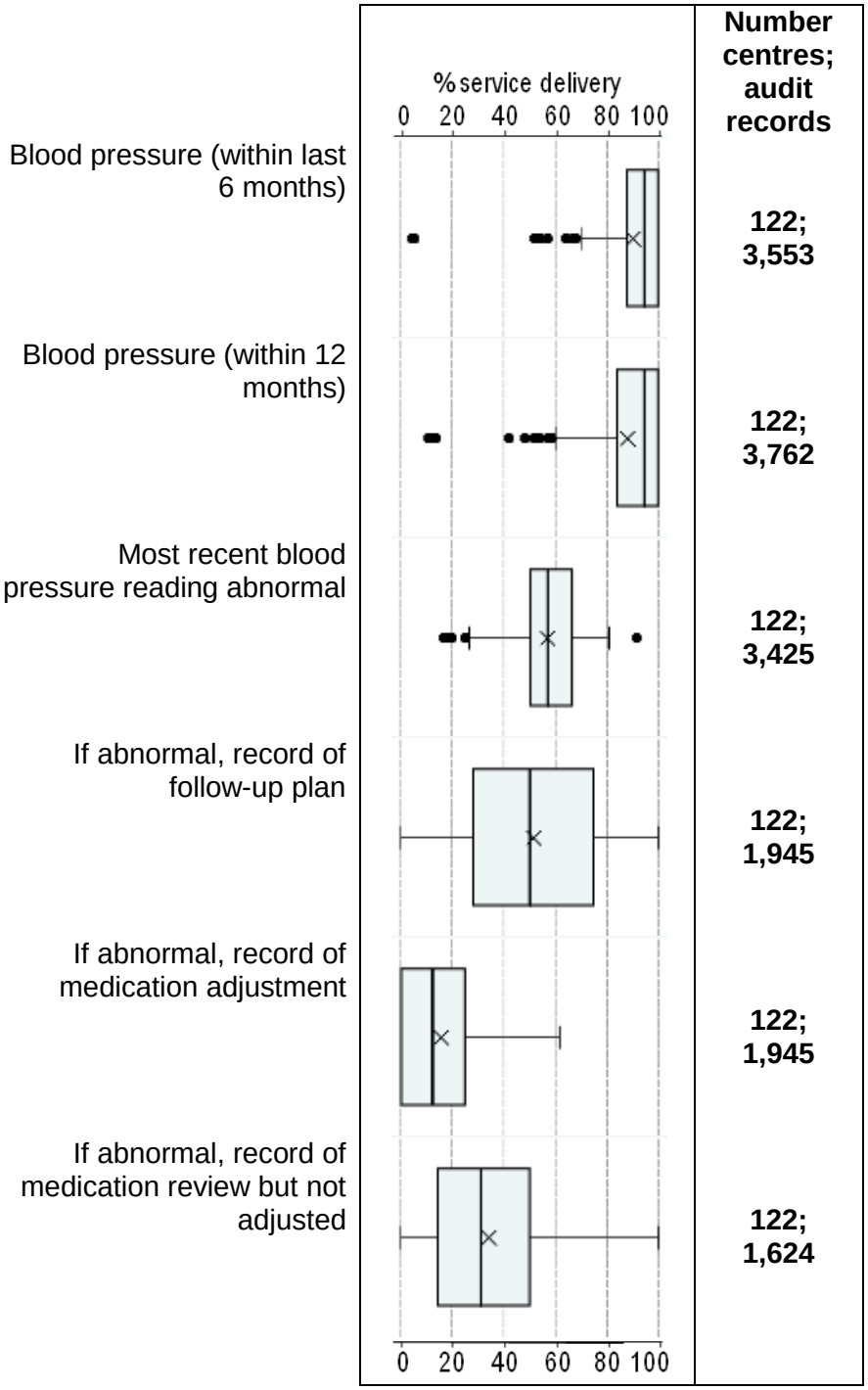


Figure 1.3 (cont): Record of scheduled services received by T2D patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.



Risk factors, brief interventions and referral

The figures in this section show health centre percentages of T2D patients with a record of discussion regarding risk factors and where relevant, a brief intervention and referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.4: Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for T2D patients at health centres during 2012-2013.

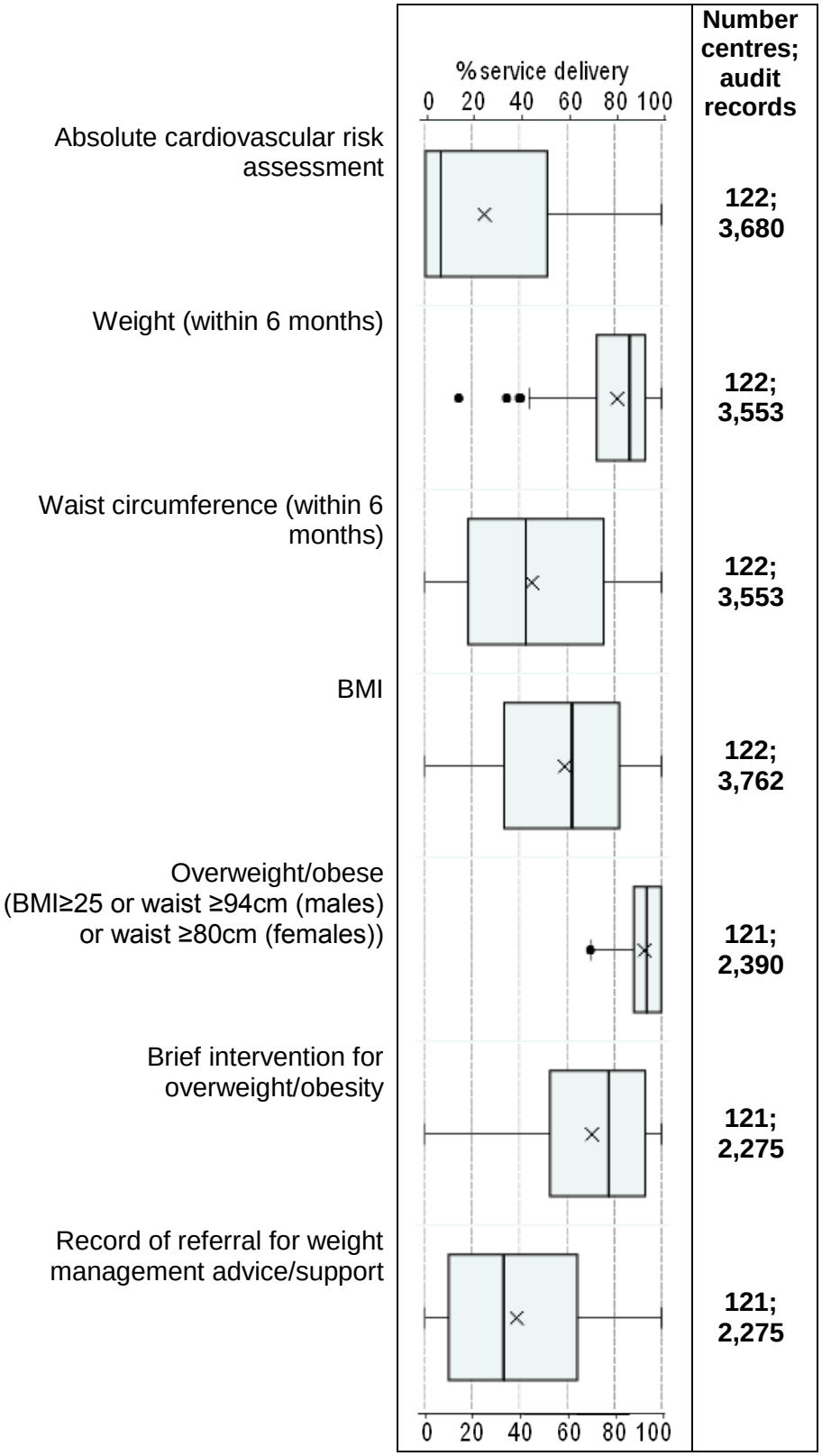


Figure 1.4 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for T2D patients at health centres during 2012-2013.

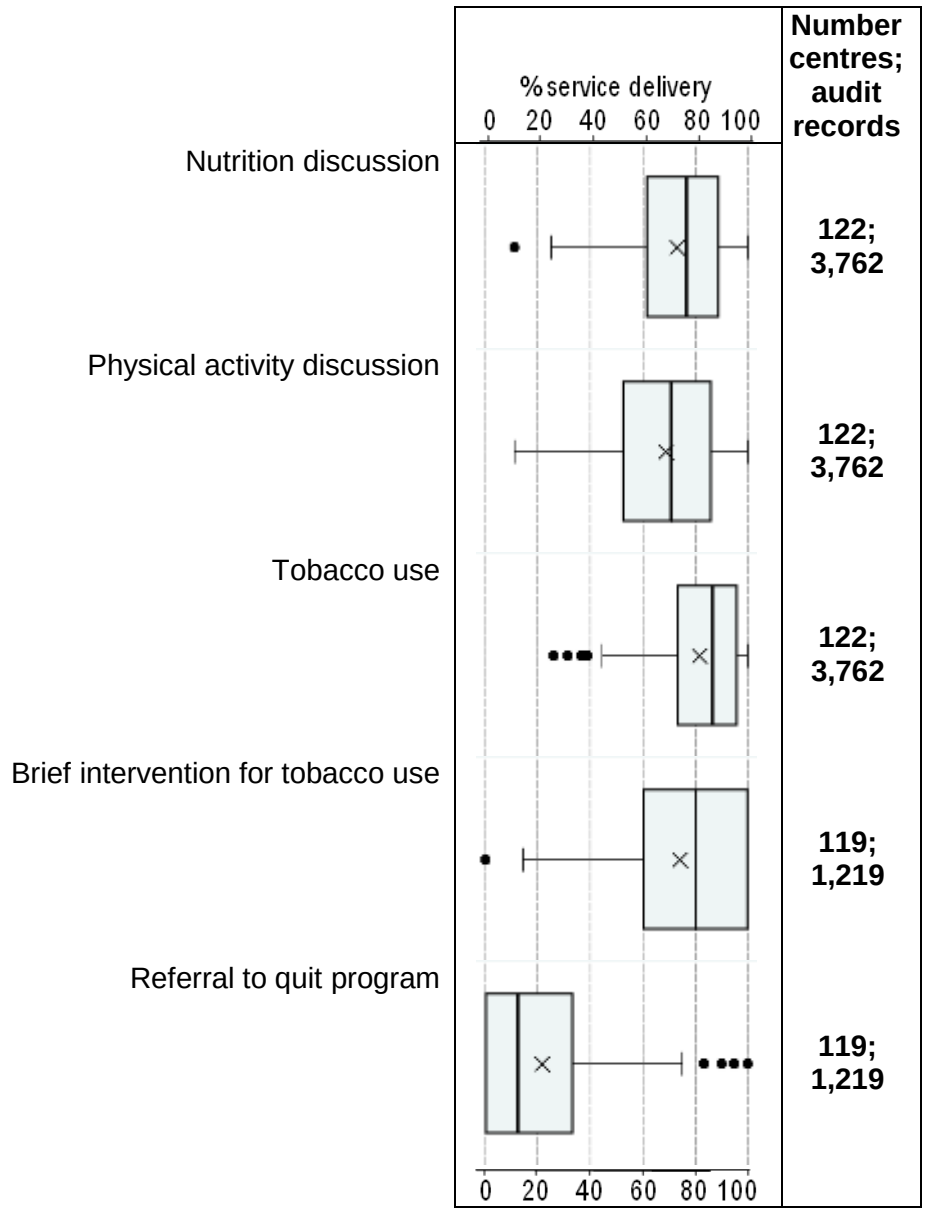
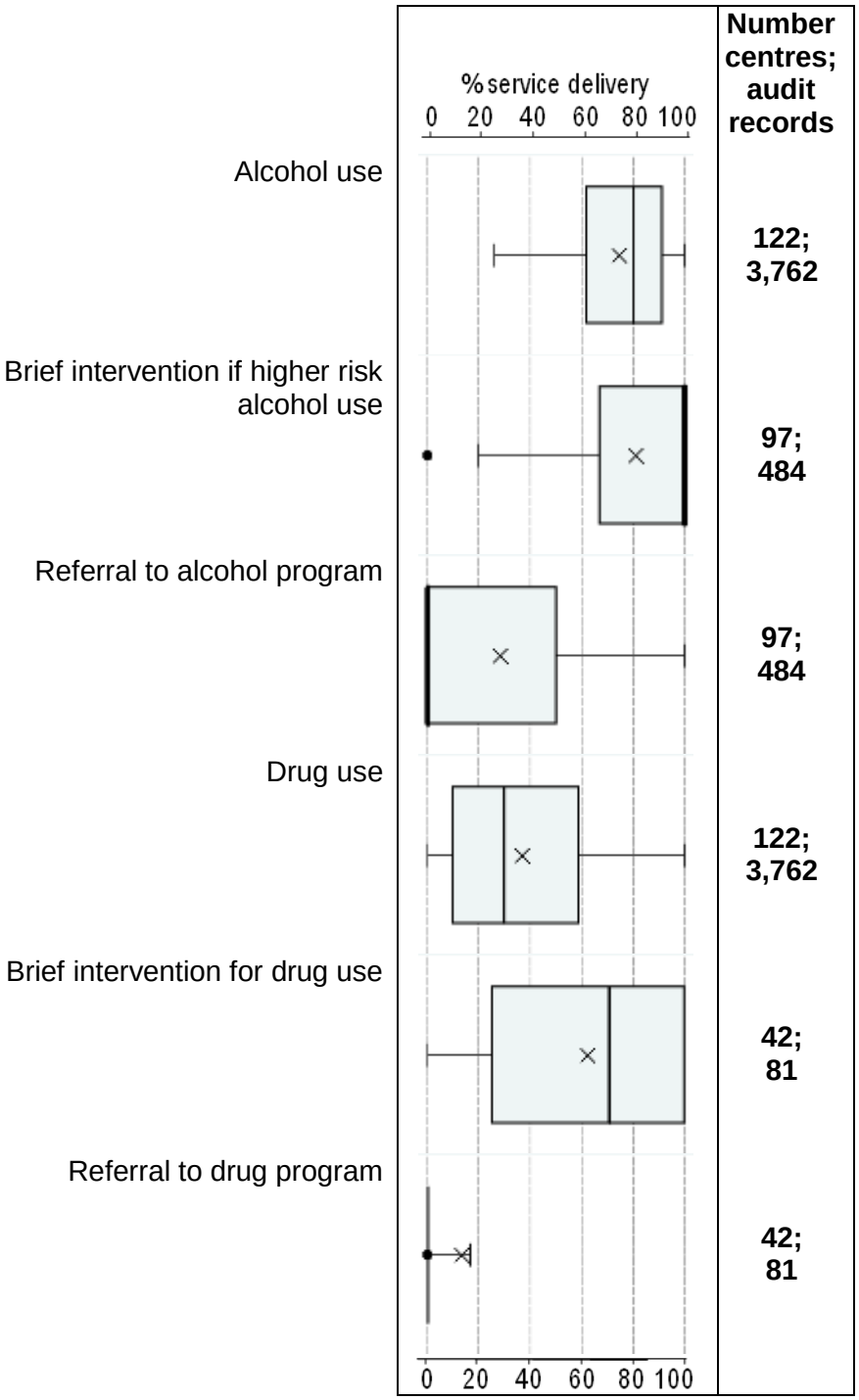


Figure 1.4 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for T2D patients at health centres during 2012-2013.



Emotional wellbeing screening and care

The following figures show health centre percentages of T2D patients with a record of an emotional wellbeing discussion, recording of risk and where relevant, a brief intervention, follow-up action and/or referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.5: Record of discussion on emotional wellbeing and follow-up action for T2D patients within the last 12 months of audit (unless otherwise indicated) during 2012-2013.

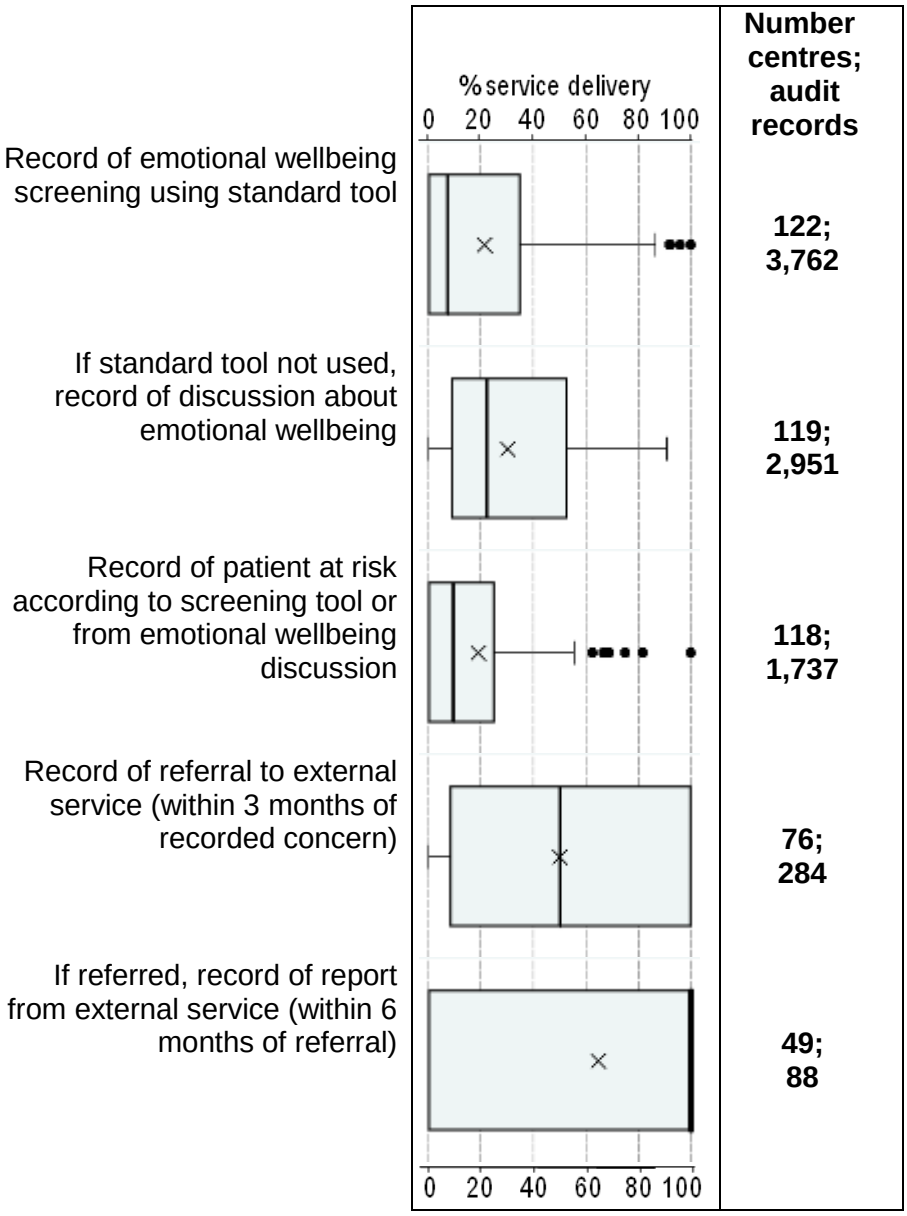
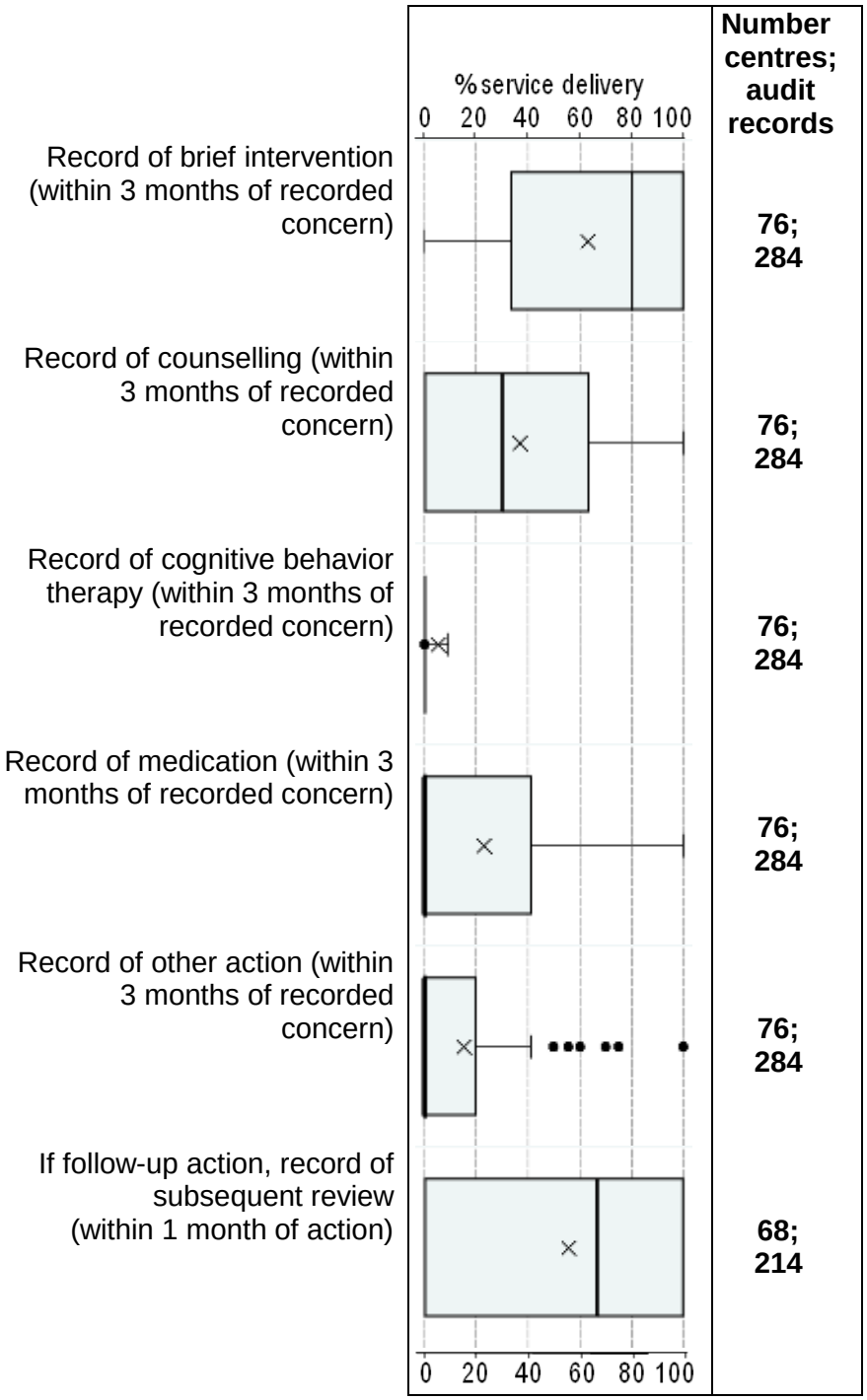


Figure 1.5 (cont): Record of discussion on emotional wellbeing and follow-up action for T2D patients within the last 12 months of audit (unless otherwise indicated) during 2012-2013.



Current treatment

The following figures show health centre percentages of T2D patients with a record of current prescriptions for certain medication within the last 12 months from date of audit.

Figure 1.6: Record of current prescriptions for T2D patients within last 12 months of audit at health centres during 2012-2013.

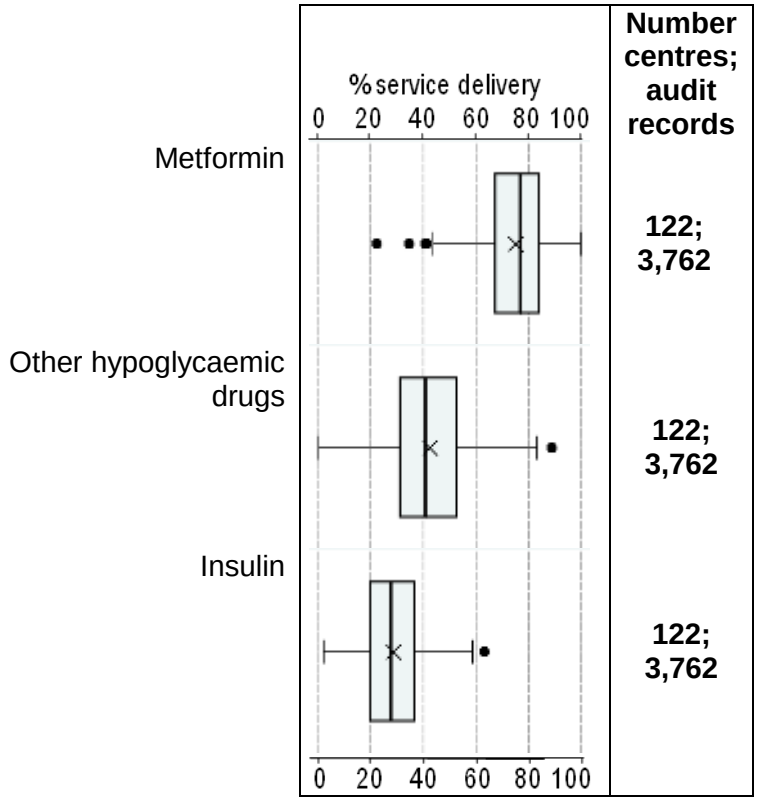
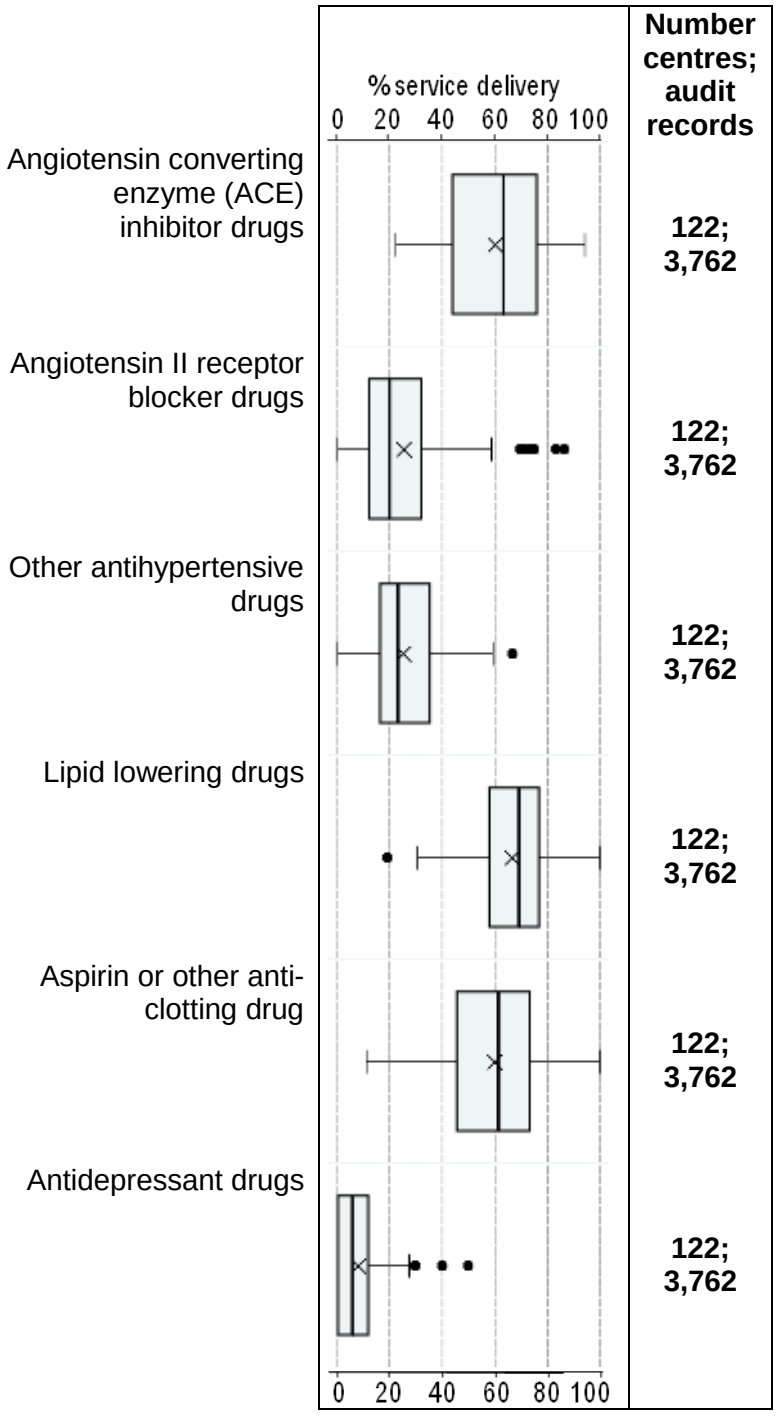


Figure 1.6 (cont): Record of current prescriptions for T2D patients within last 12 months of audit at health centres during 2012-2013.



Investigations and follow-up of abnormal findings

The figures in this section show health centre percentages of T2D patients with a record of pathology investigation and where relevant, follow-up of abnormal findings within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.7: Record of pathology investigation and follow-up for T2D patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

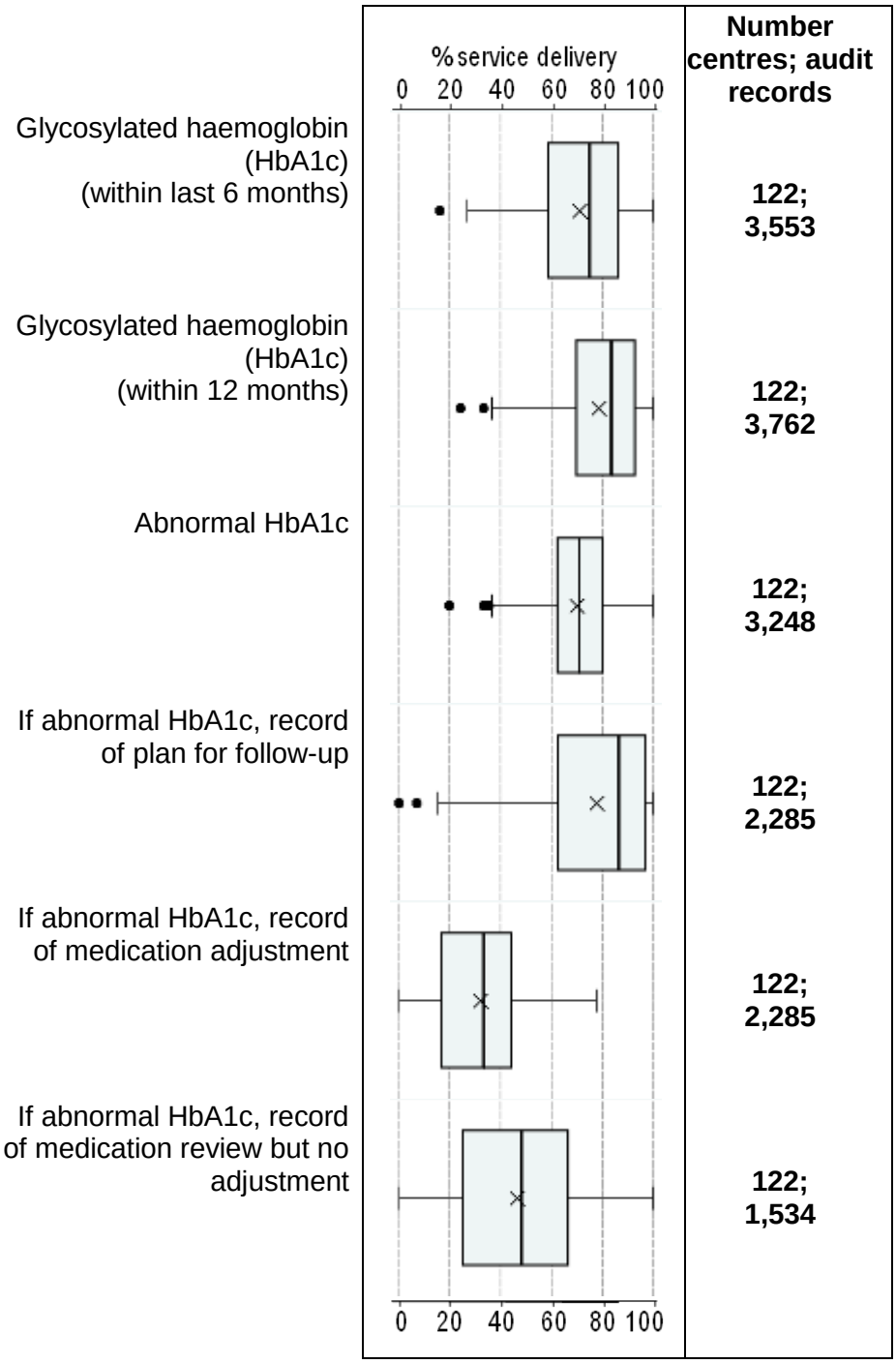
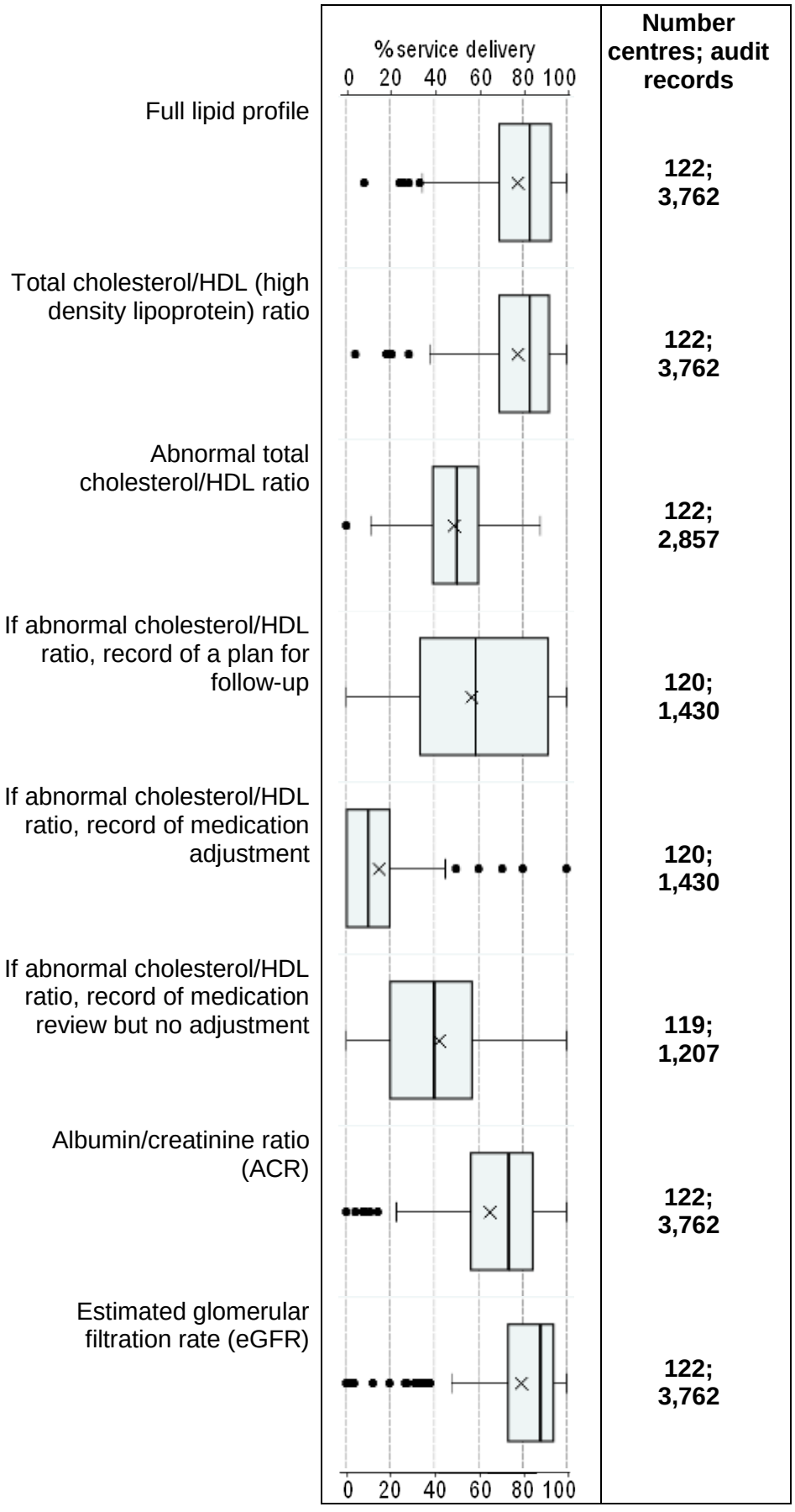


Figure 1.7 (cont): Record of pathology investigation and follow-up for T2D patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



1.4. Chronic kidney disease data

Management plans & scheduled services

The figures in this section show health centre percentages of CKD patients who have a record of a chronic disease management plan and a record of receiving scheduled services as per recommended guidelines within the last 12 months of the audit date(unless otherwise indicated).

Figure 1.8: Record of current management plans for CKD patients within 12 months of audit at health centres during 2012-2013.

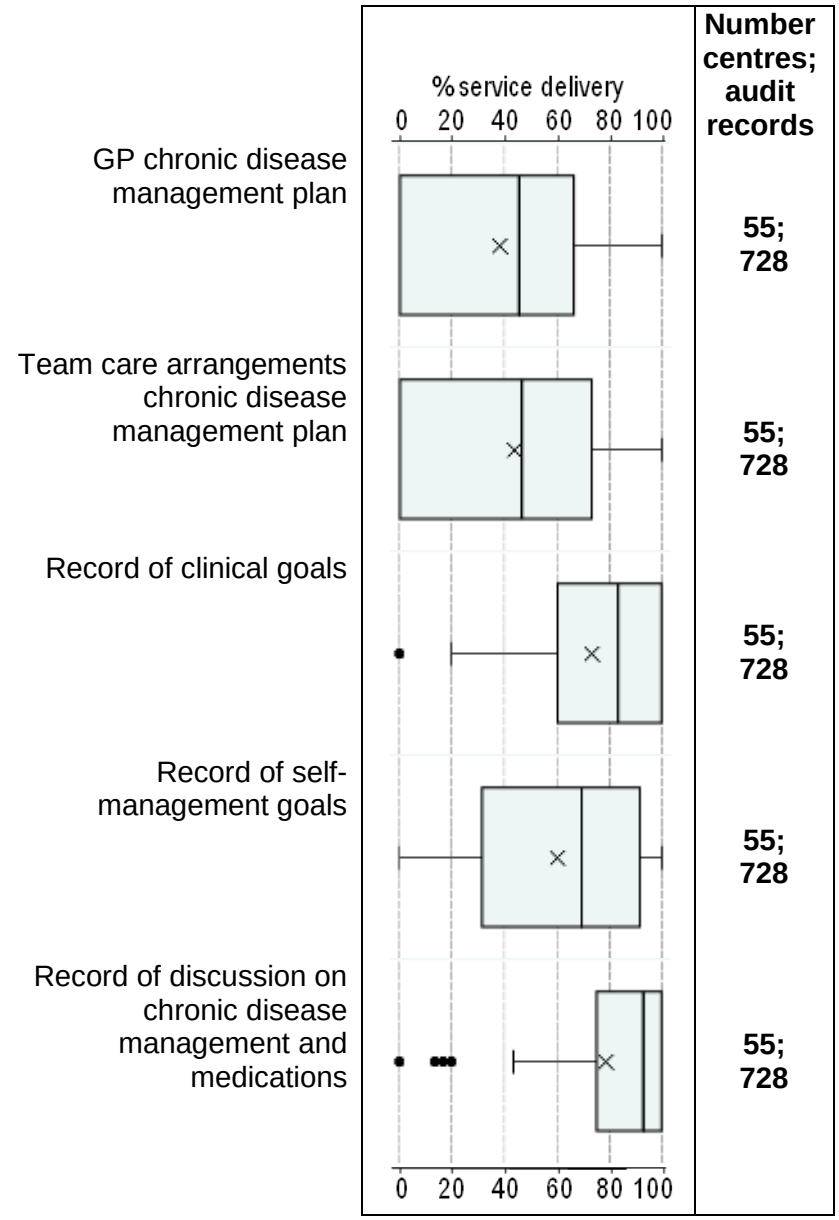


Figure 1.9: Record of scheduled services received by CKD patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.

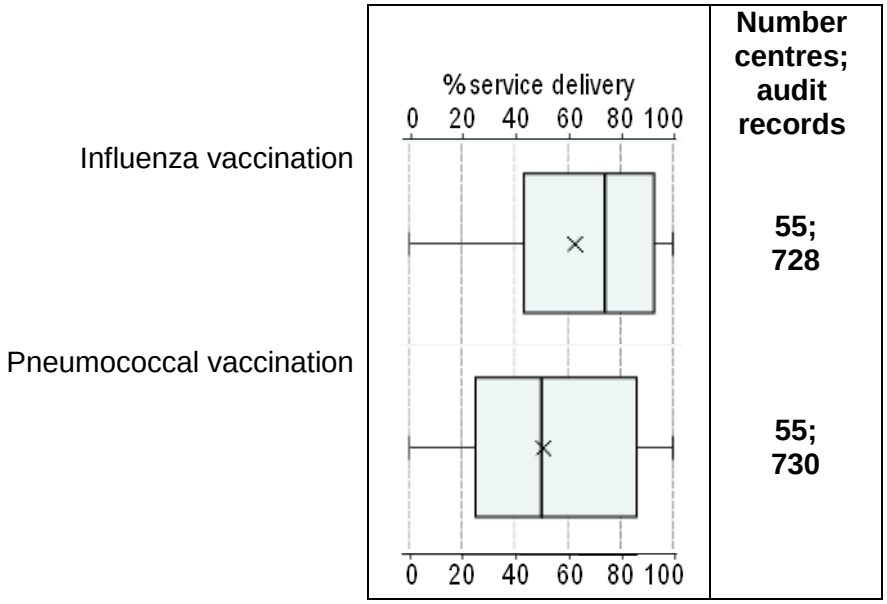
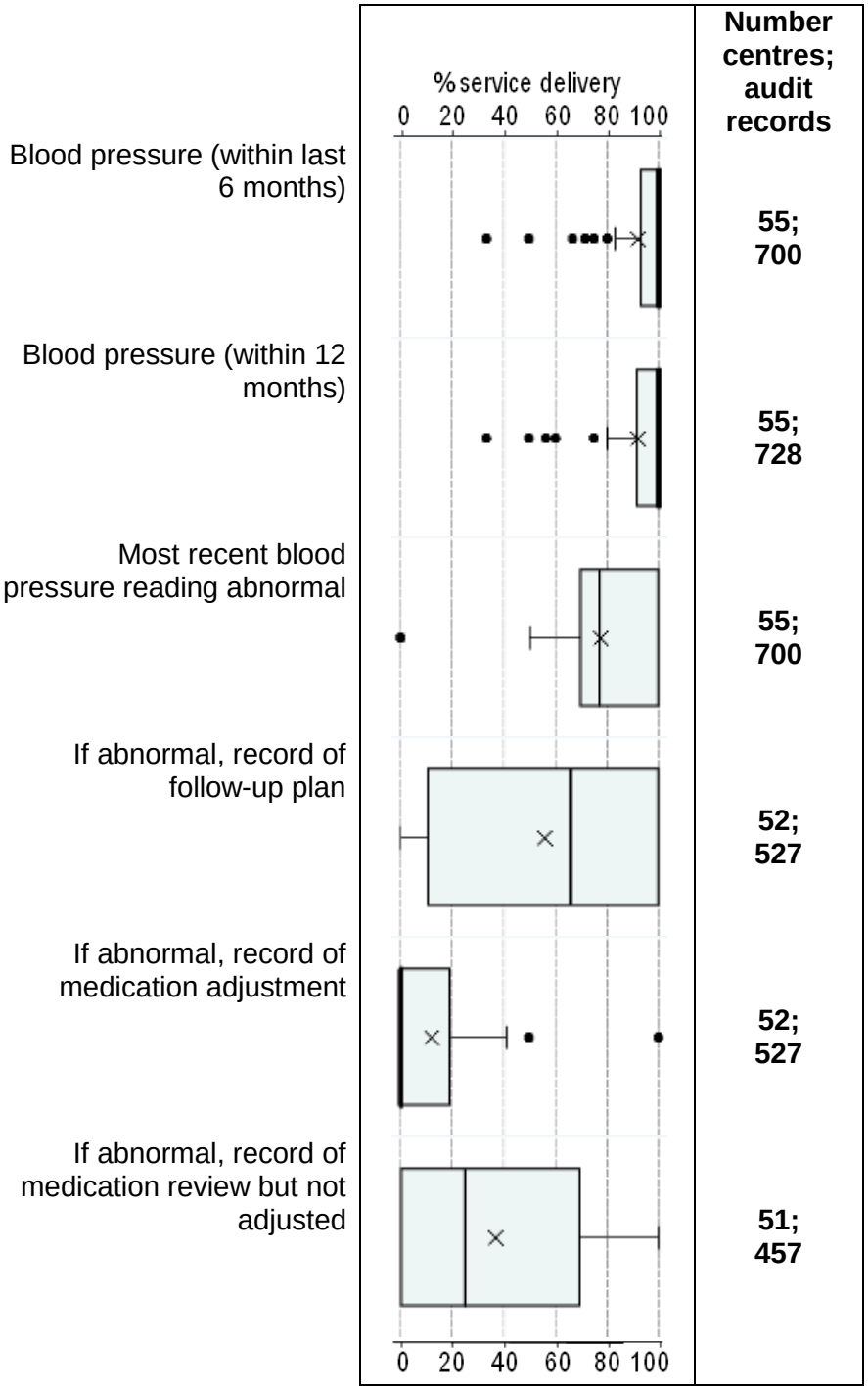


Figure 1.9 (cont): Record of scheduled services received by CKD patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.



Risk factors, brief interventions and referral

The figures in this section show health centre percentages of CKD patients with a record of discussion regarding risk factors and where relevant, a brief intervention and referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.10: Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CKD patients at health centres during 2012-2013.

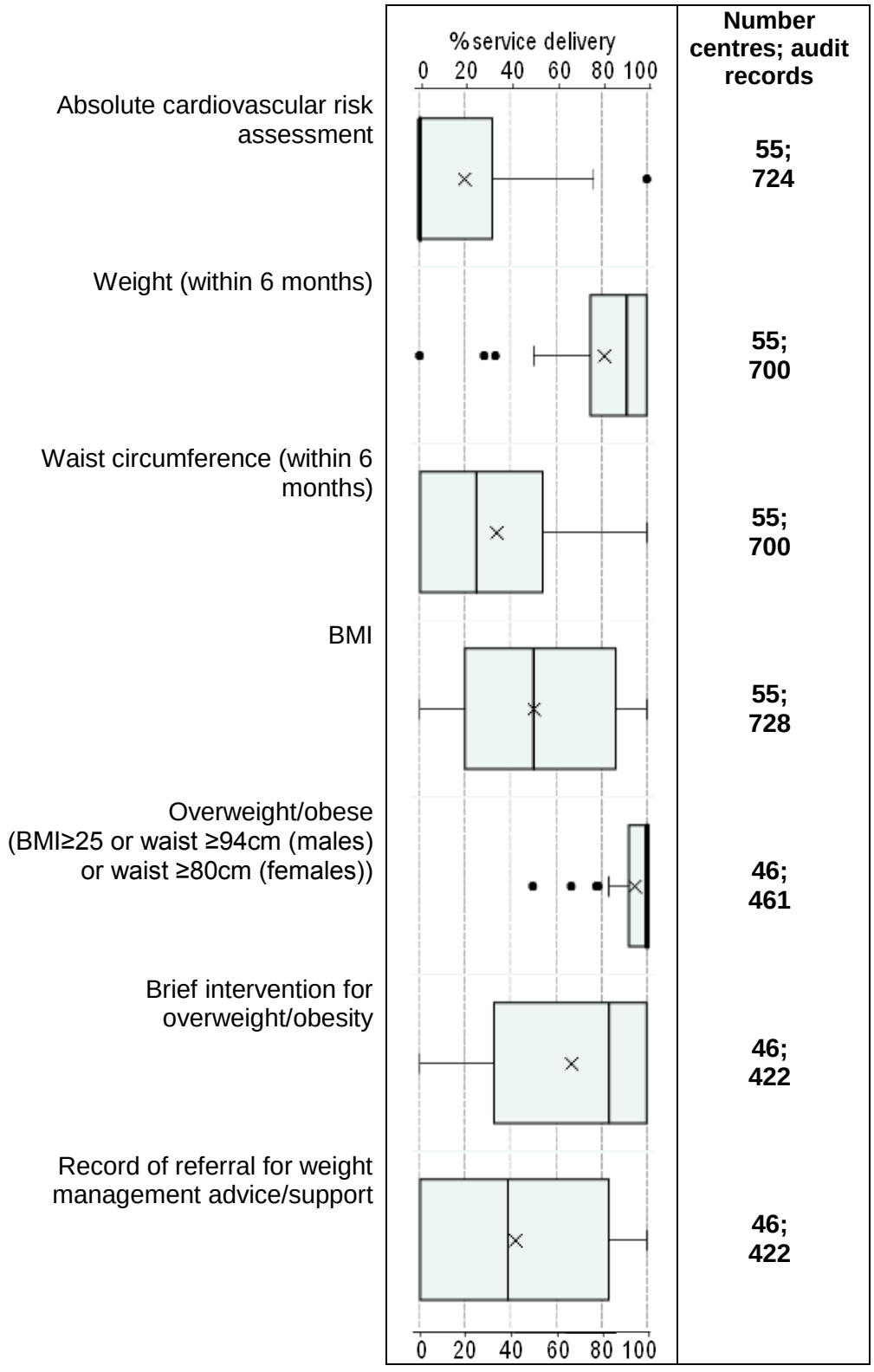


Figure 1.10 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CKD patients at health centres during 2012-2013.

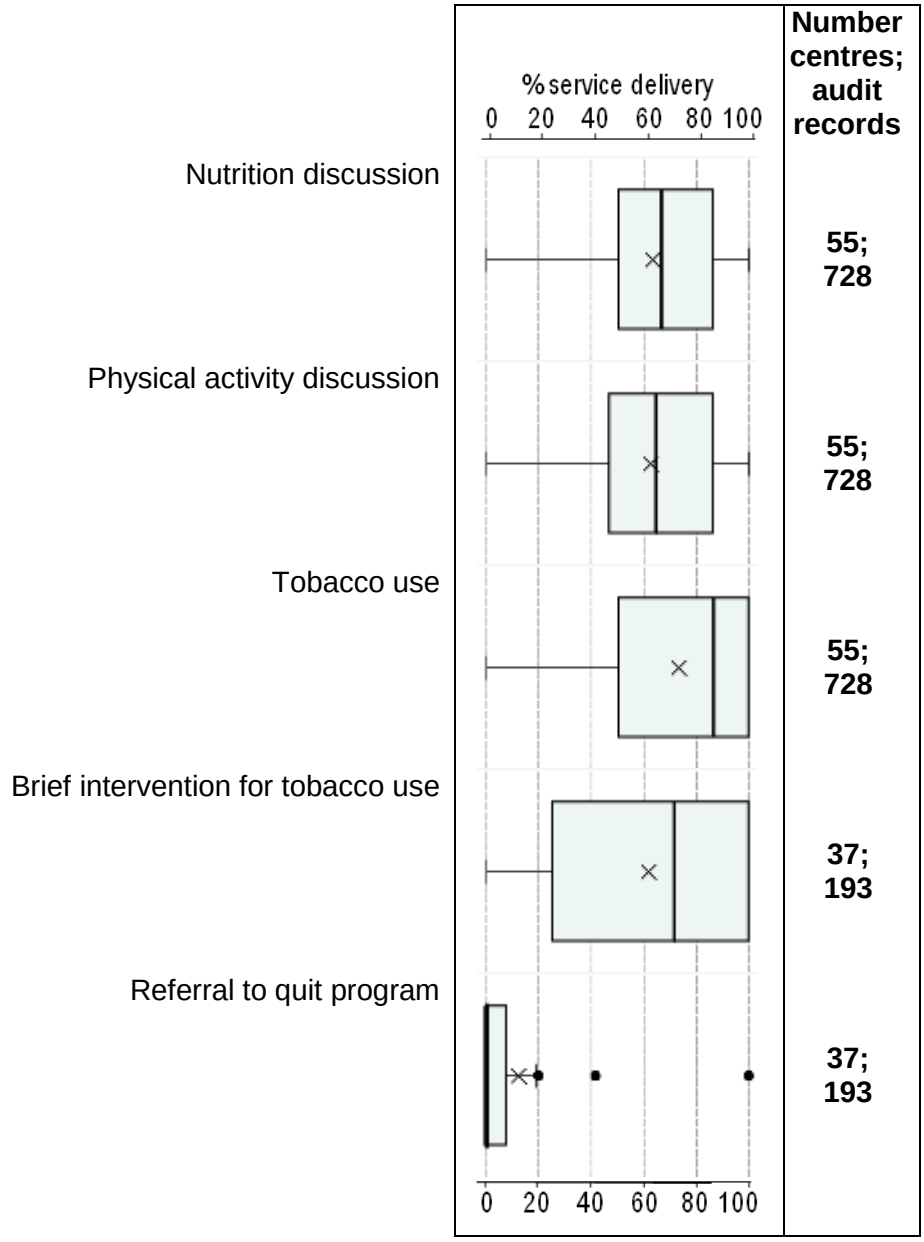
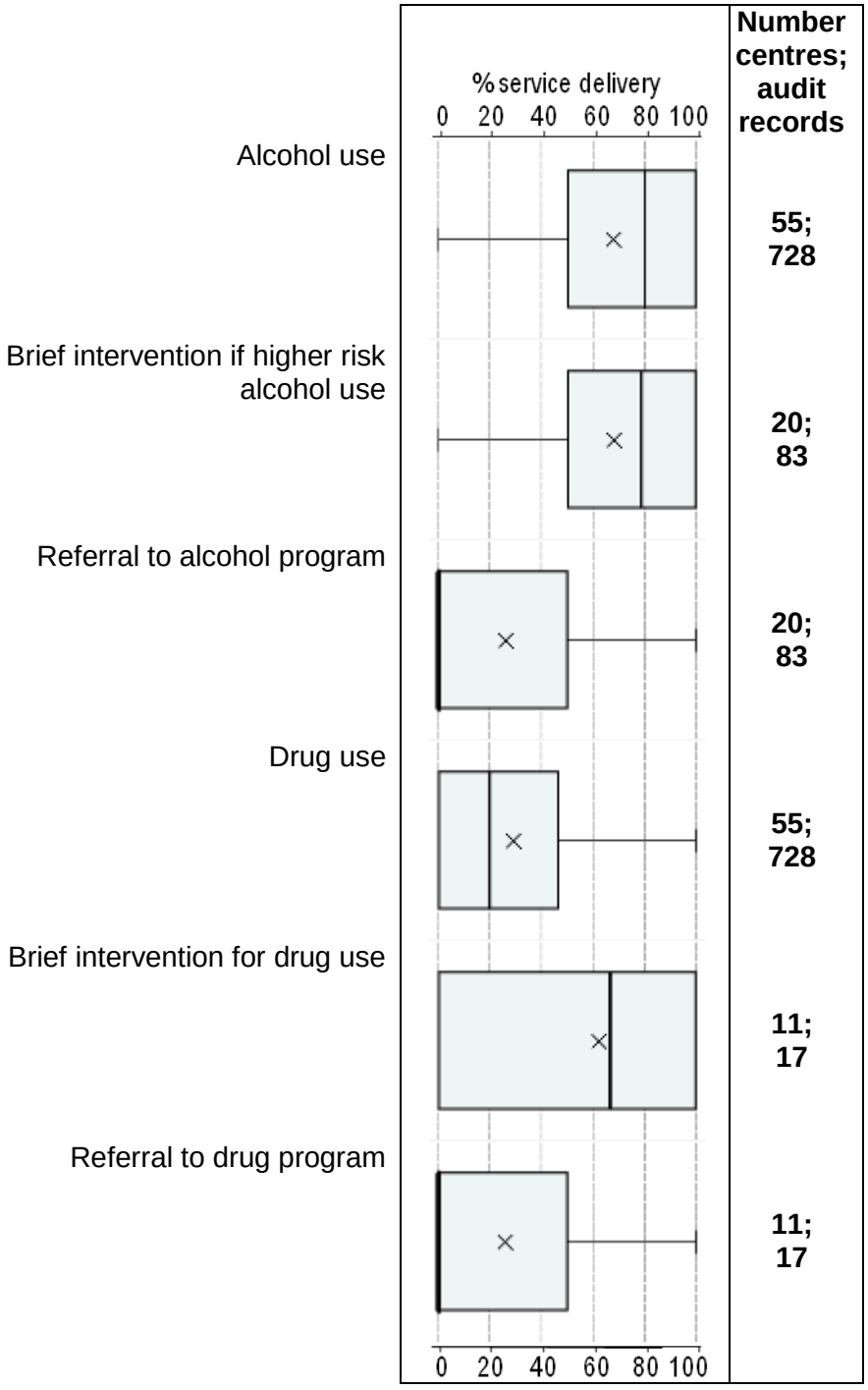


Figure 1.10 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CKD patients at health centres during 2012-2013.



Emotional wellbeing screening and care

The following figures show health centre percentages of CKD patients with a record of an emotional wellbeing discussion, recording of risk and where relevant, a brief intervention, follow-up action and/or referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.11: Record of discussion on emotional wellbeing and follow-up action for CKD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

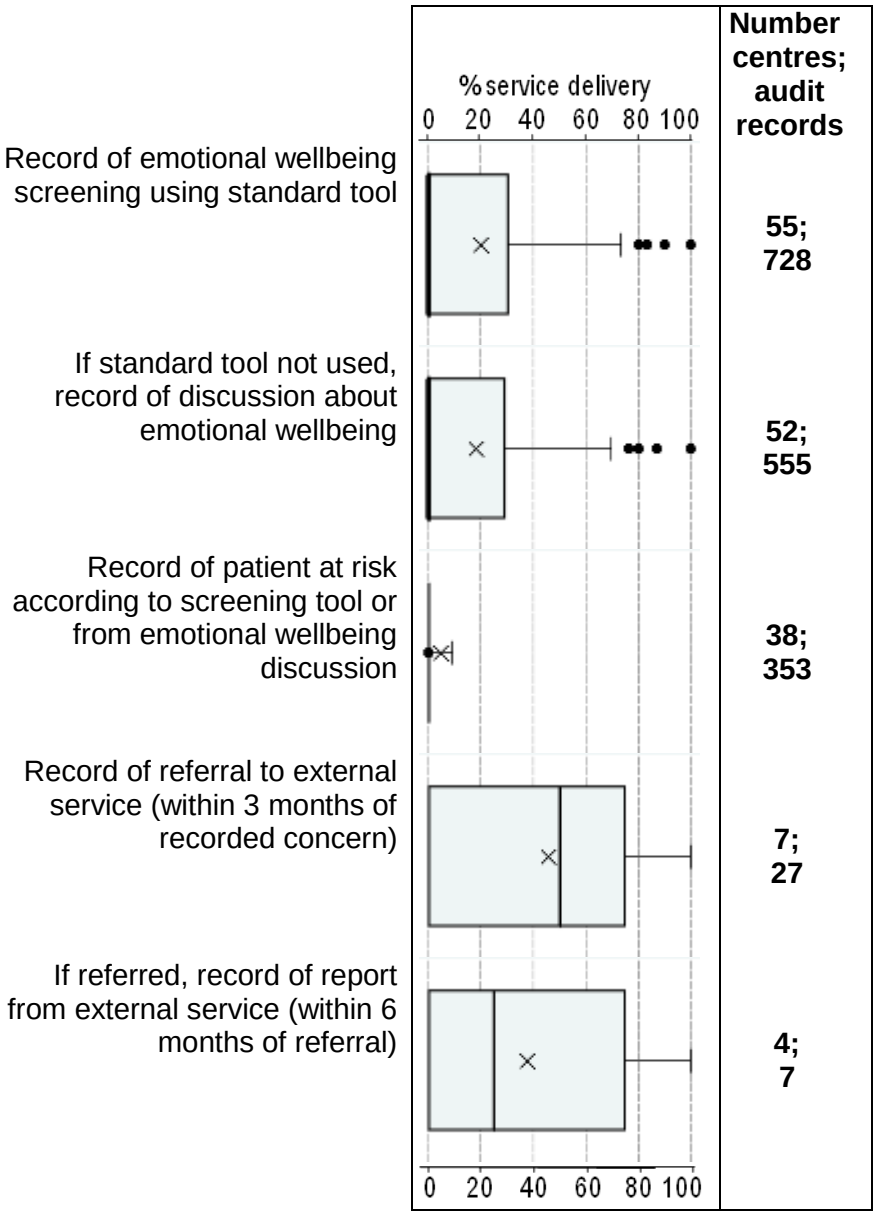
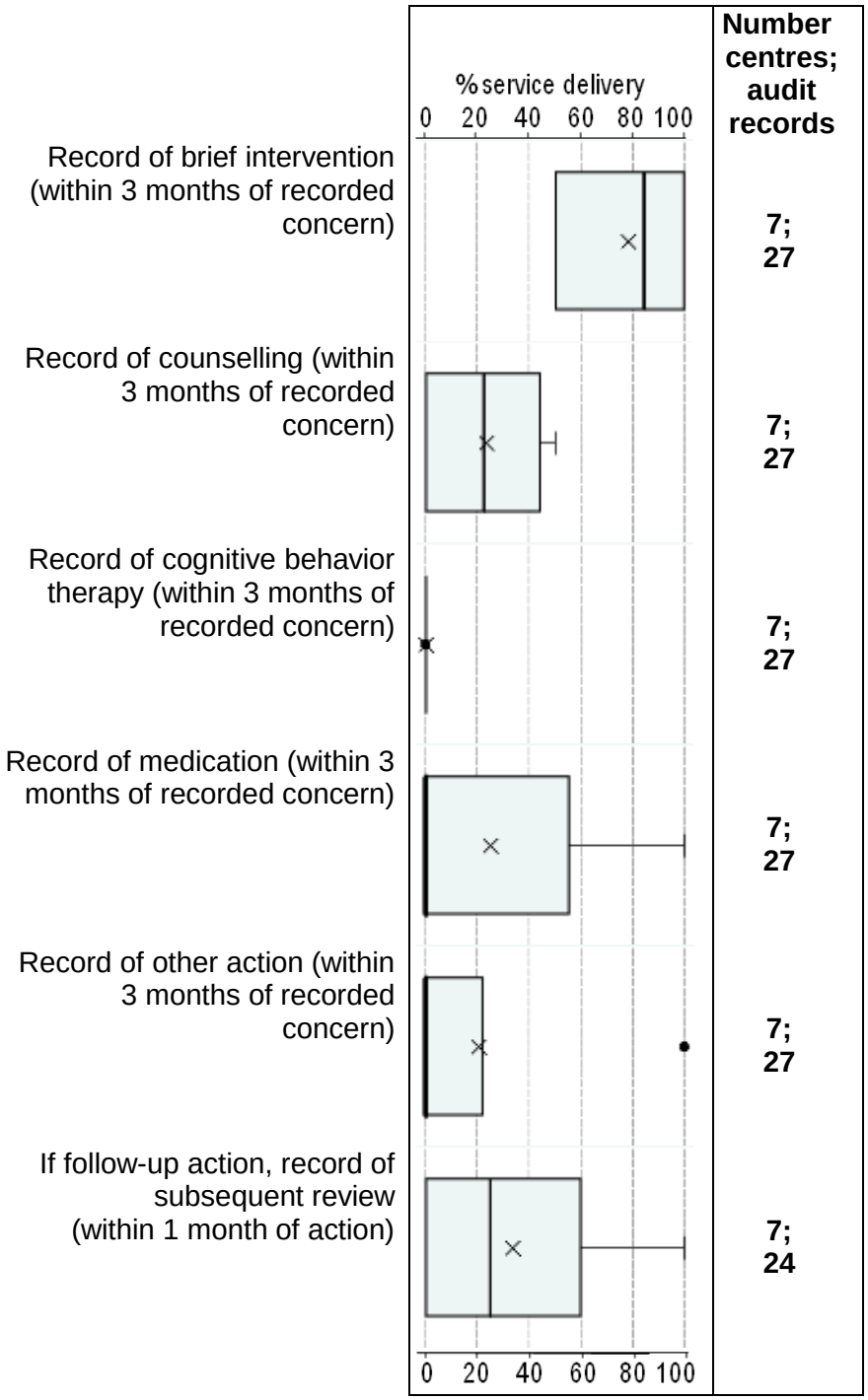


Figure 1.11 (cont): Record of discussion on emotional wellbeing and follow-up action for CKD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



Current treatment

The following figures show health centre percentages of CKD patients with a record of current prescriptions for certain medication within last 12 months of the audit date.

Figure 1.12: Record of current prescriptions for CKD patients within last 12 months of audit at health centres during 2012-2013.

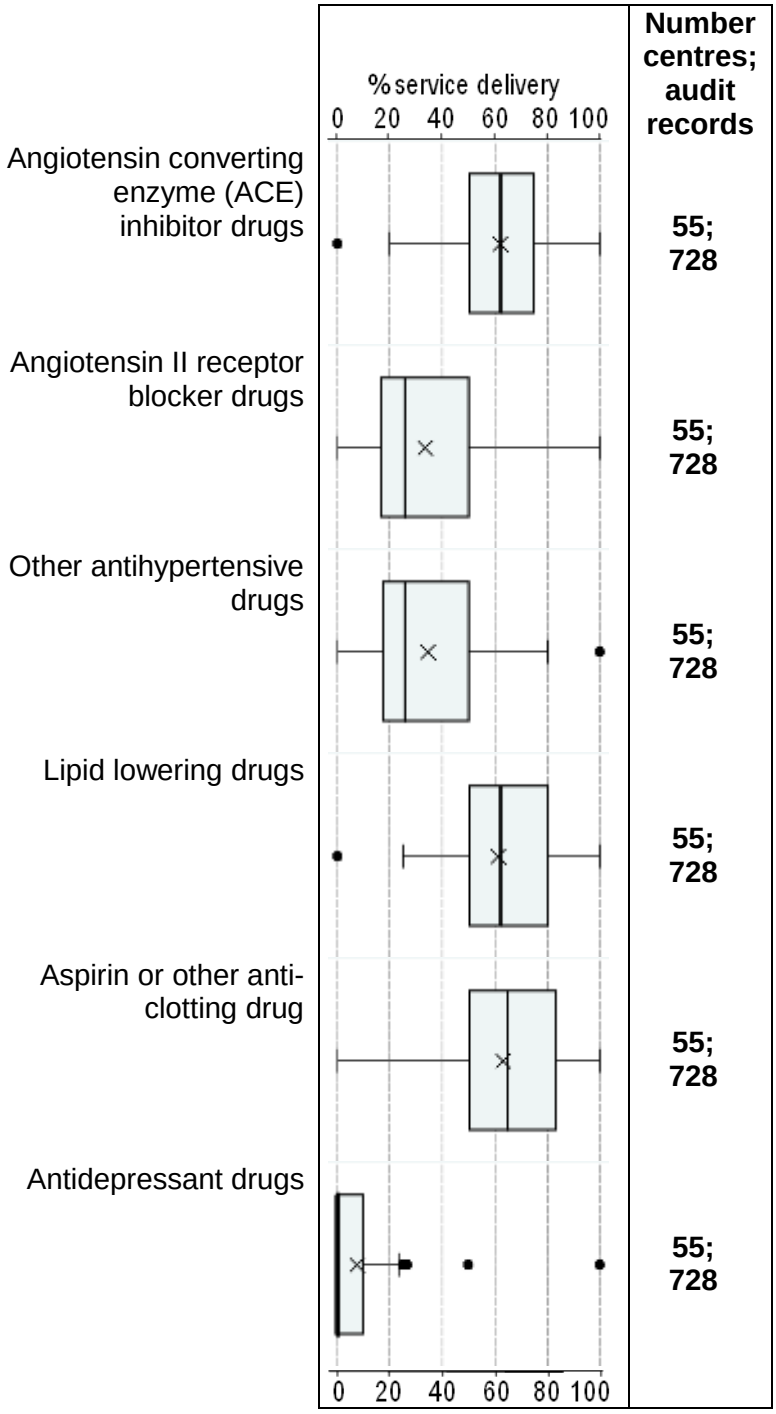
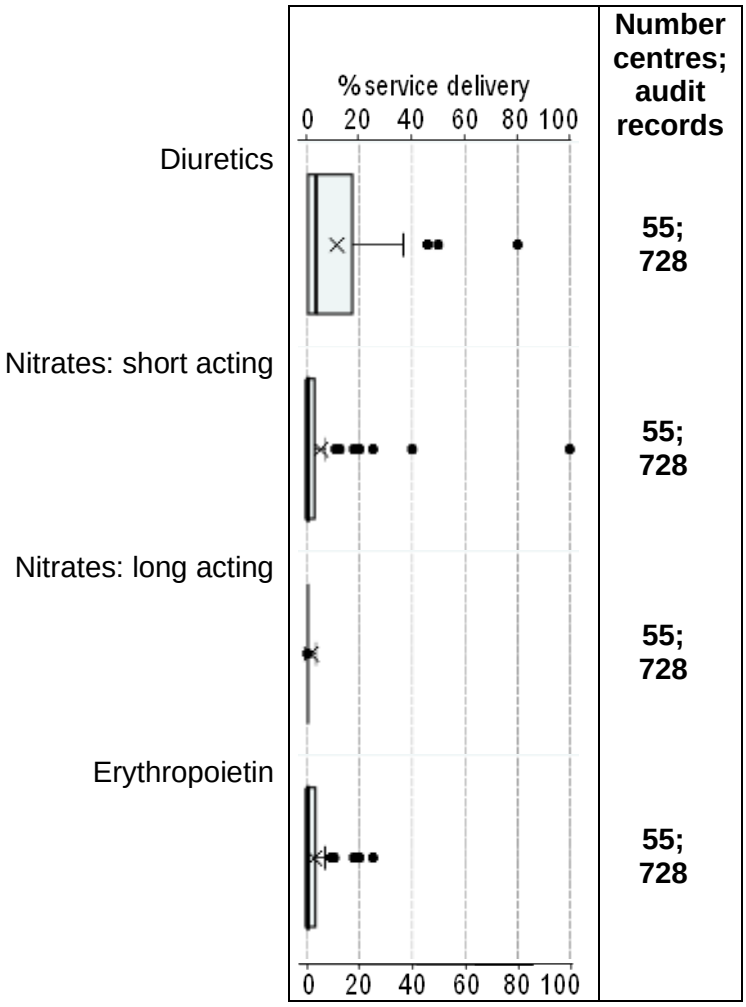


Figure 1.12 (cont): Record of current prescriptions for CKD patients within last 12 months of audit at health centres during 2012-2013.



Investigations

The figures in this section show health centre percentages of CKD patients with a record of pathology investigation and where relevant, follow-up of abnormal findings within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.13: Record of pathology investigation and follow-up for CKD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

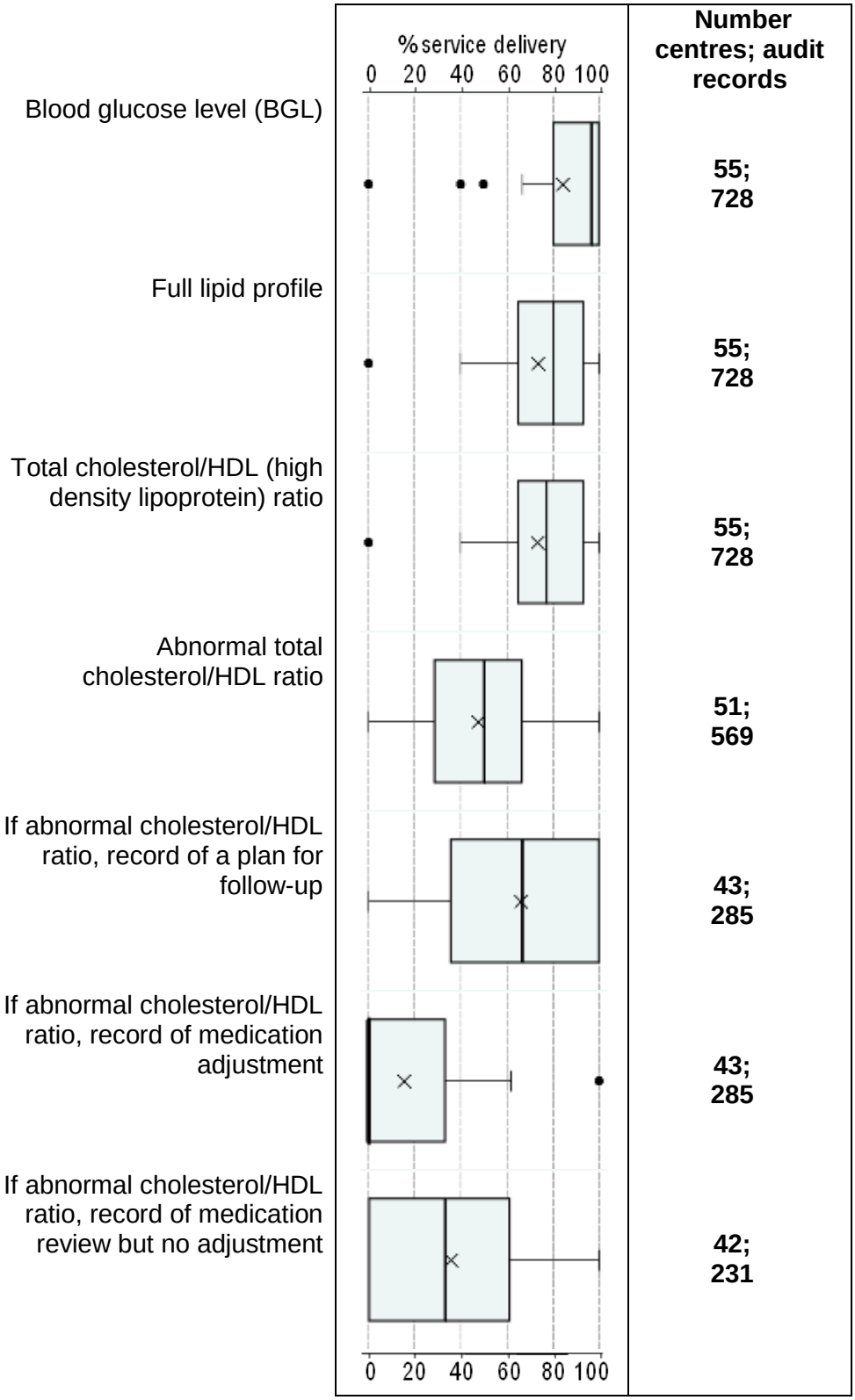
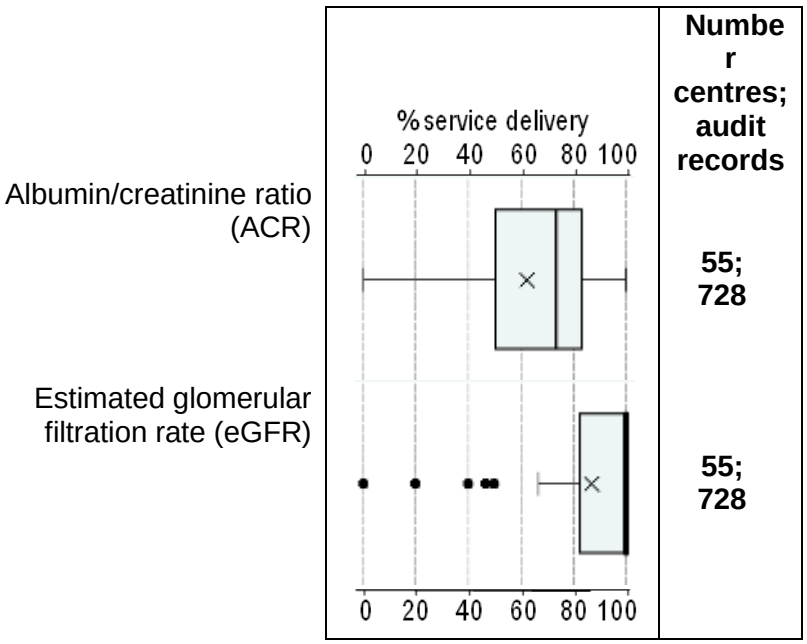


Figure 1.13 (cont): Record of pathology investigation and follow-up for CKD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



1.5. Coronary heart disease data

Management plans & scheduled services

The figures in this section show health centre percentages of CHD patients who have a record of a chronic disease management plan and a record of receiving scheduled services as per recommended guidelines within the last 12 months of the audit date(unless otherwise indicated).

Figure 1.14: Record of current management plans for CHD patients within 12 months of audit at health centres during 2012-2013.

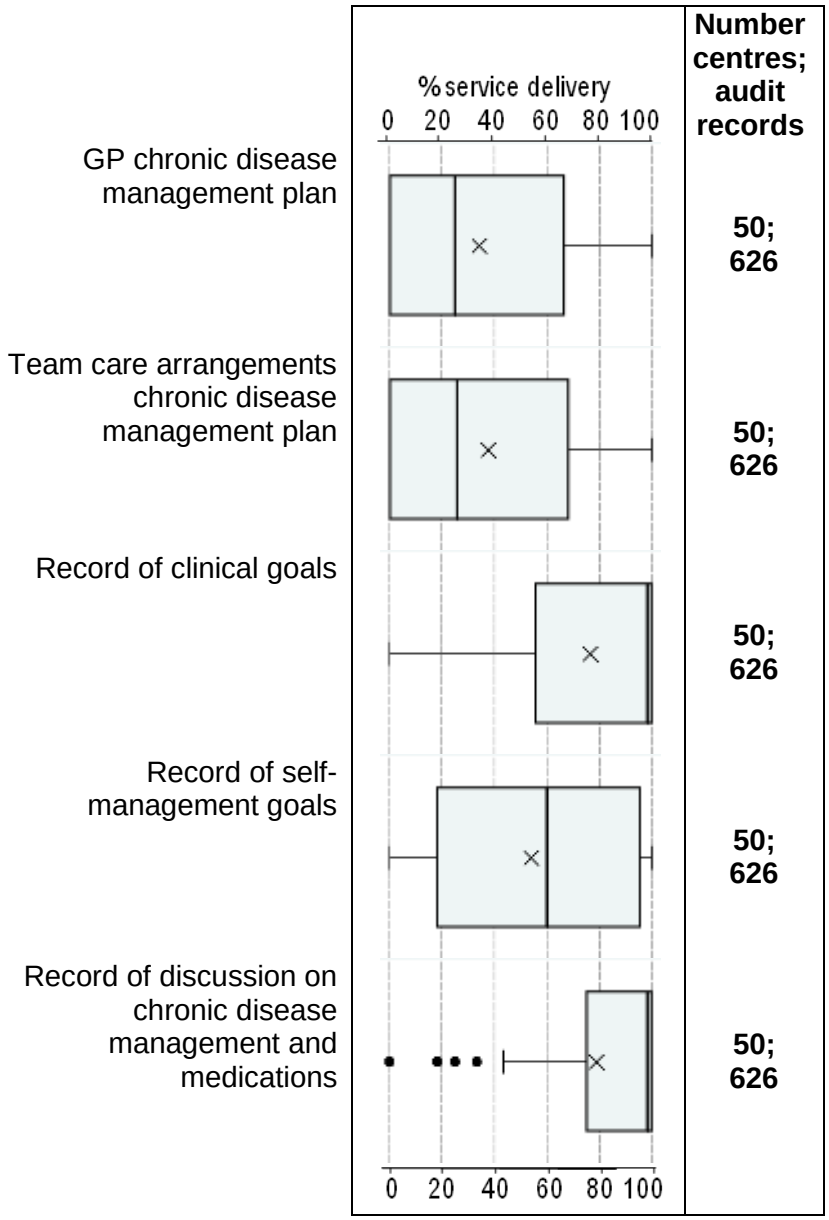


Figure 1.15: Record of scheduled services received by CHD patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.

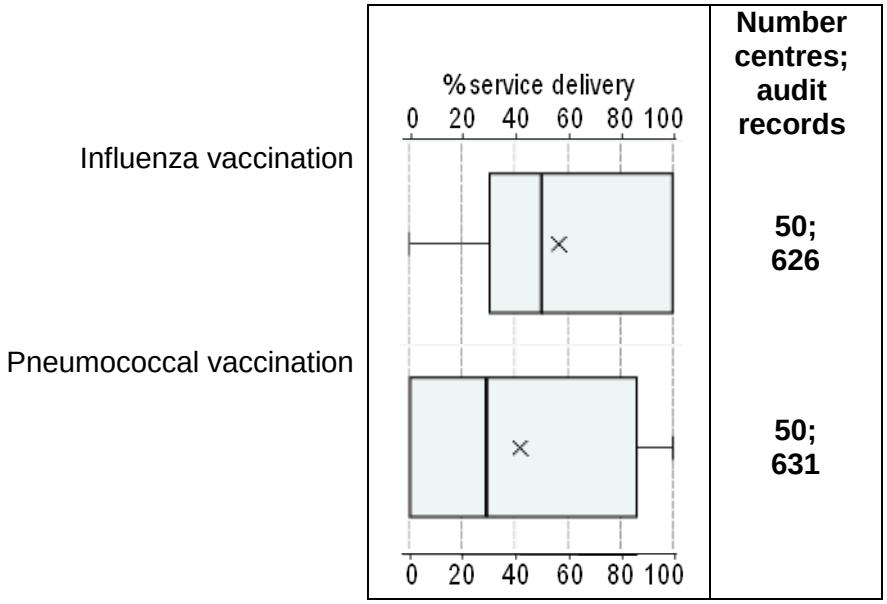
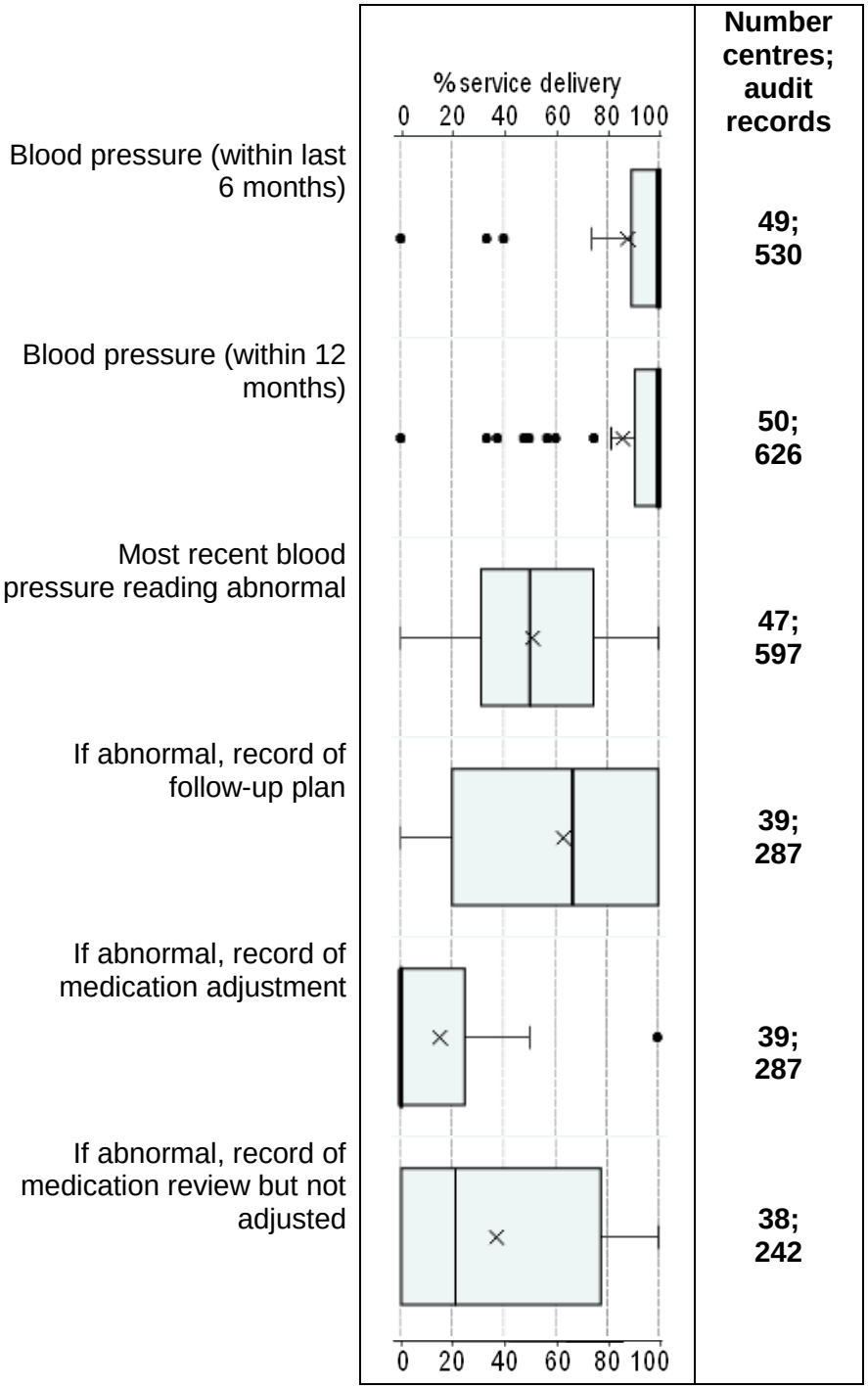


Figure 1.15 (cont): Record of scheduled services received by CHD patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.



Risk factors, brief interventions and referral

The figures in this section show health centre percentages of CHD patients with a record of discussion regarding risk factors and where relevant, a brief intervention and referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.16: Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CHD patients at health centres during 2012-2013.

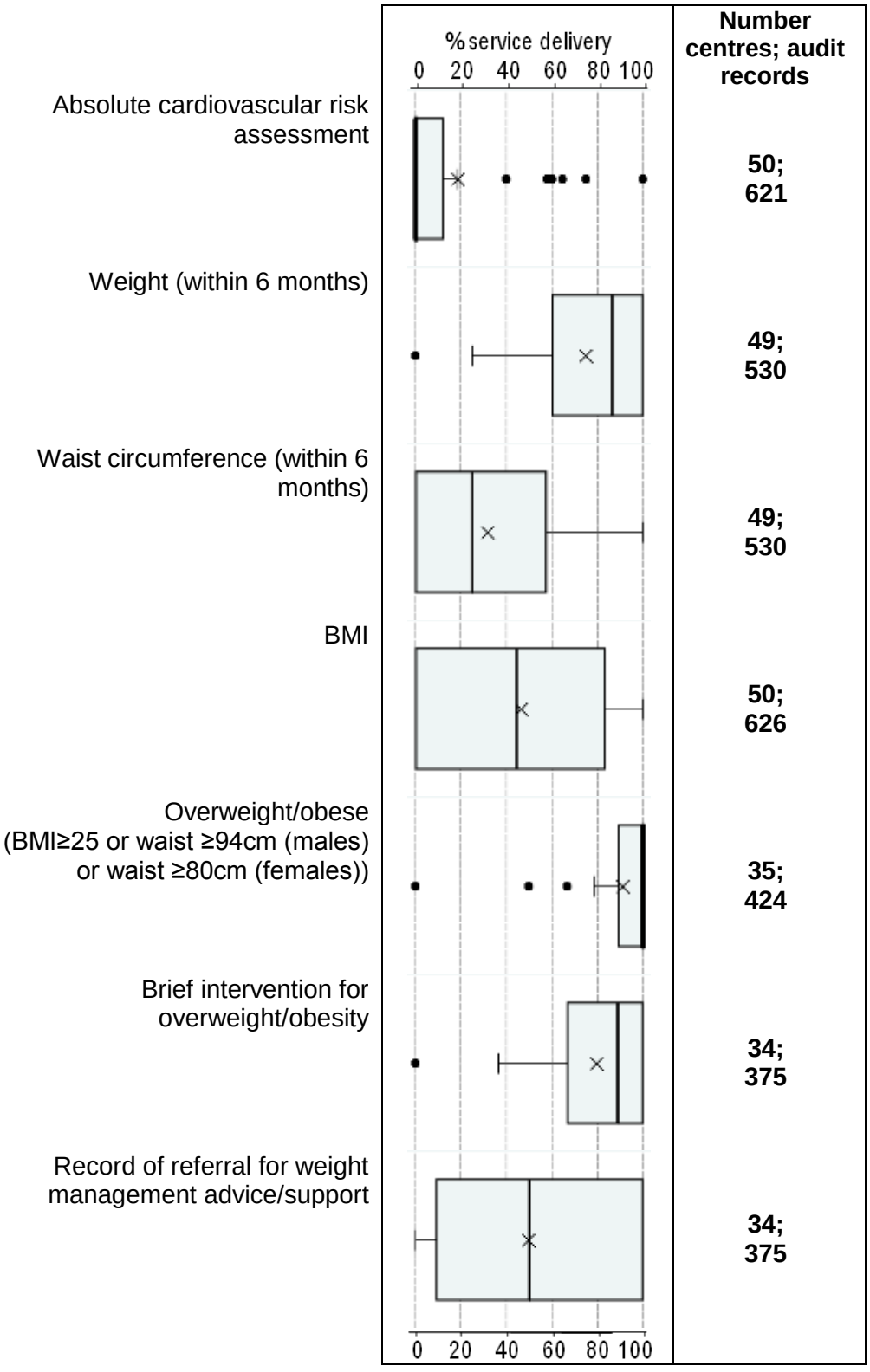


Figure 1.16 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CHD patients at health centres during 2012-2013.

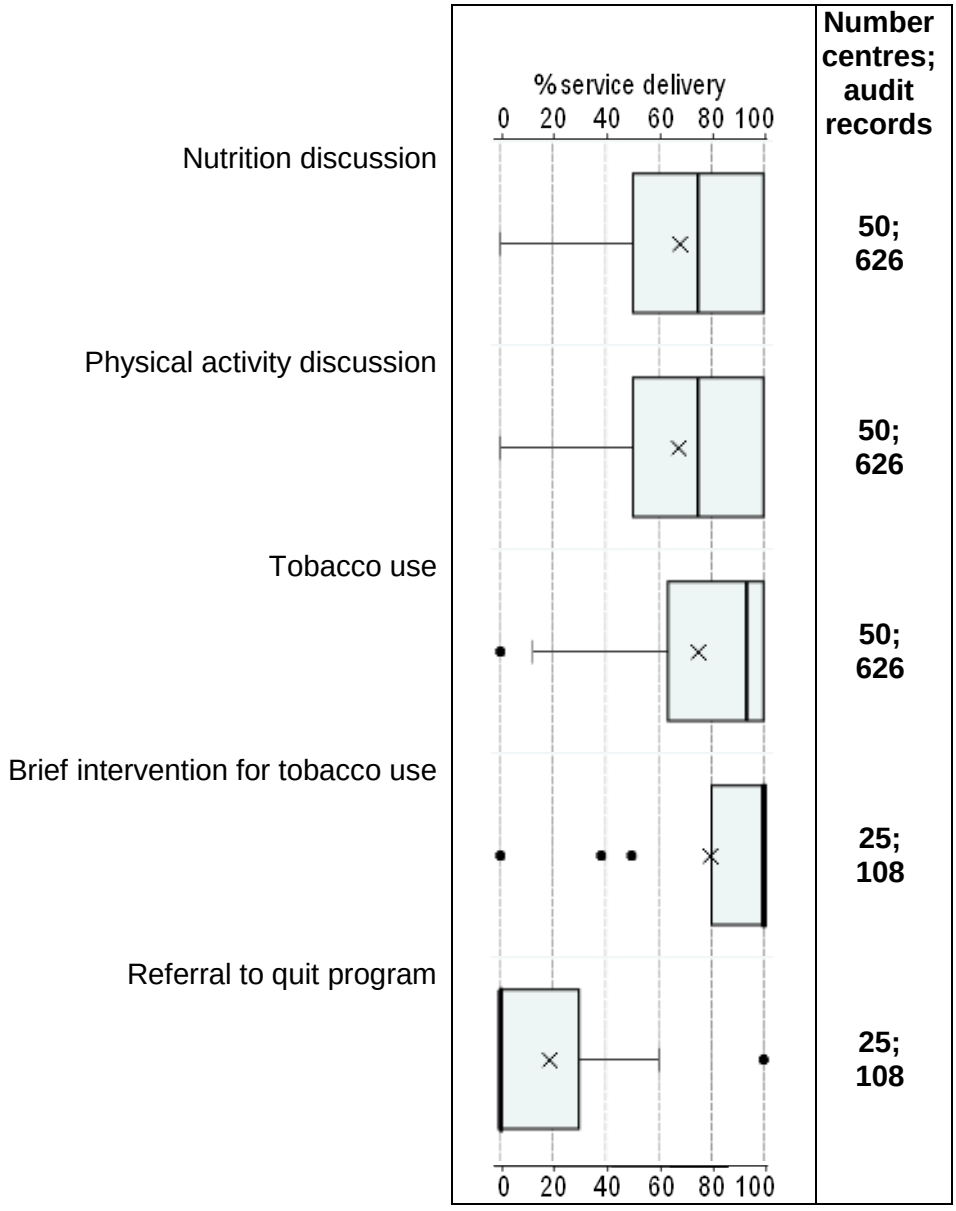
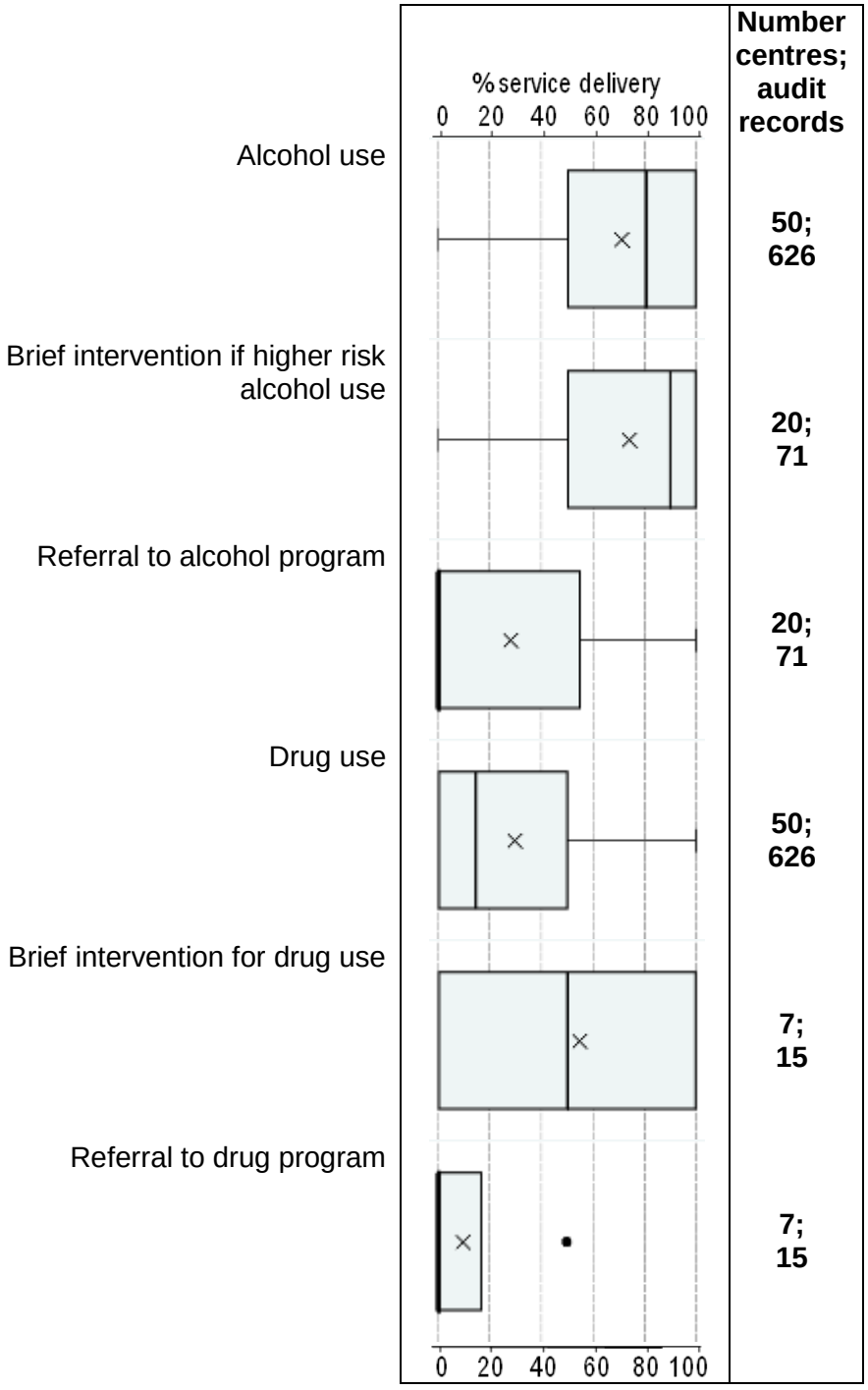


Figure 1.16 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CHD patients at health centres during 2012-2013.



Emotional wellbeing screening and care

The following figures show health centre percentages of CHD patients with a record of an emotional wellbeing discussion, recording of risk and where relevant, a brief intervention, follow-up action and/or referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.17: Record of discussion on emotional wellbeing and follow-up action for CHD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

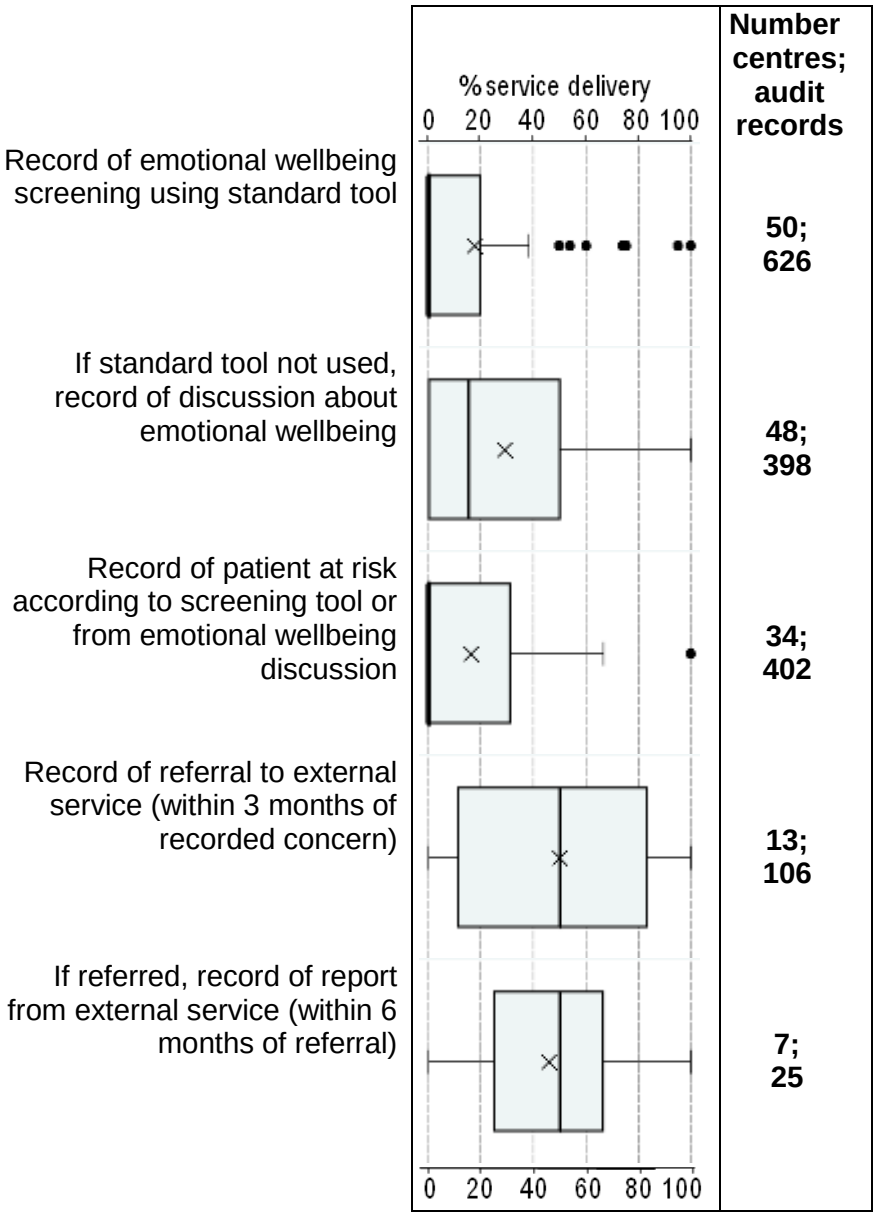
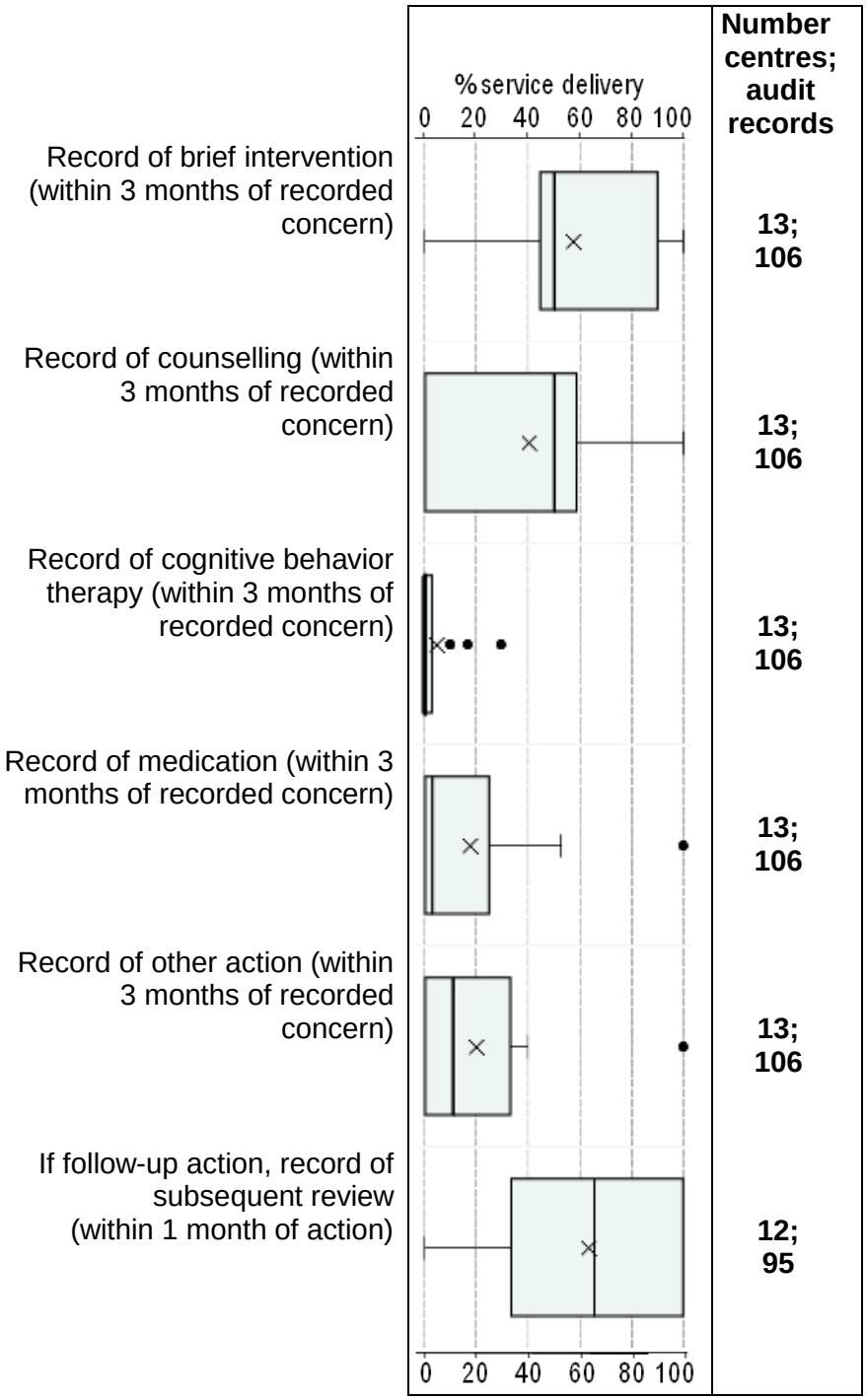


Figure 1.17 (cont): Record of discussion on emotional wellbeing and follow-up action for CHD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



Current treatment

The following figures show health centre percentages of CHD patients with a record of current prescriptions for certain medication within last 12 months of the audit date.

Figure 1.18: Record of current prescriptions for CHD patients within last 12 months of audit at health centres during 2012-2013.

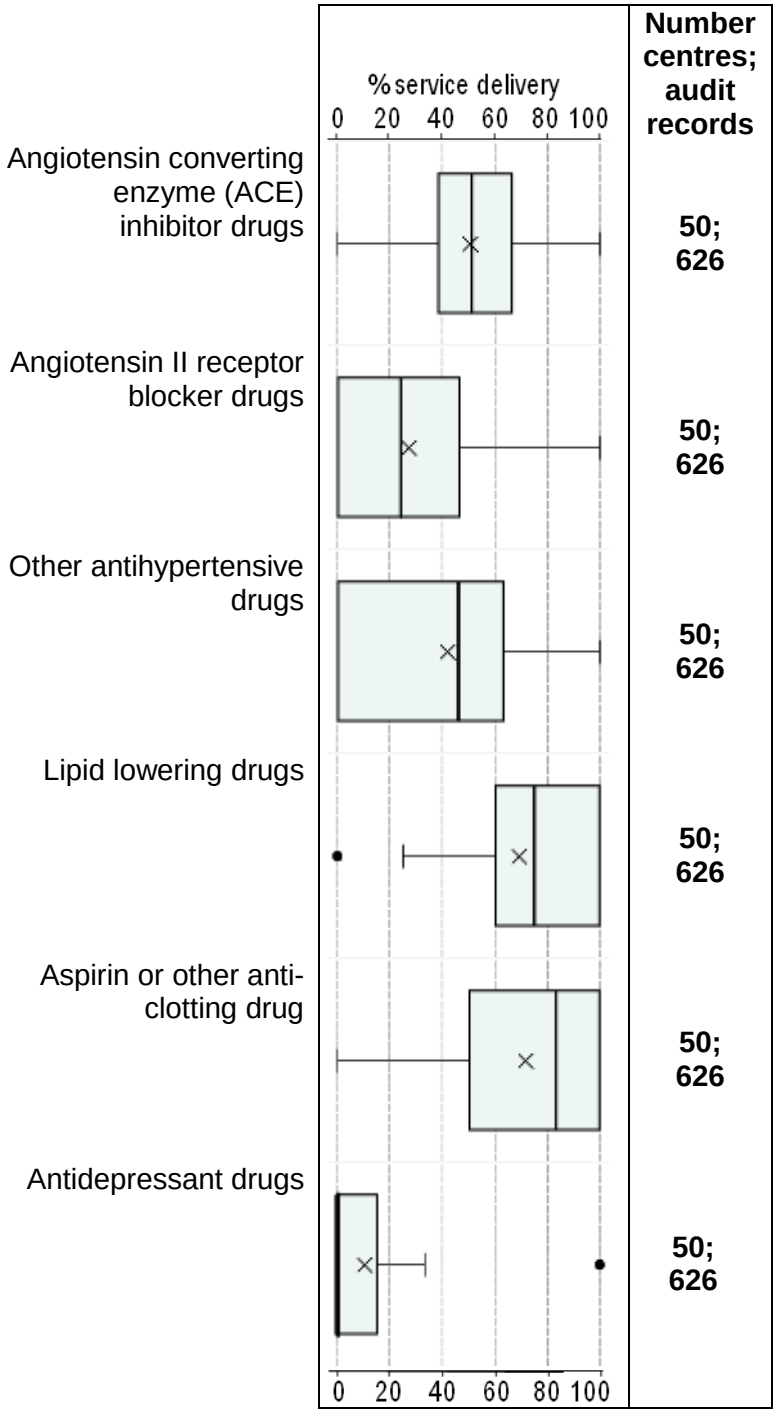
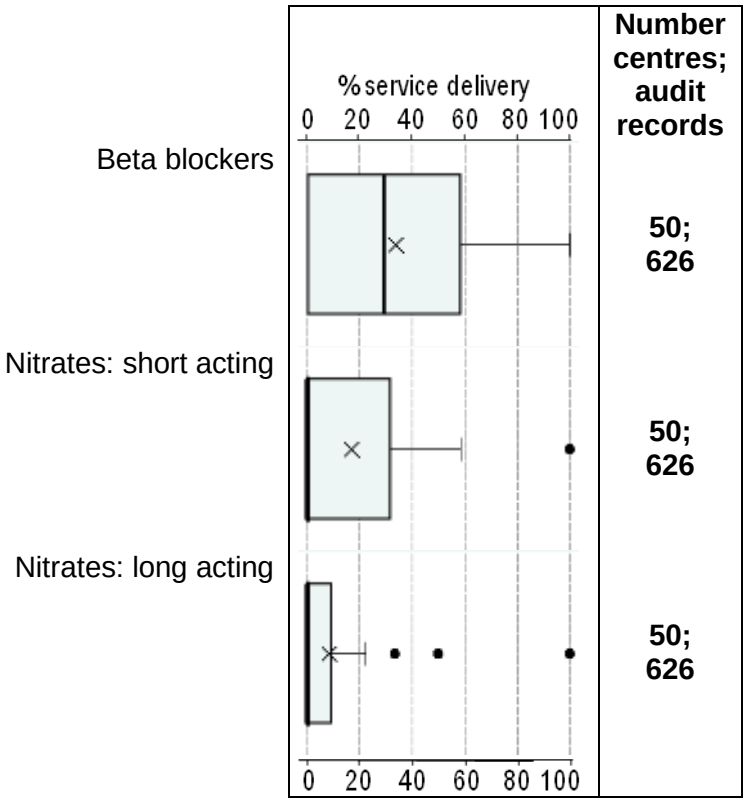


Figure 1.18 (cont): Record of current prescriptions for CHD patients within last 12 months of audit at health centres during 2012-2013.



Investigations

The figures in this section show health centre percentages of CHD patients with a record of pathology investigation and where relevant, follow-up of abnormal findings within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.19: Record of pathology investigation and follow-up for CHD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

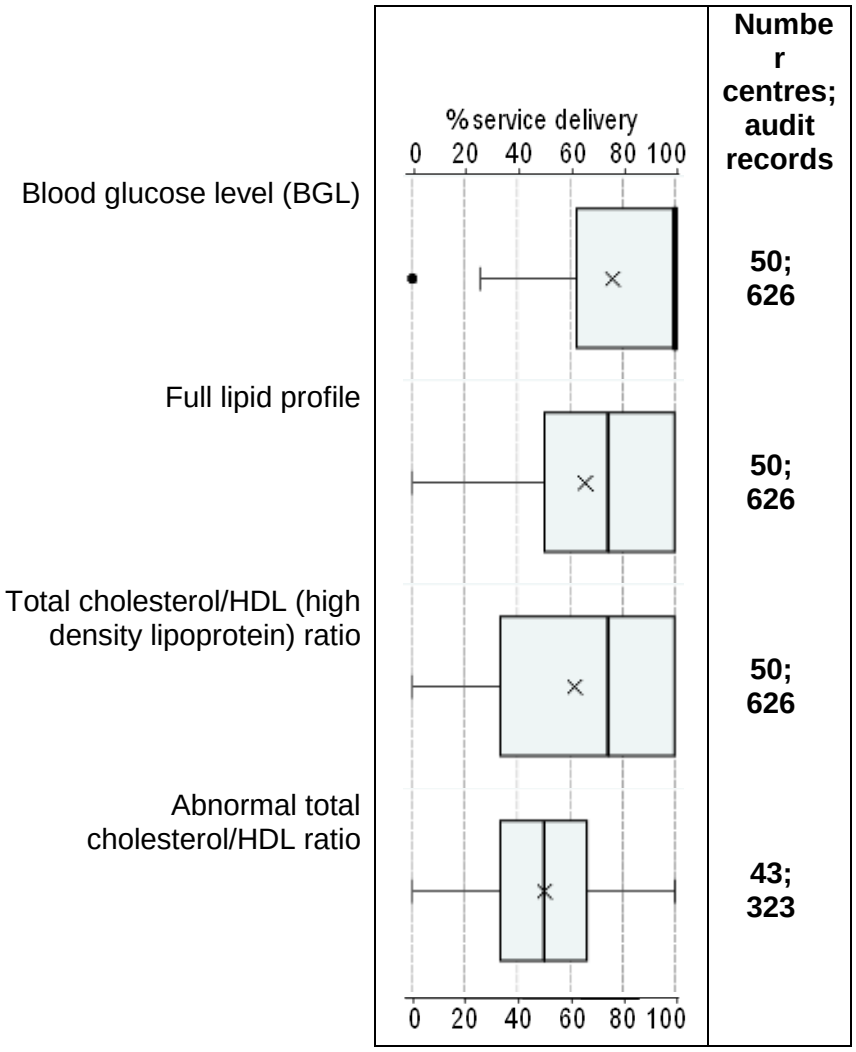
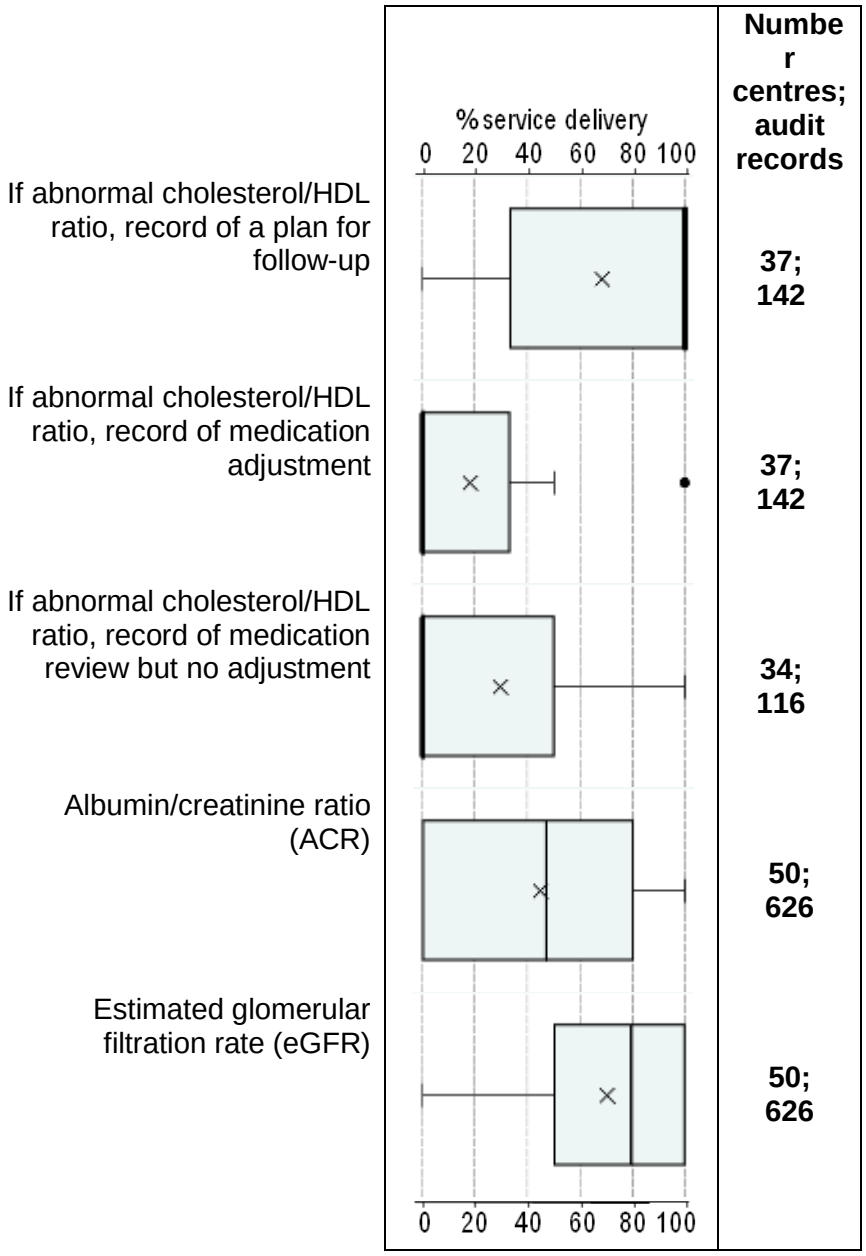


Figure 1.19 (cont): Record of pathology investigation and follow-up for CHD patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



1.6. Hypertension data

Management plans & scheduled services

The figures in this section show health centre percentages of HT patients who have a record of a chronic disease management plan and a record of receiving scheduled services as per recommended guidelines within the last 12 months of the audit date(unless otherwise indicated).

Figure 1.20: Record of current management plans for HT patients within 12 months of audit at health centres during 2012-2013.

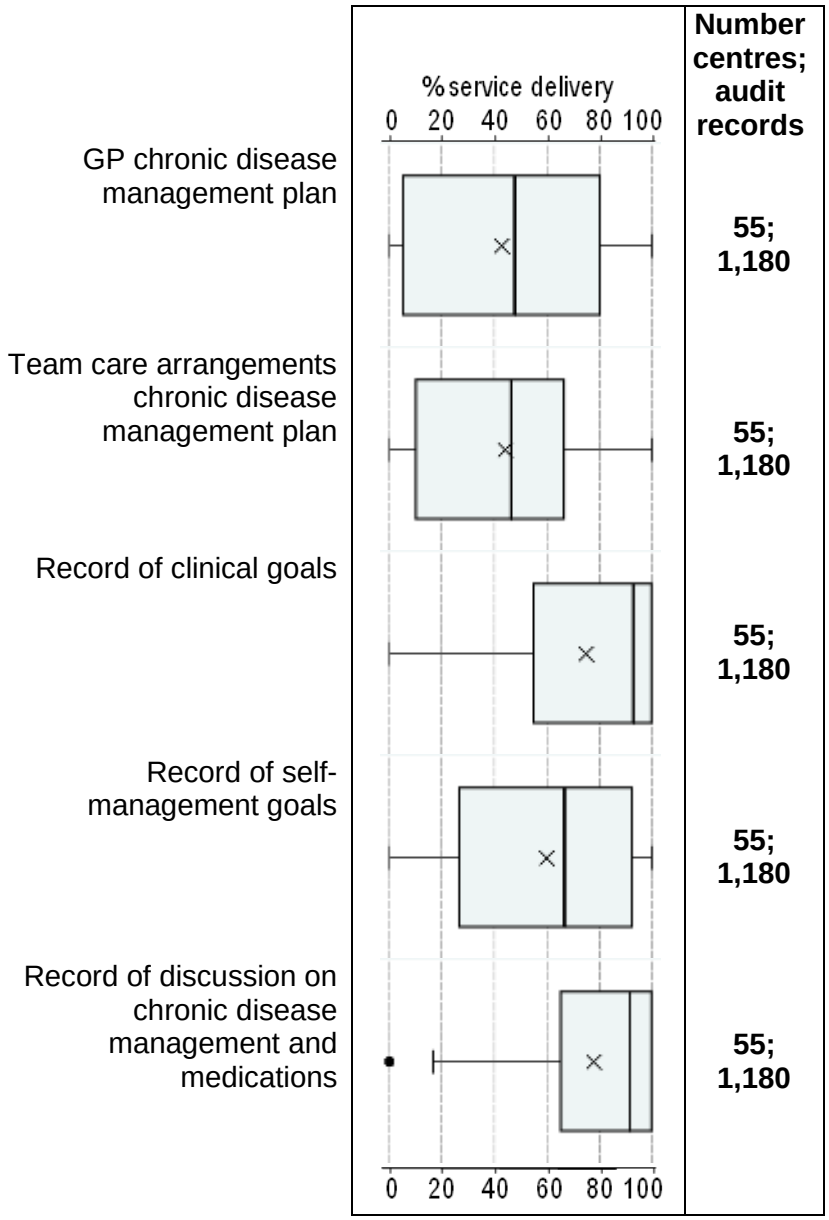


Figure 1.21: Record of scheduled services received by HT patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.

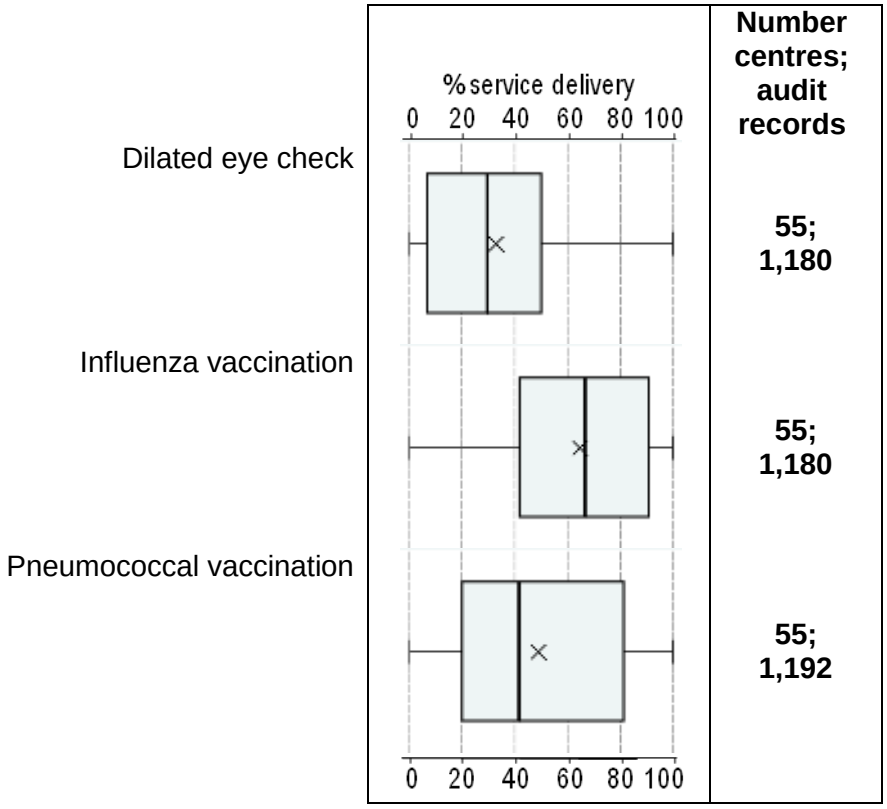
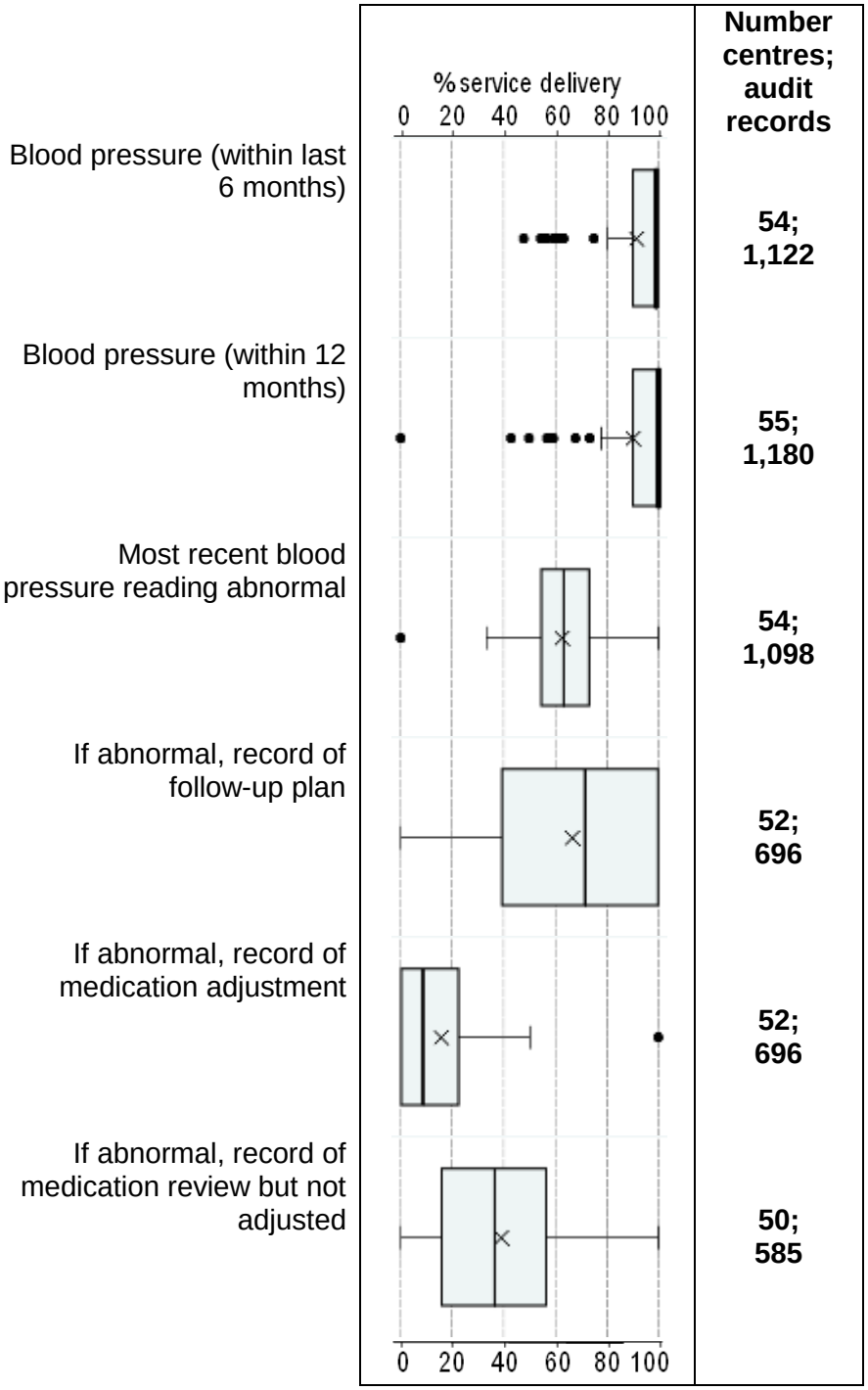


Figure 1.21 (cont): Record of scheduled services received by HT patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.



Risk factors, brief interventions and referral

The figures in this section show health centre percentages of HT patients with a record of discussion regarding risk factors and where relevant, a brief intervention and referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.22: Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for HT patients at health centres during 2012-2013.

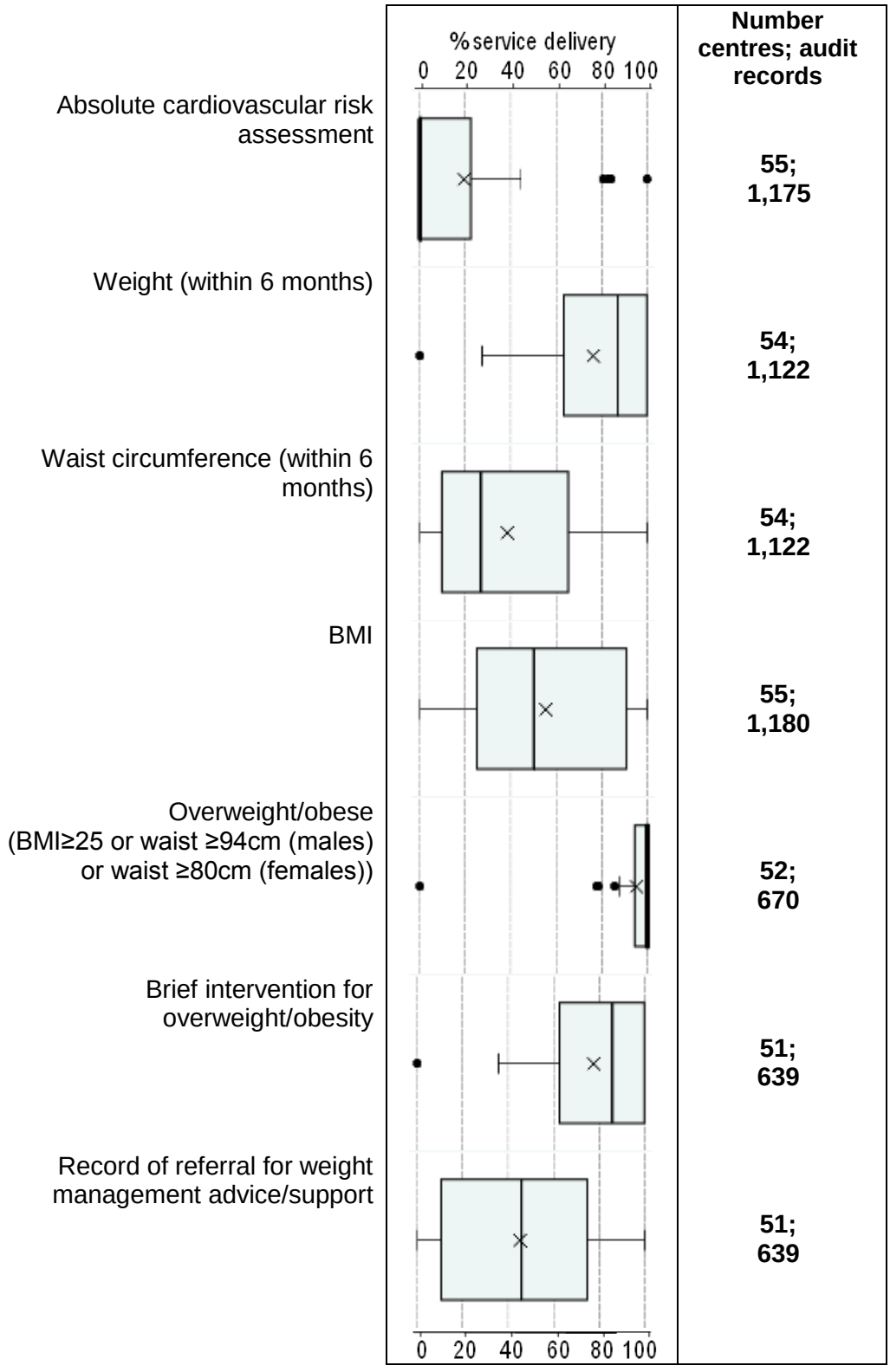


Figure 1.22 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for HT patients at health centres during 2012-2013.

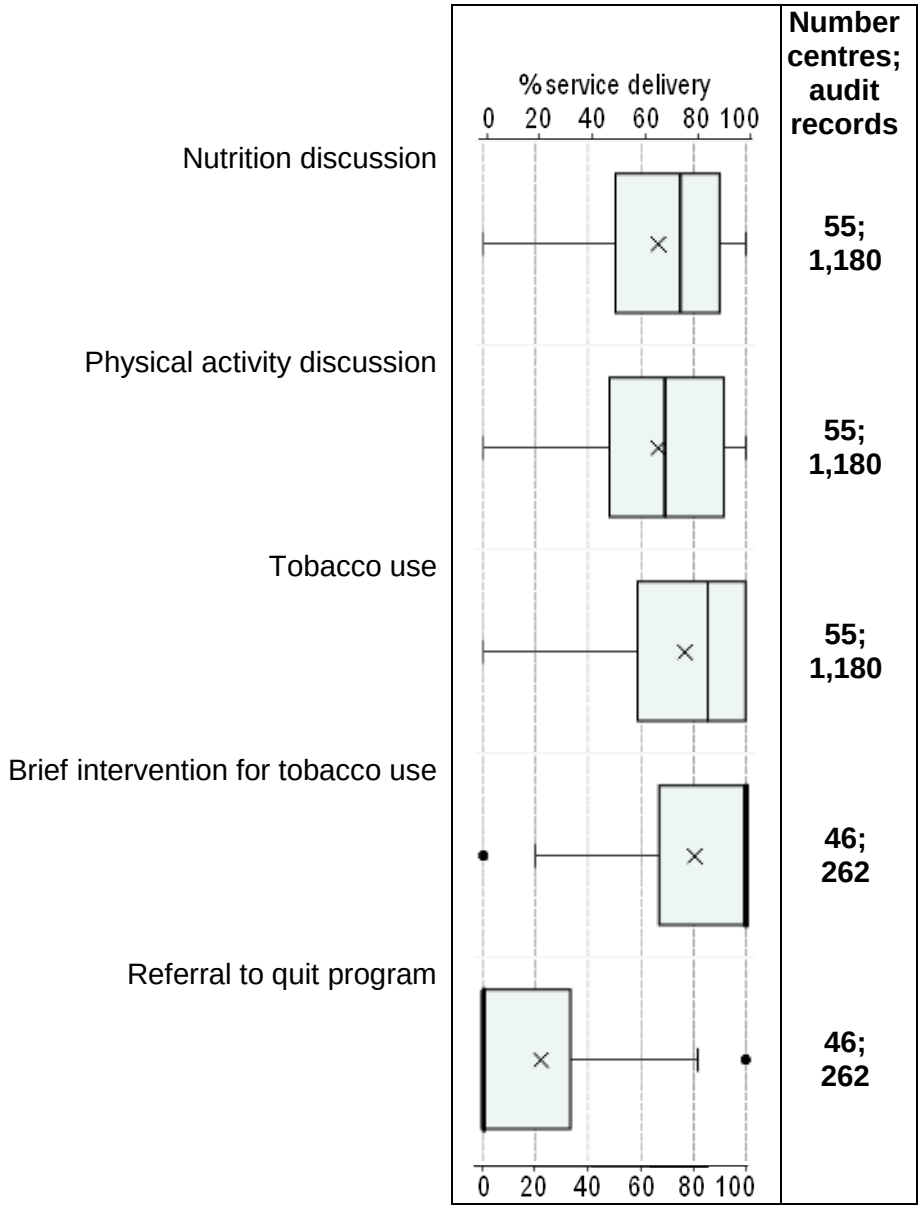
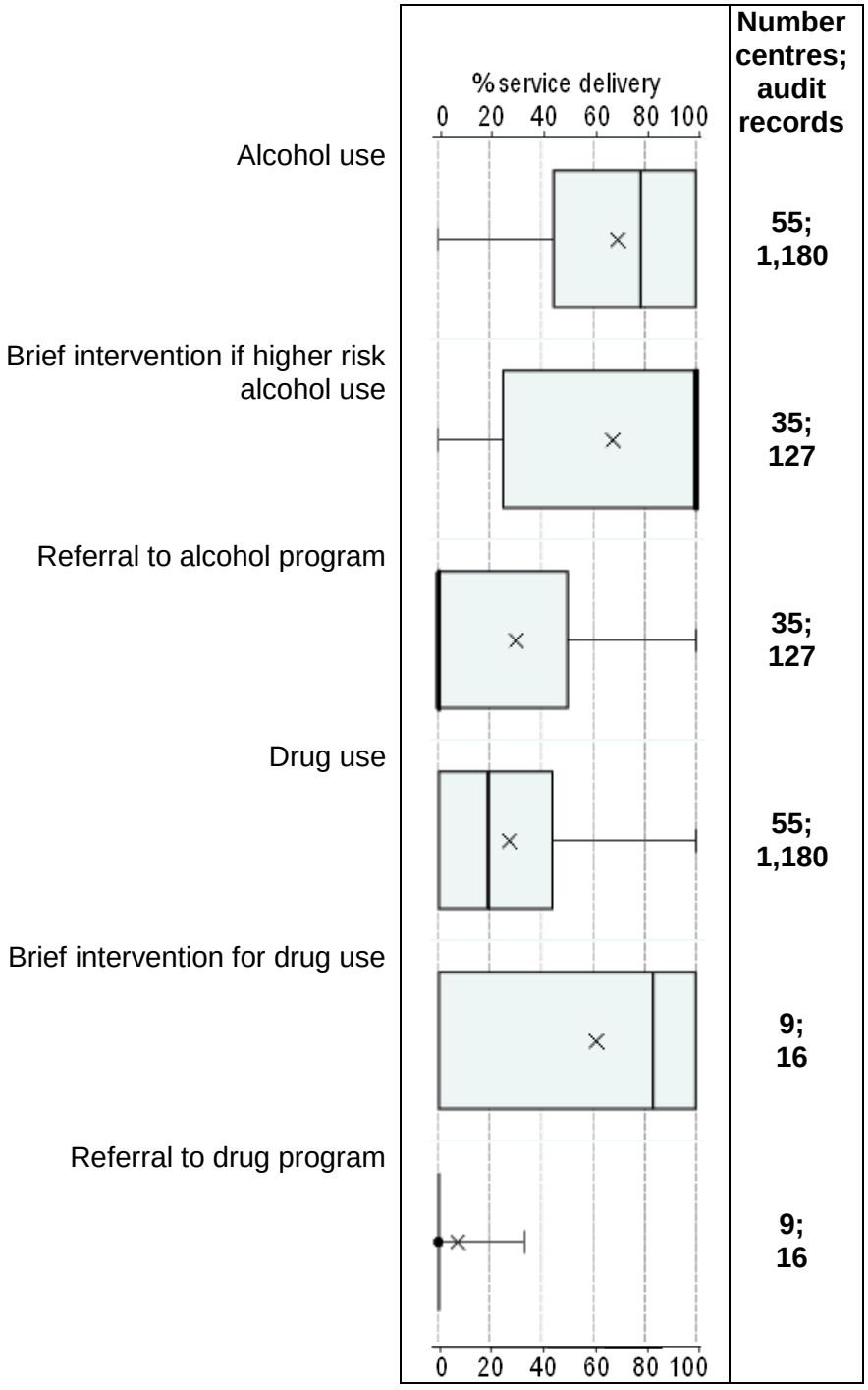


Figure 1.22 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for HT patients at health centres during 2012-2013.



Emotional wellbeing screening and care

The following figures show health centre percentages of HT patients with a record of an emotional wellbeing discussion, recording of risk and where relevant, a brief intervention, follow-up action and/or referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.23: Record of discussion on emotional wellbeing and follow-up action for HT patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

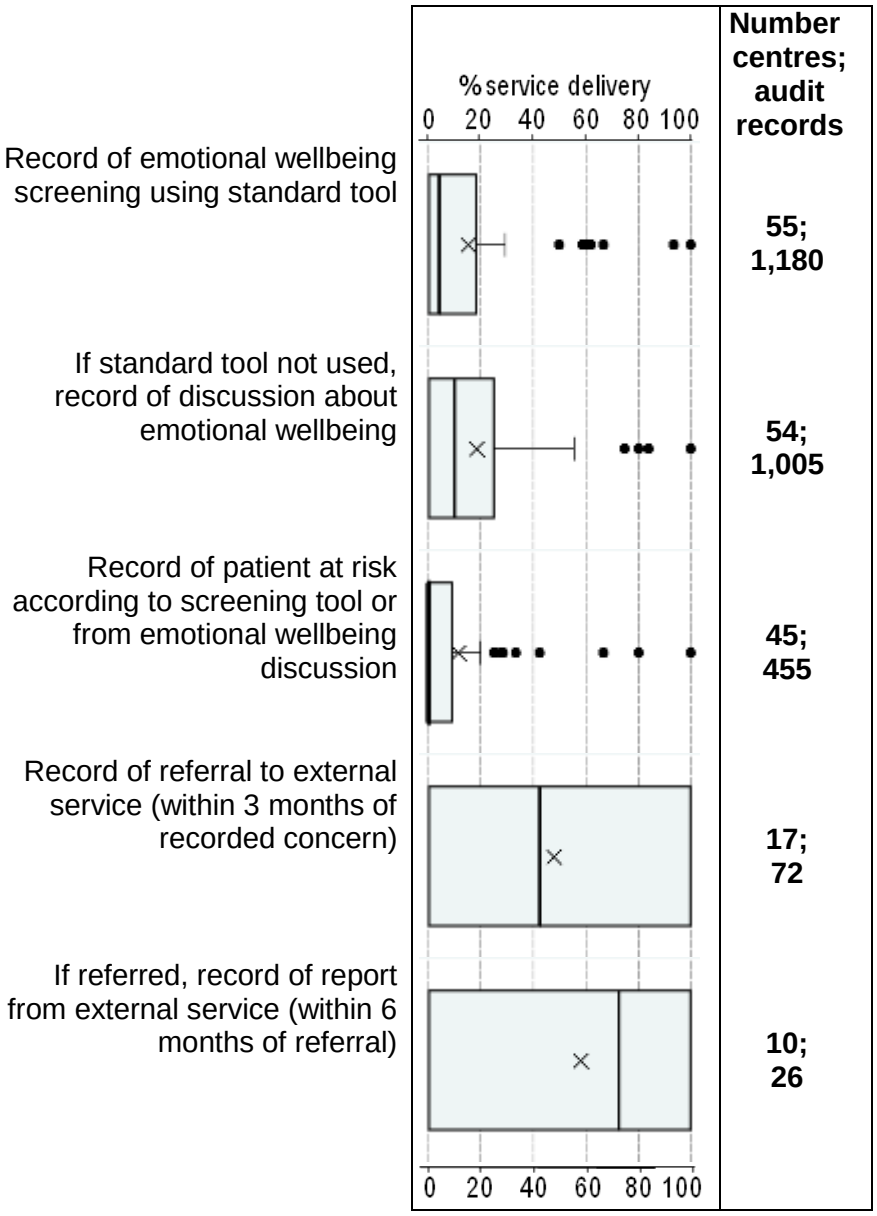
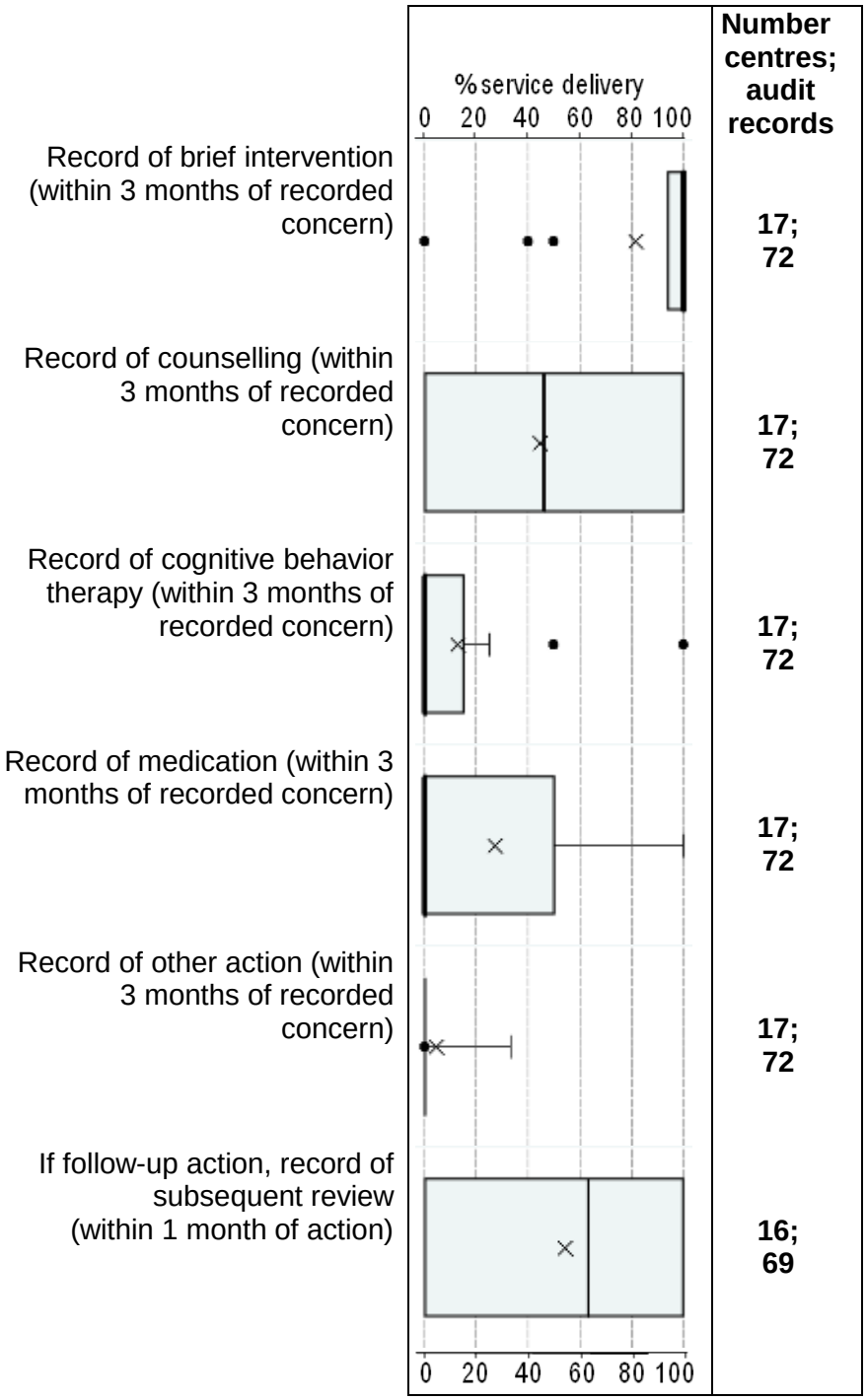


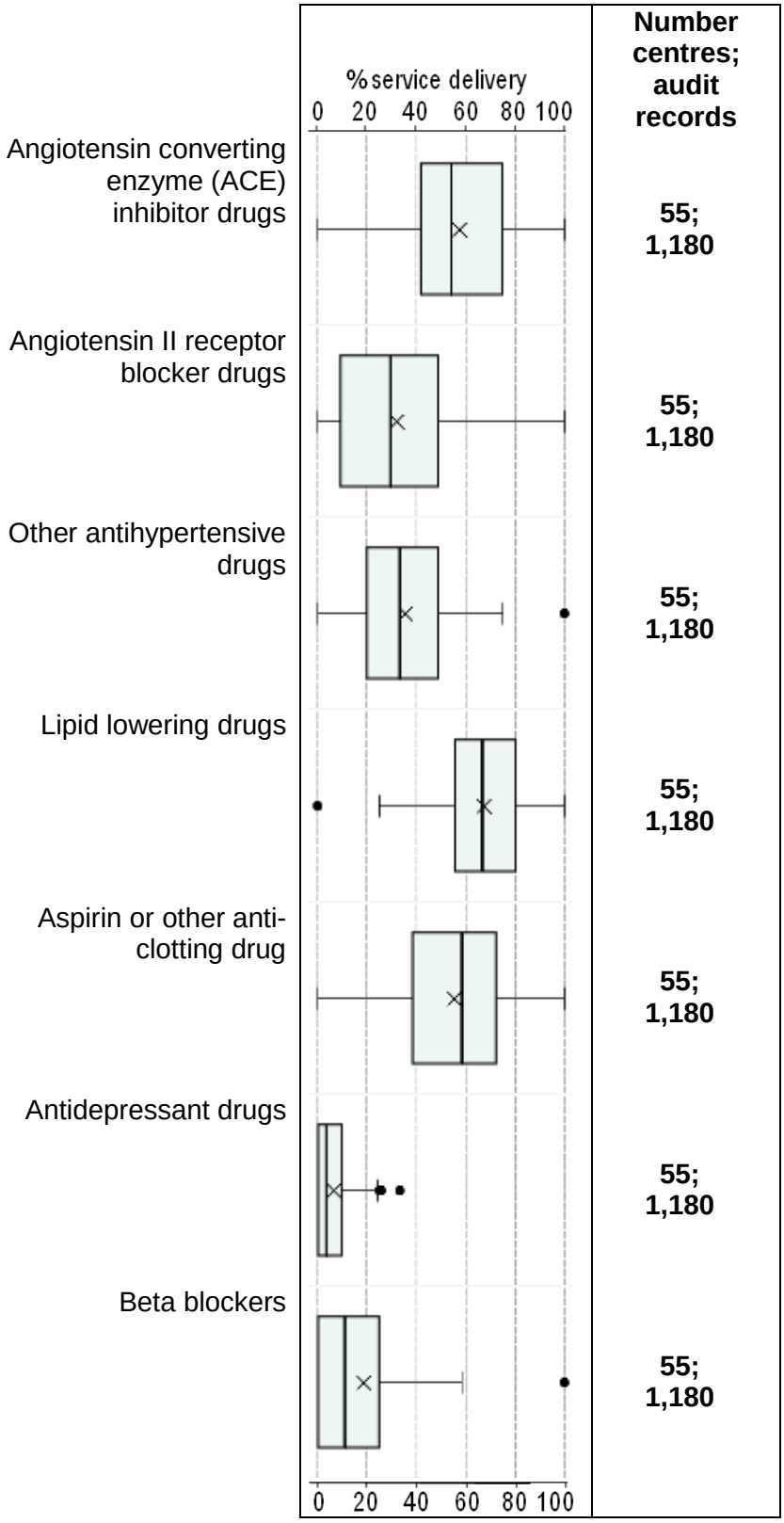
Figure 1.23 (cont): Record of discussion on emotional wellbeing and follow-up action for HT patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



Current treatment

The following figures show health centre percentages of HT patients with a record of current prescriptions for certain medication within last 12 months of the audit date.

Figure 1.24: Record of current prescriptions for HT patients within last 12 months of audit at health centres during 2012-2013.



Investigations

The figures in this section show health centre percentages of HT patients with a record of pathology investigation and where relevant, follow-up of abnormal findings within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.25: Record of pathology investigation and follow-up for HT patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

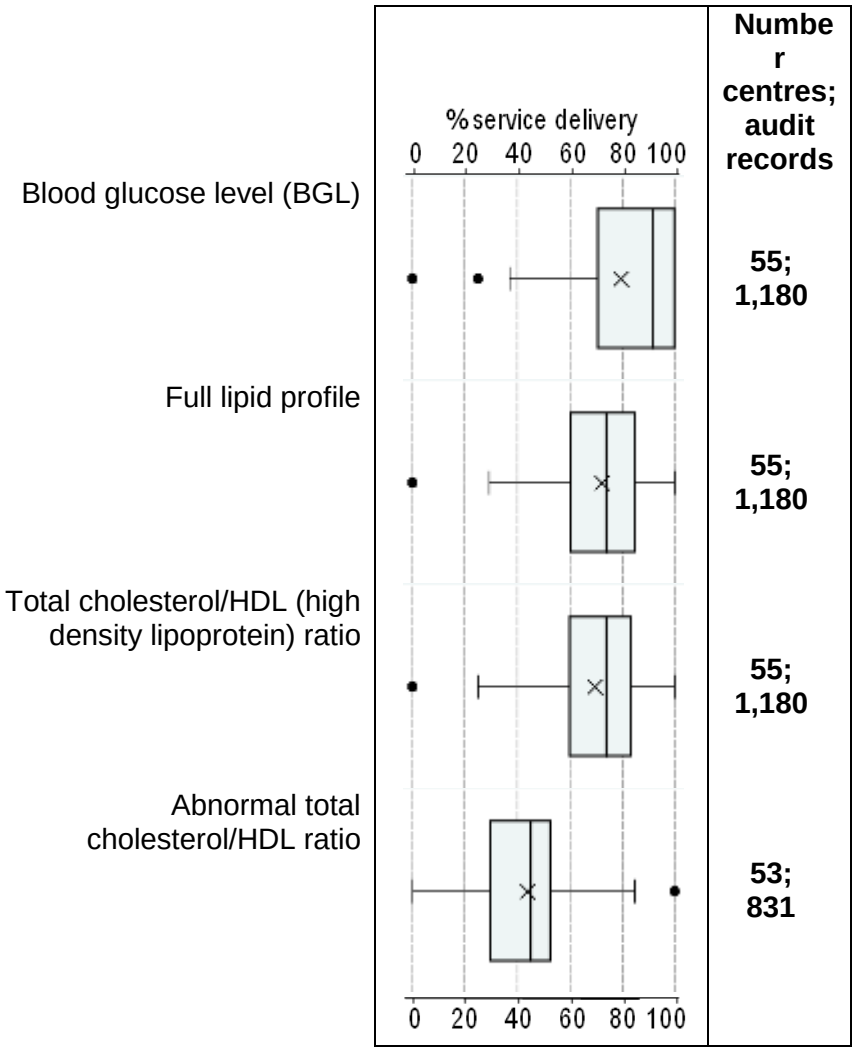
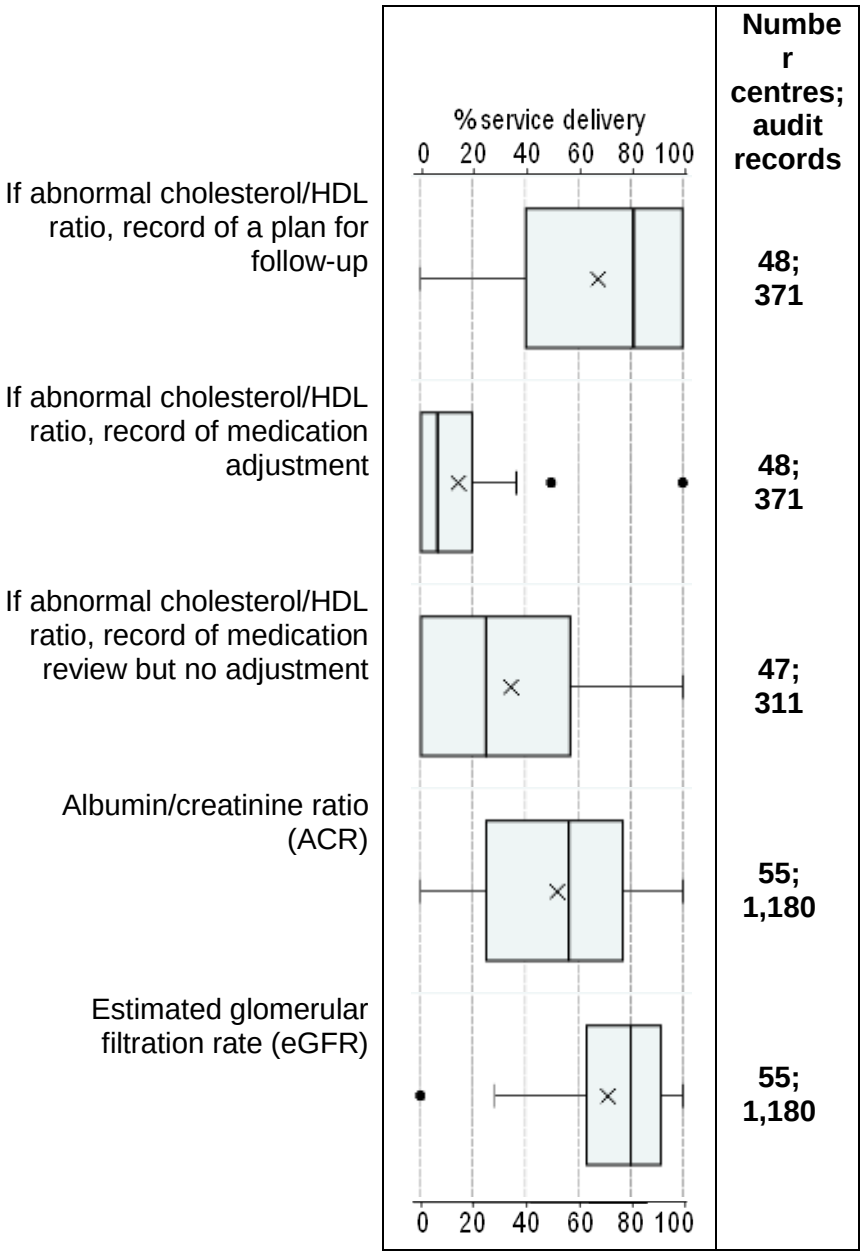


Figure 1.25 (cont): Record of pathology investigation and follow-up for HT patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



1.7. Chronic heart failure data

Management plans & scheduled services

The figures in this section show health centre percentages of CHF patients who have a record of a chronic disease management plan and a record of receiving scheduled services as per recommended guidelines within the last 12 months of the audit date(unless otherwise indicated).

Figure 1.26: Record of current management plans for CHF patients within 12 months of audit at health centres during 2012-2013.

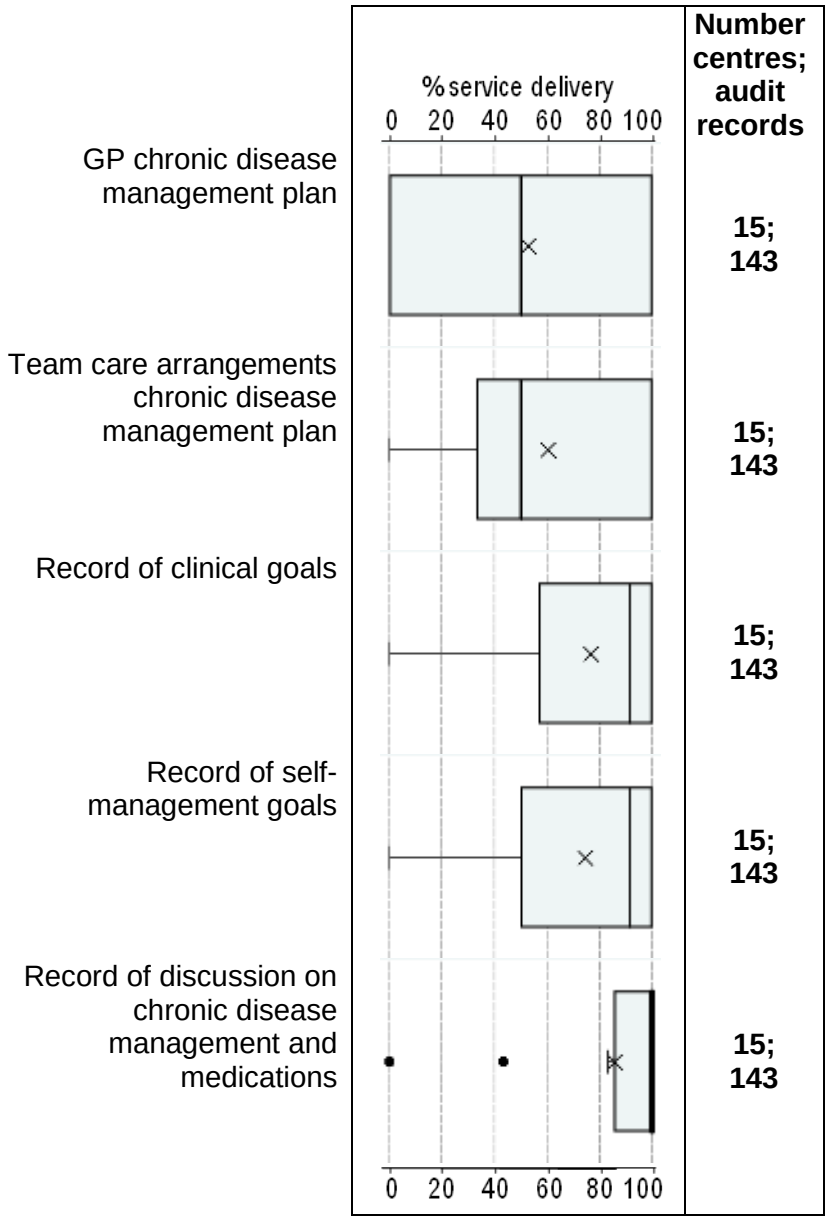


Figure 1.27: Record of scheduled services received by CHF patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.

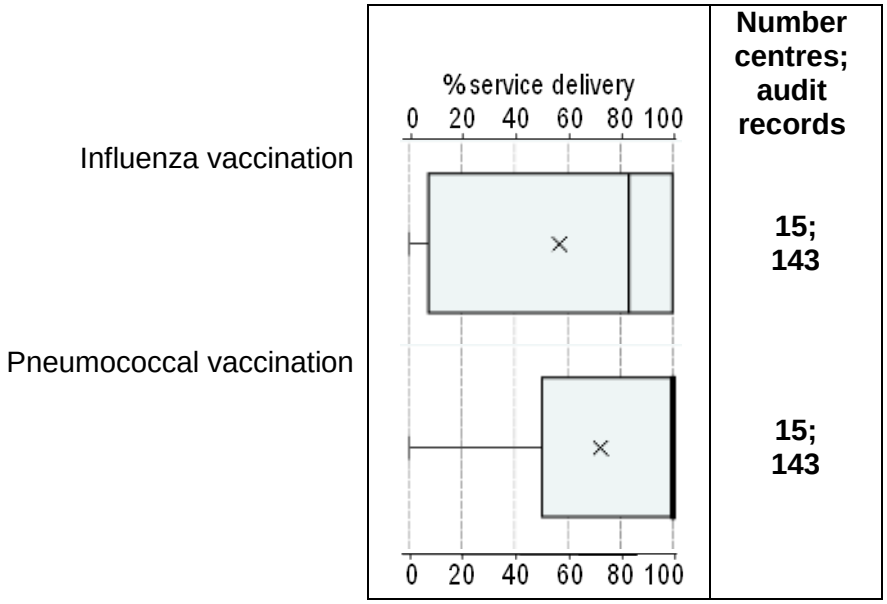
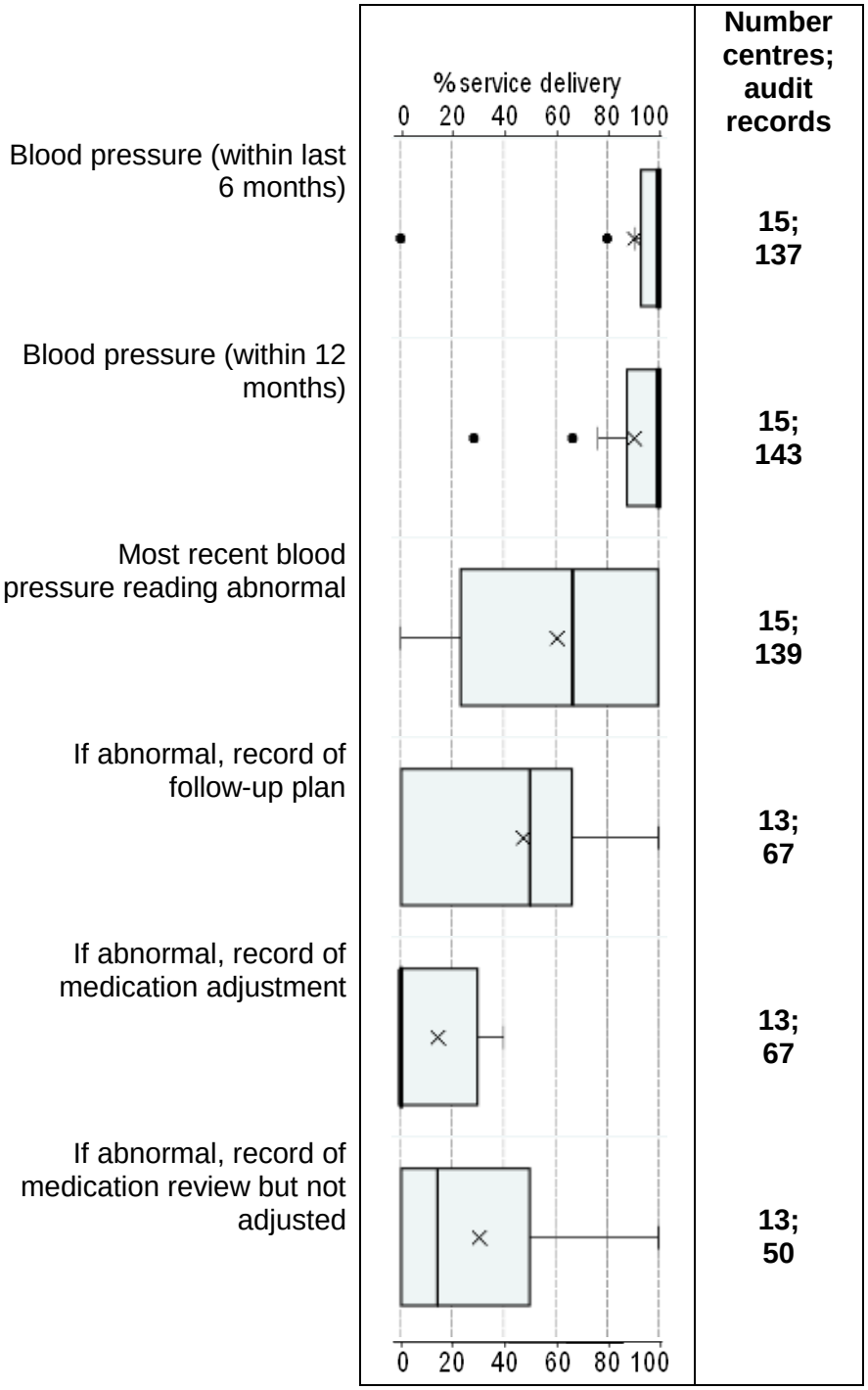


Figure 1.27 (cont): Record of scheduled services received by CHF patients and follow-up of abnormal findings within the last 12 months of audit (unless otherwise indicated) at health centres during 2012-2013.



Risk factors, brief interventions and referral

The figures in this section show health centre percentages of CHF patients with a record of discussion regarding risk factors and where relevant, a brief intervention and referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.28: Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CHF patients at health centres during 2012-2013.

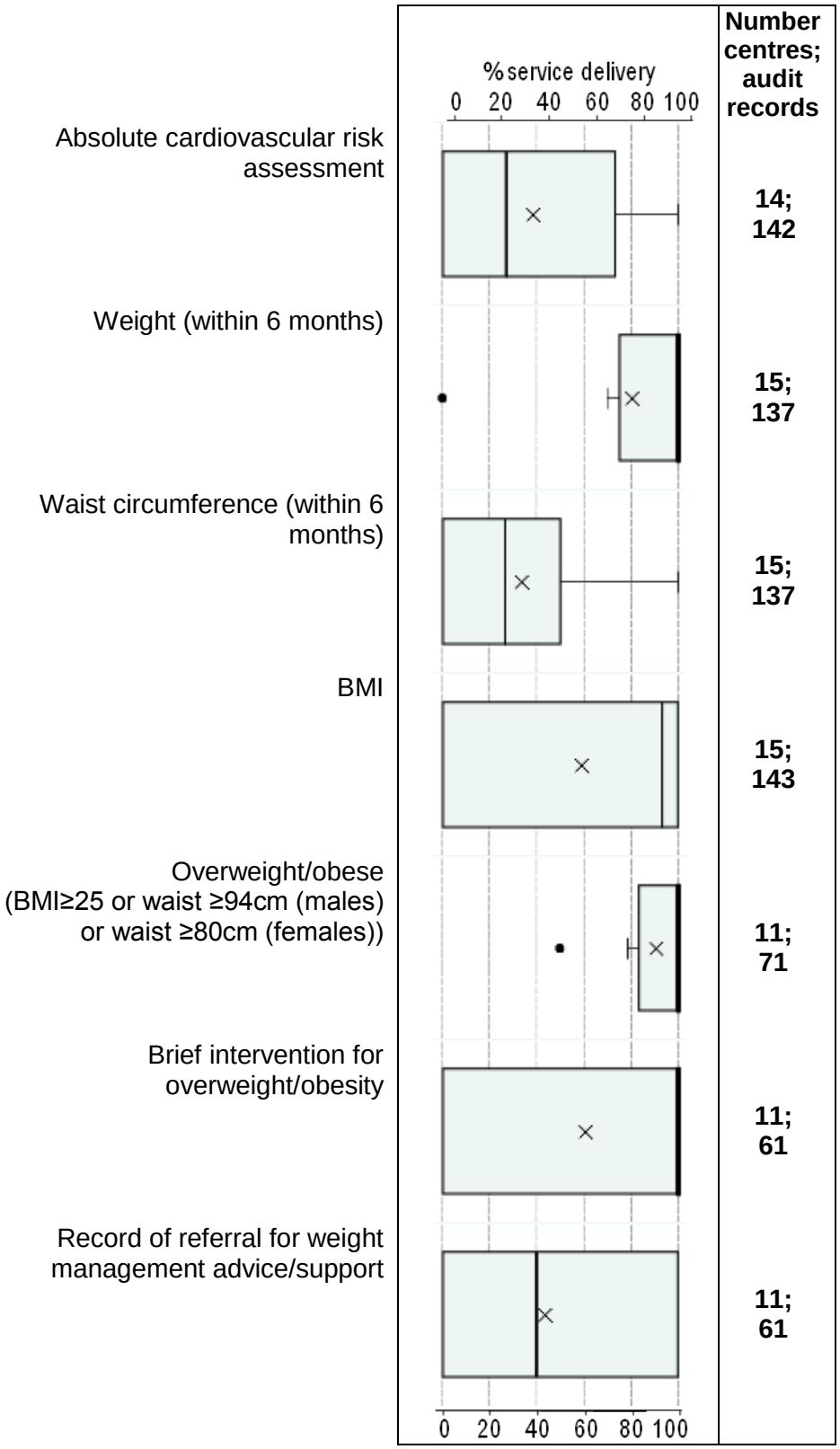


Figure 1.28 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CHF patients at health centres during 2012-2013.

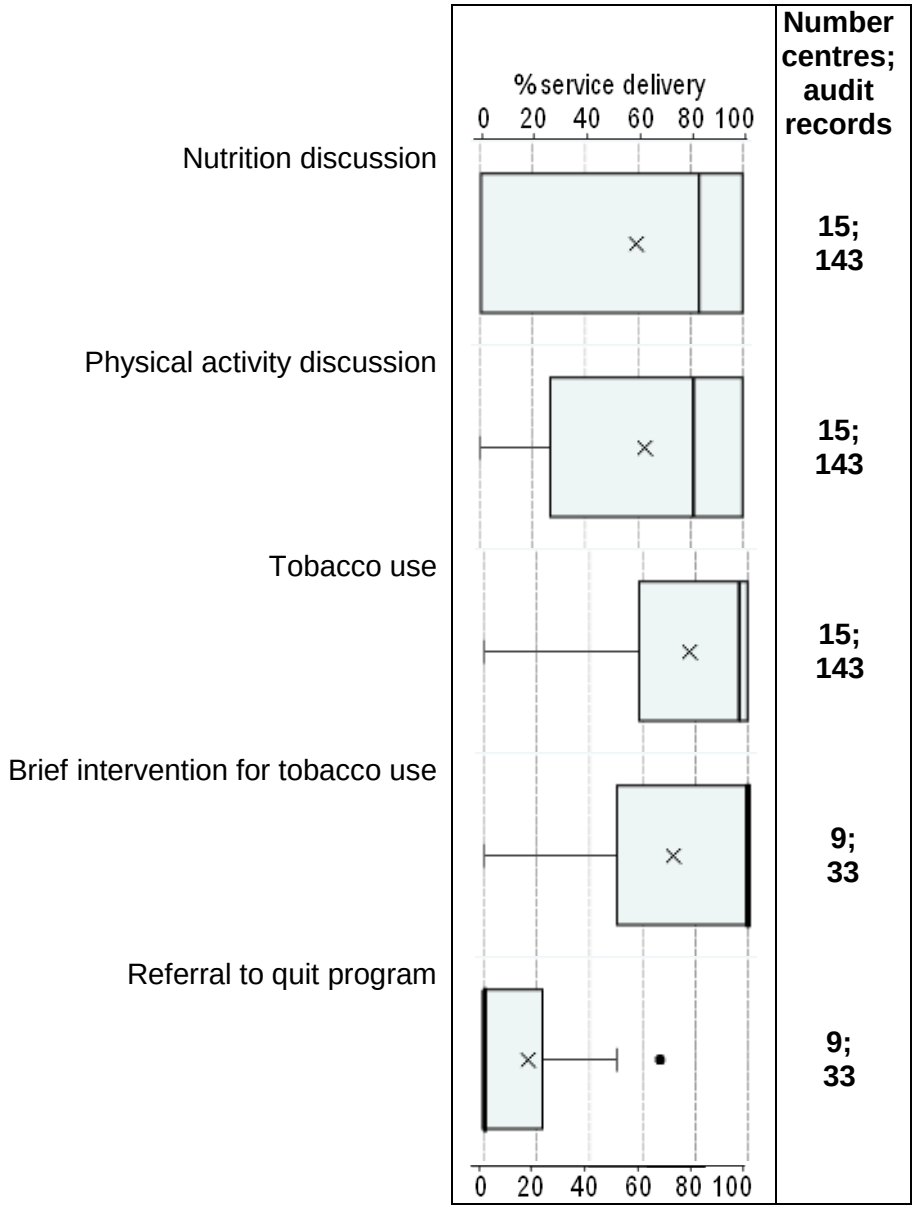
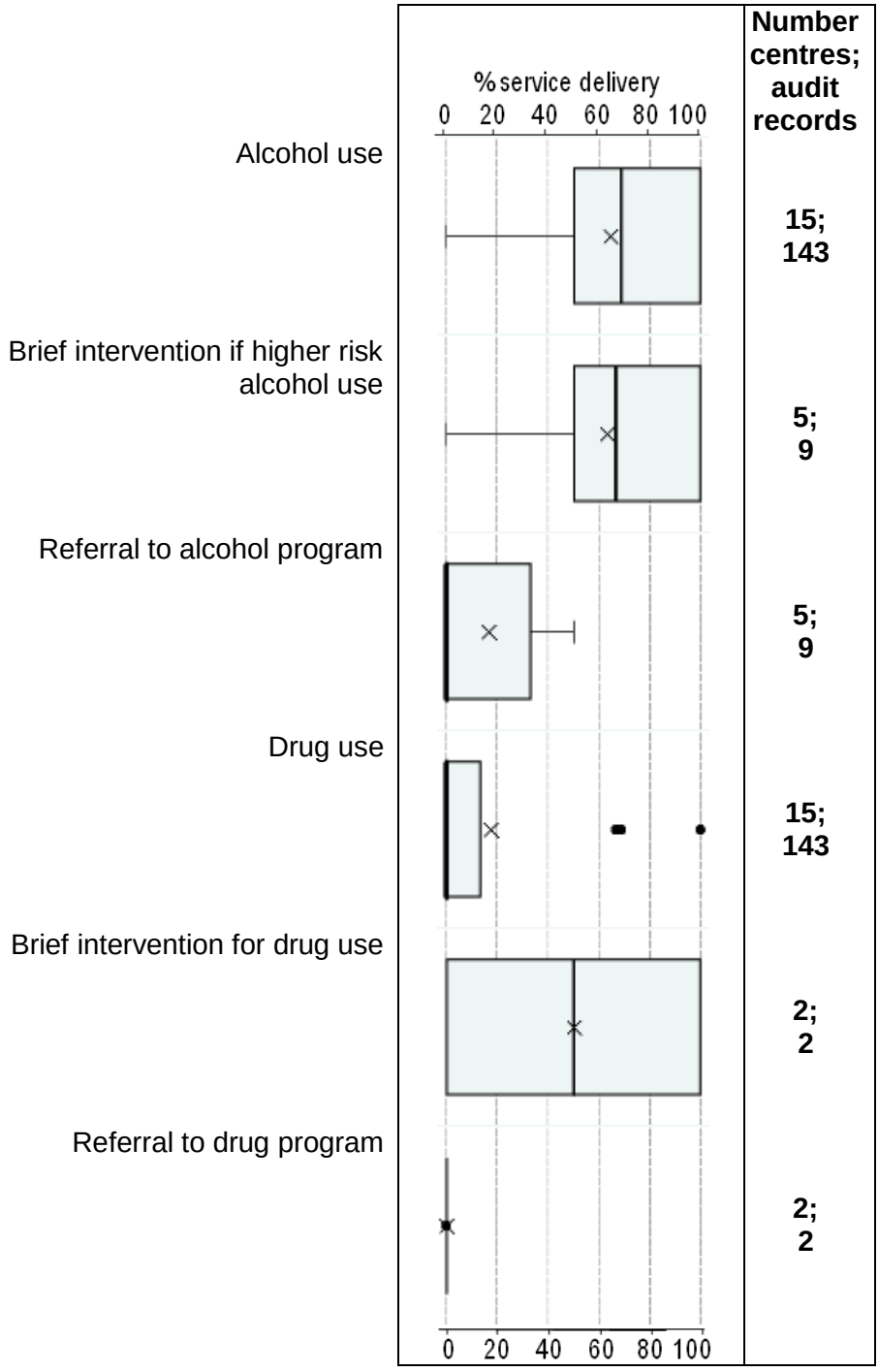


Figure 1.28 (cont): Record of risk factors, brief interventions and referrals within the last 12 months of audit (unless otherwise indicated) for CHF patients at health centres during 2012-2013.



Emotional wellbeing screening and care

The following figures show health centre percentages of CHFpatients with a record of an emotional wellbeing discussion, recording of risk and where relevant, a brief intervention, follow-up action and/or referral within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.29: Record of discussion on emotional wellbeing and follow-up action for CHF patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

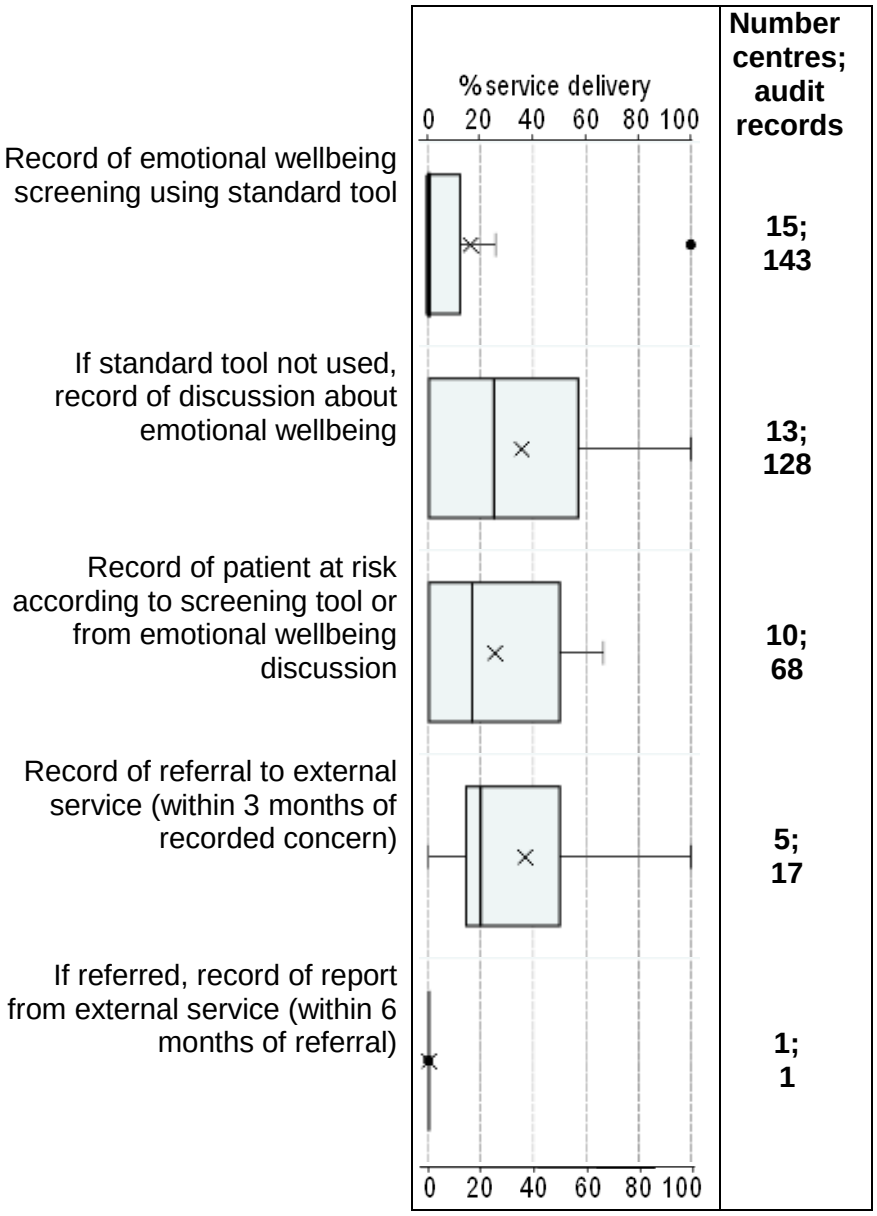
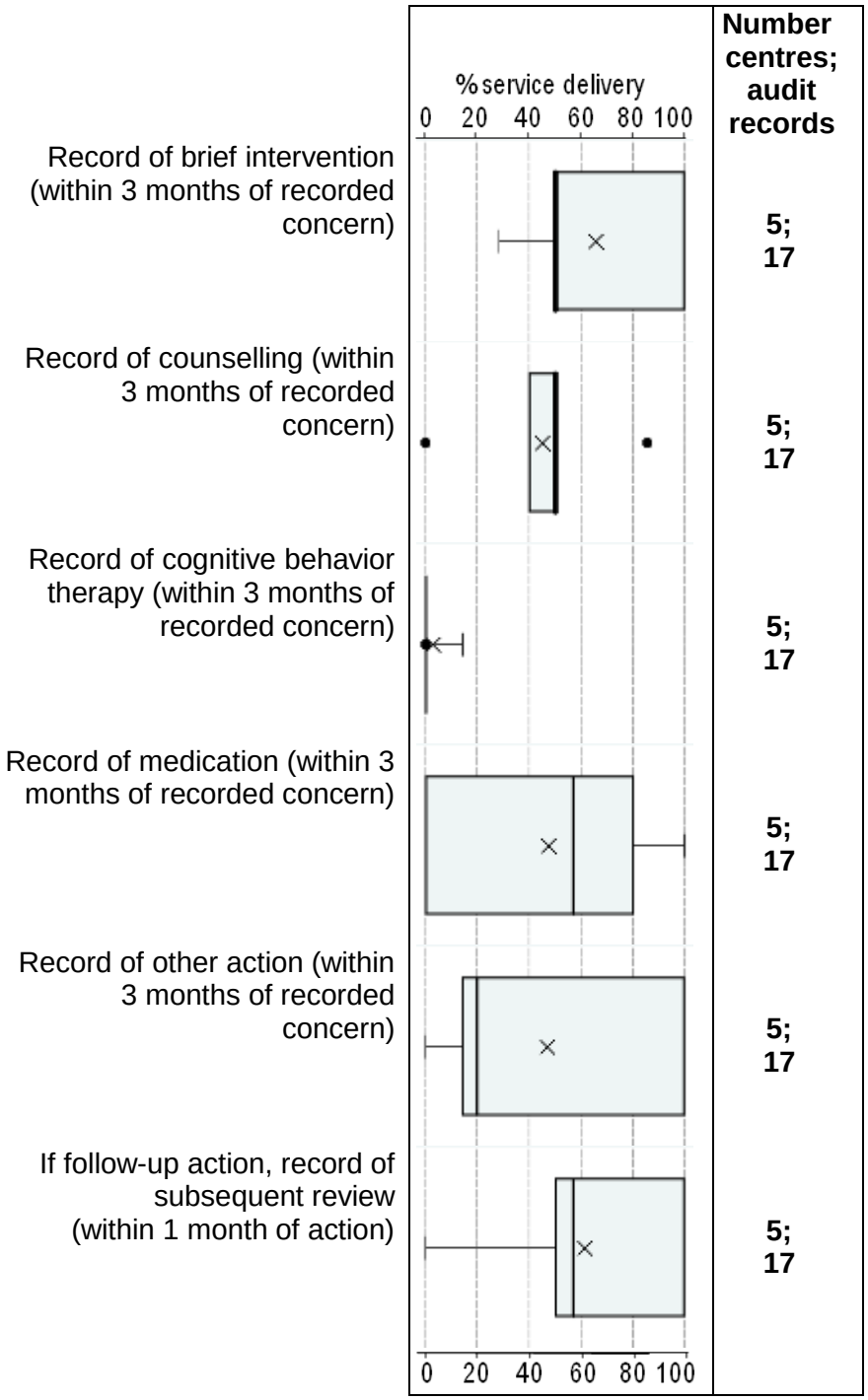


Figure 1.29 (cont): Record of discussion on emotional wellbeing and follow-up action for CHF patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



Current treatment

The following figures show health centre percentages of CHF patients with a record of current prescriptions for certain medication within last 12 months of the audit date.

Figure 1.30: Record of current prescriptions for CHF patients within last 12 months of audit at health centres during 2012-2013.

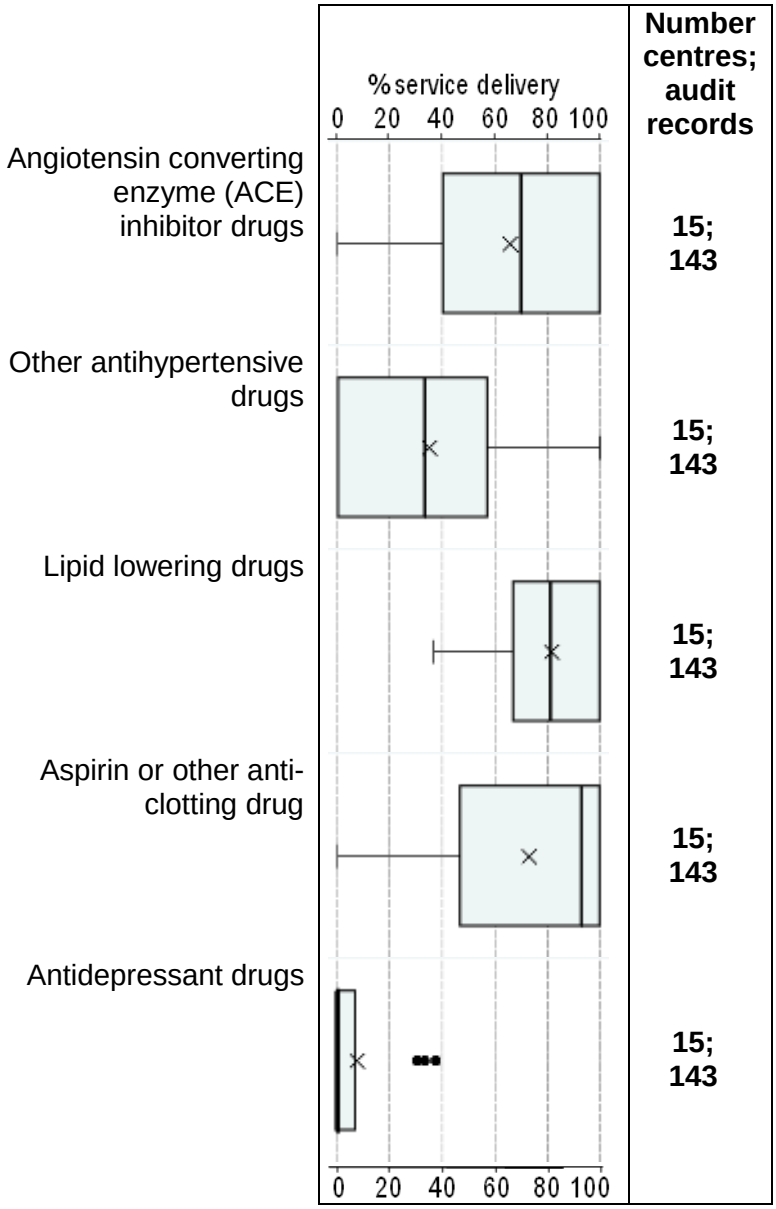
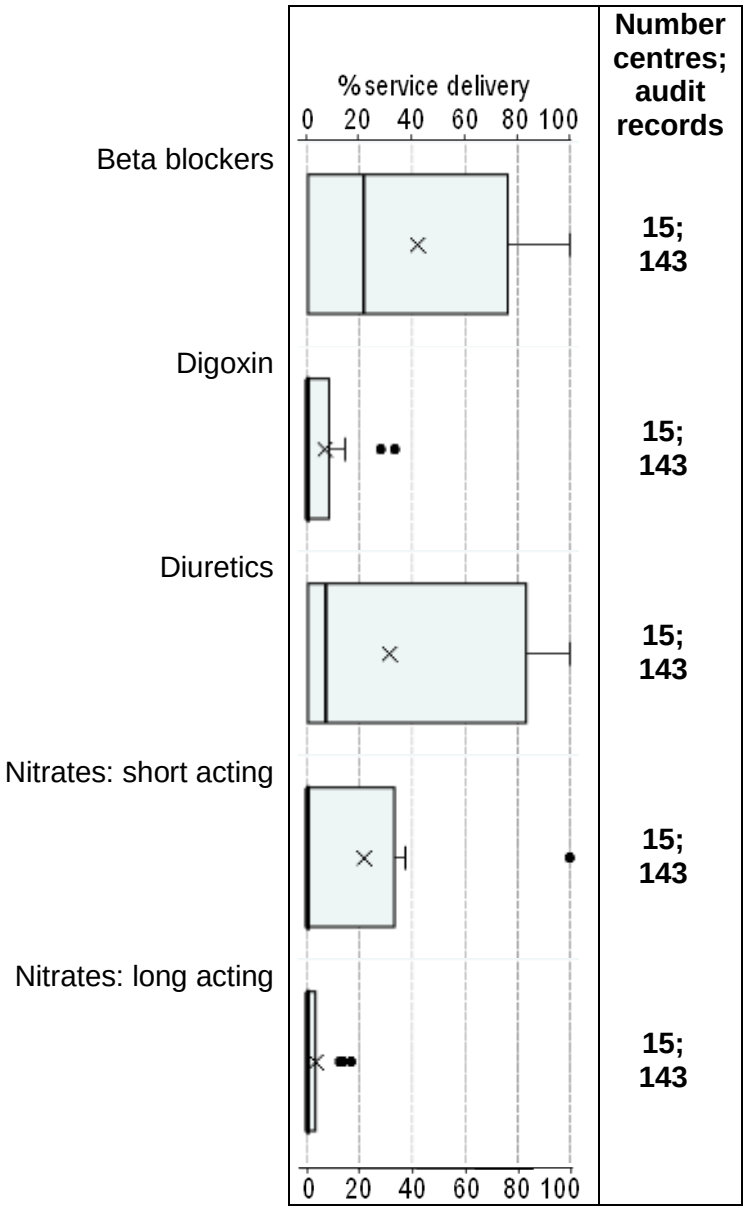


Figure 1.30 (cont): Record of current prescriptions for CHF patients within last 12 months of audit at health centres during 2012-2013.



Investigations

The figures in this section show health centre percentages of CHF patients with a record of pathology investigation and where relevant, follow-up of abnormal findings within the last 12 months of the audit date (unless otherwise indicated).

Figure 1.31: Record of pathology investigation and follow-up for CHF patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.

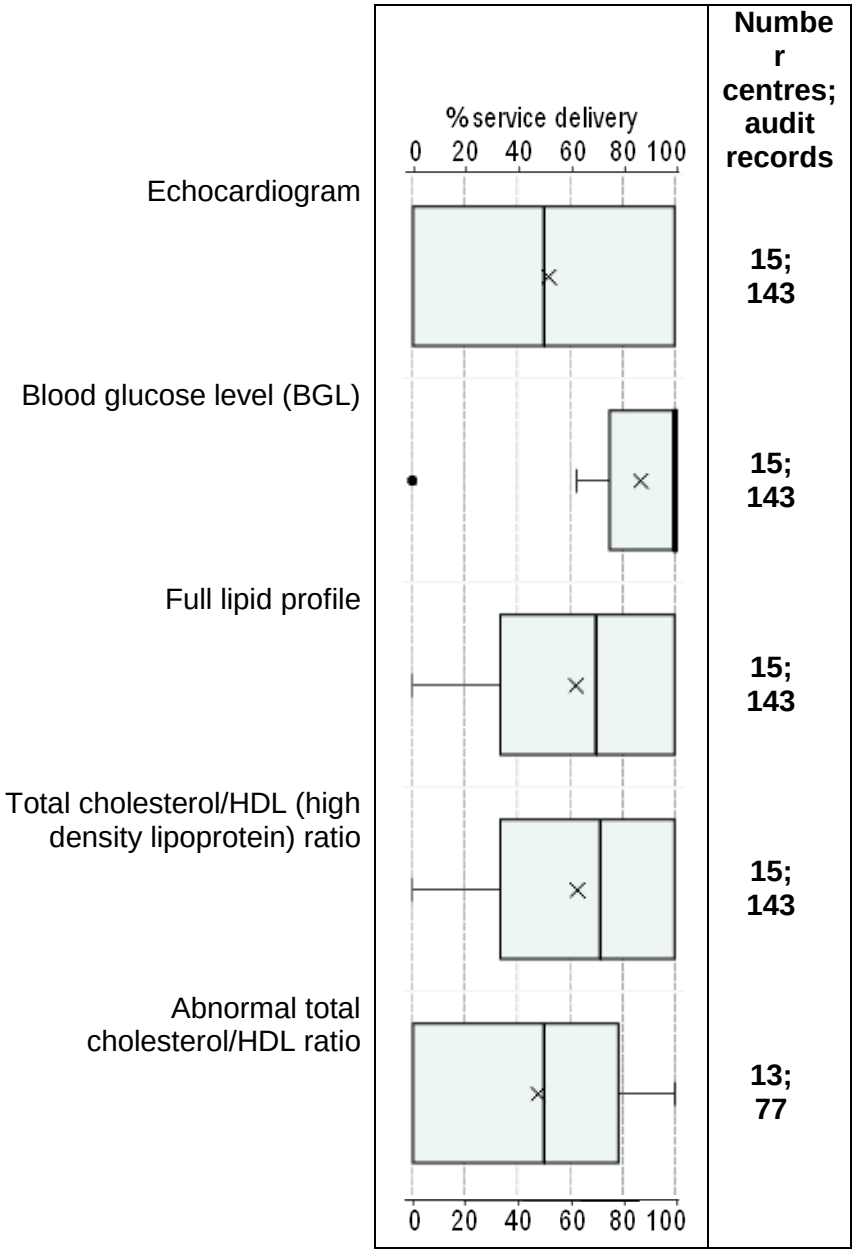
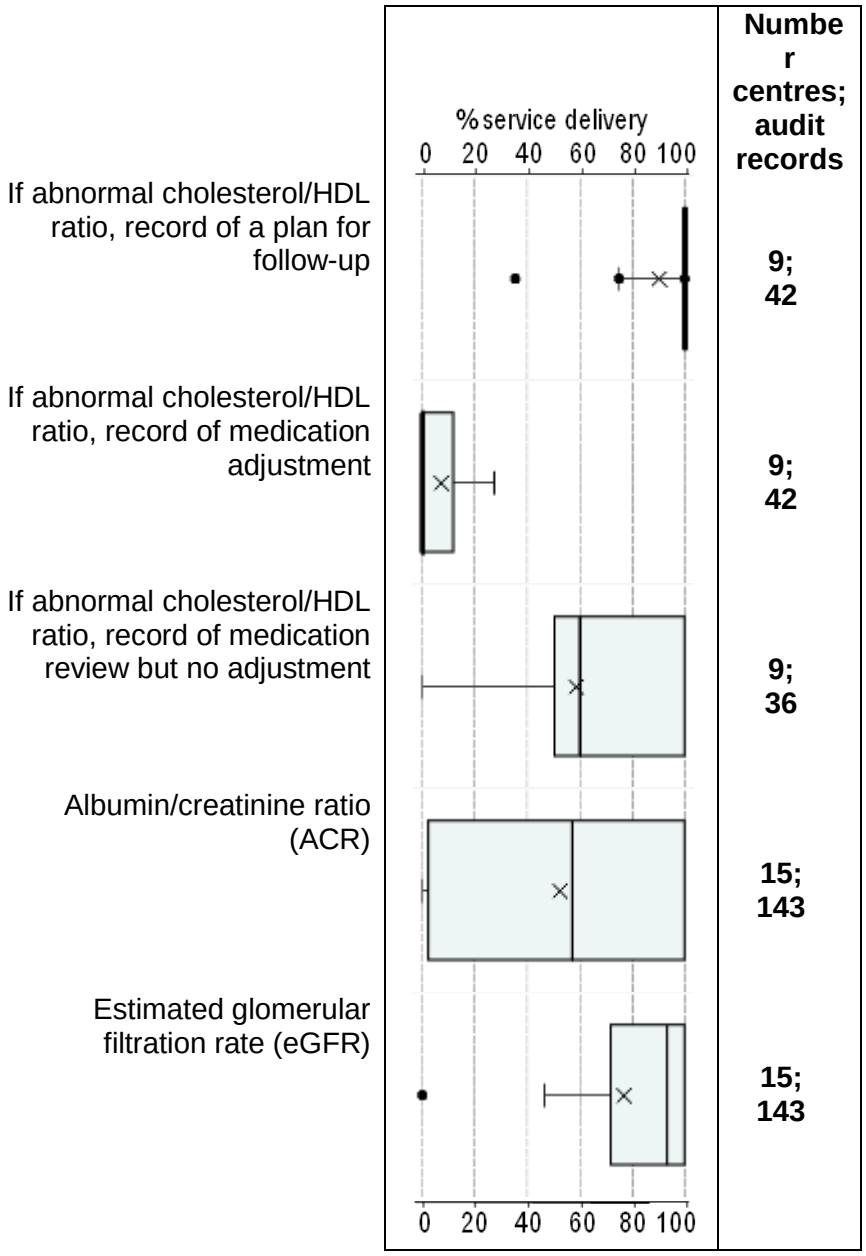
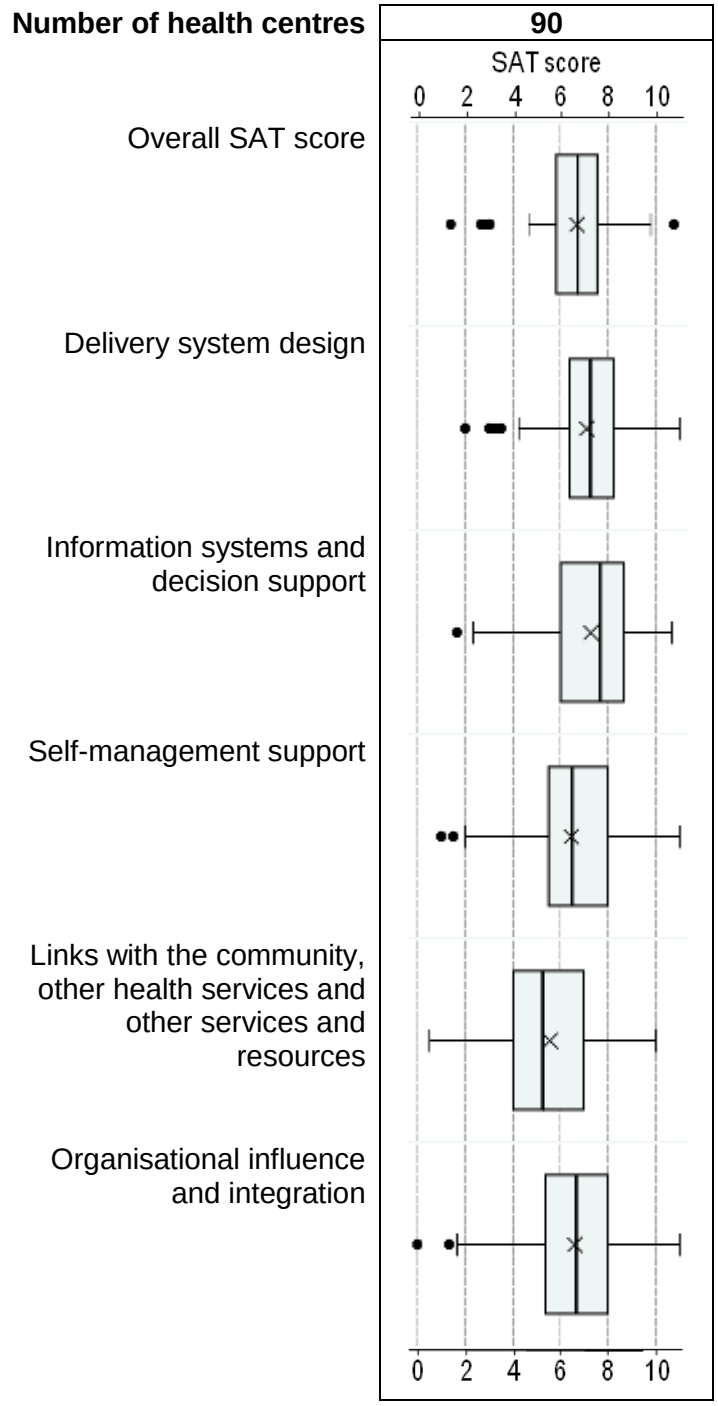


Figure 1.31 (cont): Record of pathology investigation and follow-up for CHF patients within the past 12 months of audit (unless otherwise indicated) during 2012-2013.



1.8. Health centre systems assessment data

Figure 1.32: Mean system component scores as assessed by health centres in 2012-2013.



Scores for the individual items within each system component, aggregated for all health centres nationally, are shown in the figures below.

Figure 1.33: Delivery system design component scores as assessed by health centres in 2012-2013.

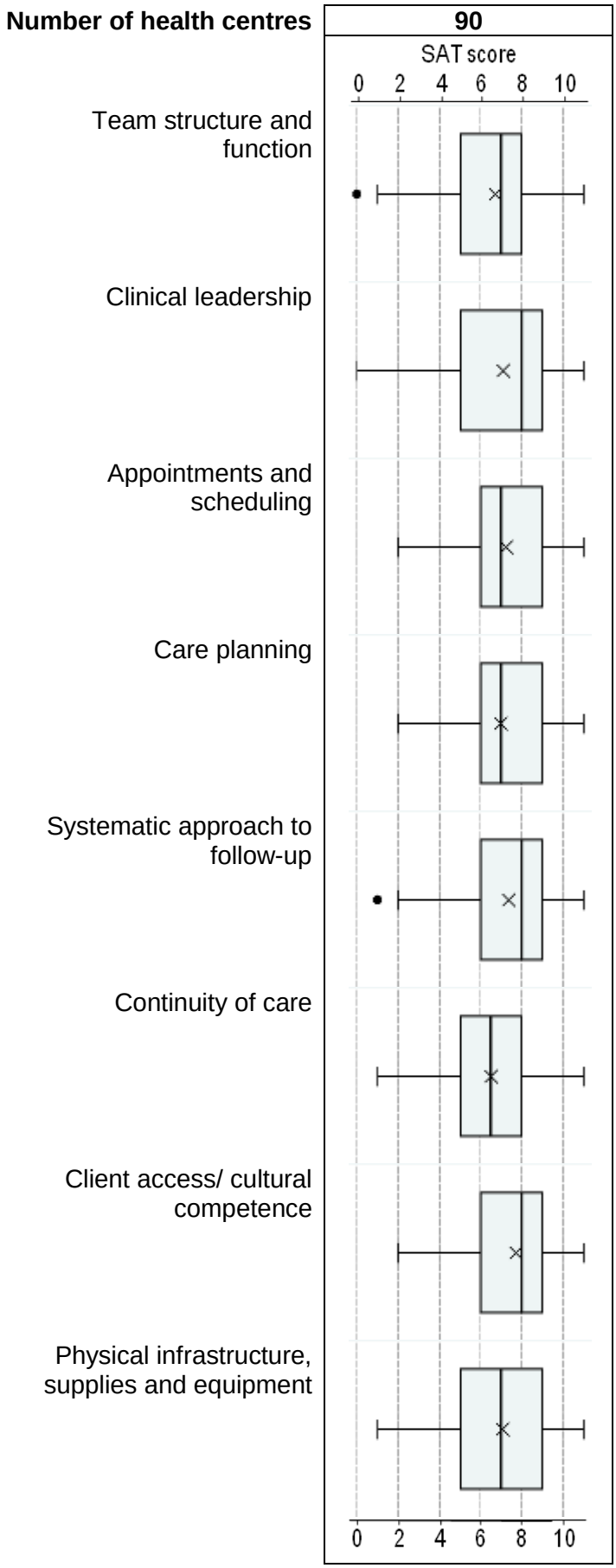


Figure 1.34: Information systems and decision support component scores as assessed by health centres in 2012-2013.

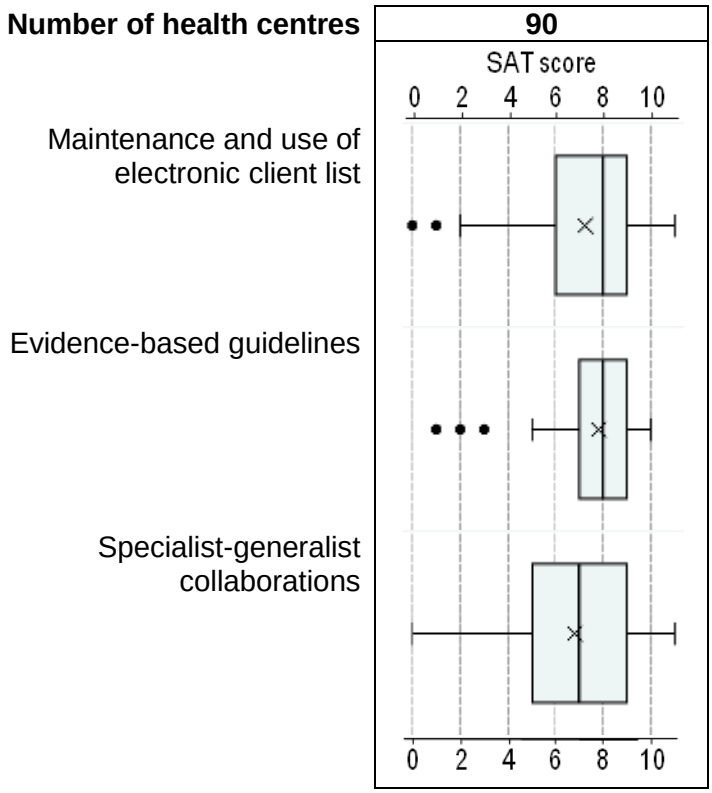


Figure 1.35: Self-management support component scores as assessed by health centres in 2012-2013.

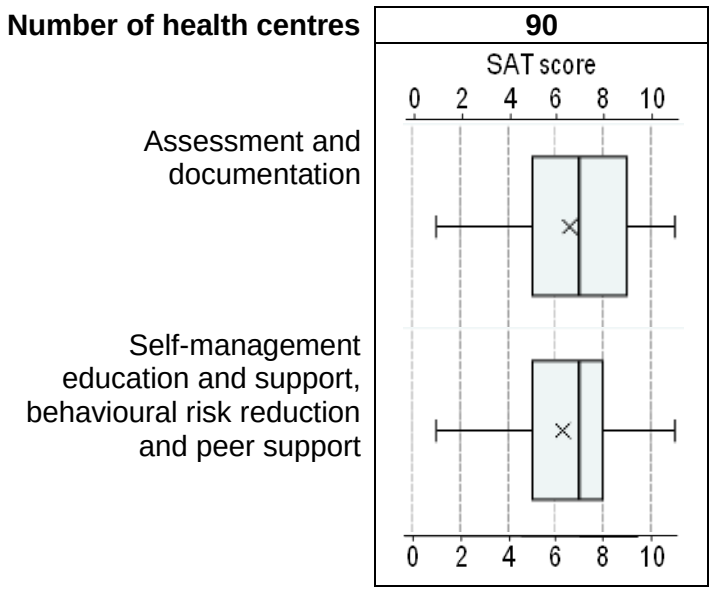


Figure 1.36: Links with the community, other health services and other services and resources component scores as assessed by health centres in 2012-2013.

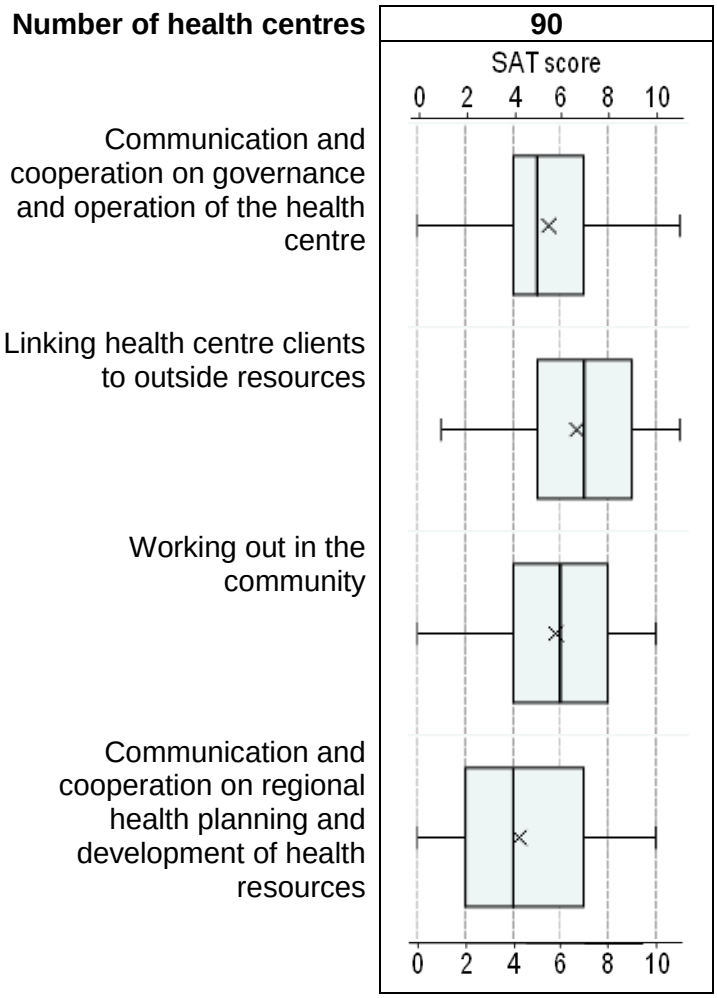
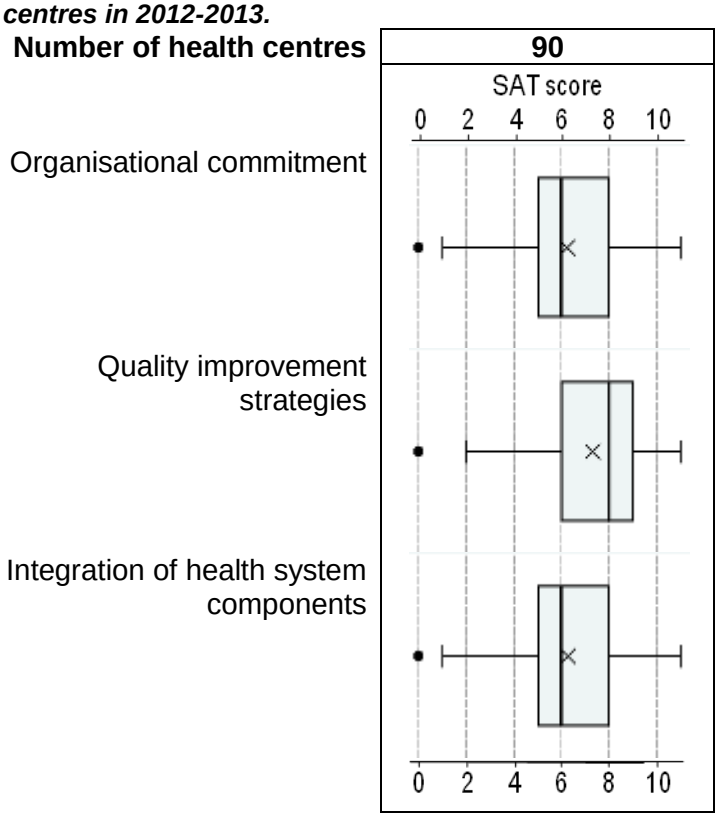


Figure 1.37: Organisational influence and integration component scores as assessed by health centres in 2012-2013.



2. Phase 2 data report – identifying barriers and enablers

The data presented in the Phase 2 report were from health centres that conducted V&M audits between 2005 and 2013. In total, 160 health centres participating in the Partnership audited almost 18,000 patient records over this period. The number of health centres increased from around 50 in 2009/10 to over 100 in 2011 and declined to 80 in 2013 (Table 2.1). There were 56 health centres that conducted at least four audit cycles, with a small number that had conducted five, six or more cycles (Table 2.2).

Table 2.1: Chronic illness care audit and systems assessment completed between 2005-2013 (number of patient records audited, number of health centres and number of SATs).

		Audit Year									
		2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Total**
FWNSW	#Records	167	168	171	264	260	267				1,297
	#Centres	6	6	6	6	4	4				6
	#SATs	6	5	1	6	4					22
QLD	#Records	58			199	434	814	1,933	2,591	1,563	7,592
	#Centres	2			7	17	25	55	57	39	67
	#SATs				6	16	23	54	52	32	183
SA	#Records						60	90	191	167	508
	#Centres						2	3	5	4	8
	#SATs						2	2	1	1	6
WA	#Records	30	246	120	287	204	143	184	218	90	1,522
	#Centres	1	10	4	10	7	2	3	4	2	15
	#SATs	1	9	4	10	7	2	2	4	2	41
NT	#Records	60	583	663	693	770	263	1,349	1,107	1,472	6,960
	#Centres	3	21	25	23	22	9	42	34	35	64
	#SATs		15	20	17	13	8	27	20	18	138
Total	#Records	315	997	954	1,443	1,668	1,547	3,556	4,107	3,292	17,879
	#Centres	12	37	35	46	50	42	103	100	80	160
	#SATs	7	29	25	39	40	35	85	77	53	390

Table 2.2: Chronic illness care audit completed between 2005 and 2013 by audit cycle (number of patient records audited and number of health centres).

		Audit Cycle								
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
FWNSW	#Records	167	168	171	264	260	267			1,297
	#Centres	6	6	6	6	4	4			6
QLD	#Records	2,143	2,238	1,667	860	548	136			7,592
	#Centres	67	55	46	22	13	4			67
SA	#Records	348	100	60						508
	#Centres	8	4	2						8
WA	#Records	422	287	204	170	203	146	90		1,522
	#Centres	15	10	7	4	3	2	2		15
NT	#Records	1,856	1,671	1,245	849	535	443	271	90	6,960
	#Centres	64	56	41	24	17	9	7	3	64
Total	#Records	4,936	4,464	3,347	2,143	1,546	992	361	90	17,879
	#Centres	160	131	102	56	37	19	9	3	160

Overall 74% of health centres were in remote locations and 75% were government managed (Table 2.3). The data presented relate to aspects of care relevant to patients 15 years or older with a clear documented diagnosis of a chronic illness. There were a higher proportion of females (55%) to males (45%) and 82% of audited records were for Aboriginal or Torres Strait Islander people. For most years, 90% or more of audited records showed a record of at least one attendance within the 6 months preceding the audit date, with the most common reason for last attendance being for chronic disease care (63%) (Table 2.3).

2.1. Presentation of data

Audit data on key indicators relevant to the identified evidence-practice gaps in chronic illness care were presented over time in two ways - by year and by audit cycle. It is helpful to reflect on the trends in general over time and examine variation between health centres, in particular, whether the variation is getting less, and importantly, whether there is an improvement for centres at the lower end of the range.

By year - includes data for <u>all</u> participating health centres and provides an indication of influences on clinical performance that may be occurring at different times in the general health system environment. This might include changes in CQI processes, changes in the number and types of participating health centres and various other influences on the CQI data that are generated through the use of One21seventy tools. Trend data for **chronic heart failure is not presented** as this audit type was introduced to the V&M tool in 2012. Due to a small number of health centres completing CKD, CHD and hypertension audits between 2007 and 2010, data for these chronic conditions is displayed from 2011. Data for T2D is presented from 2006 given the small number of health centres participating in 2005.

By audit cycle - includes data for the same cohort of health centres that have conducted particular chronic illness audits in at least three audit cycles. This presentation provides an indication of the impact of duration of participation in CQI on delivery of care according to best practice guidelines. Note that 'Audit Cycle 1' represents baseline audit data, 'Audit Cycle 2' represents the first follow-up audit and so on. We have limited the presentation of data to a maximum of three (CKD and hypertension) or five audit cycles (T2D) because there were limited numbers of services that had conducted more audit cycles. Few health centres completed three cycles of CHD audits, hence trends over successive cycles are not displayed for this audit type.

Interpretation of box plots – variation between health centres

In the analysis of the audit data, the mean (average) percent delivery of items of clinical care relevant to each indicator is calculated for each health centre. These mean percentages are displayed in a box plot for a given year or audit cycle to show the distribution or range in recorded delivery of care between health centres.

Figure 2.1: Interpretation of trend boxplots

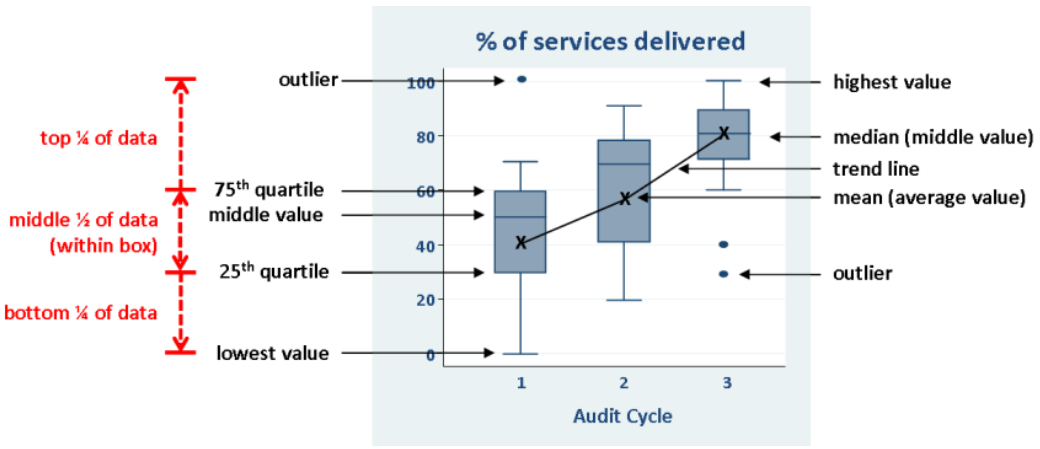


Table 2.3: Characteristics of participating health centres and patients whose records were audited between 2005 & 2013 (number & %)

		2005		2006		2007		2008		2009		2010		2011		2012		2013		Overall	
Primary Health Care Centres		**12**		**37**		**35**		**46**		**50**		**42**		**103**		**100**		**80**		**160**	
Location	Urban	0	0%	4	11%	0	0%	4	9%	1	2%	3	7%	7	7%	10	10%	4	5%	14	9%
	Regional	5	42%	10	27%	6	17%	9	20%	5	10%	4	10%	13	13%	12	12%	12	15%	28	18%
	Remote	7	58%	23	62%	29	83%	33	72%	44	88%	35	83%	82	80%	78	78%	64	80%	118	74%
Governance	Community-controlled	8	67%	25	68%	22	63%	22	48%	19	38%	11	26%	15	15%	16	16%	13	16%	40	25%
	Government	4	33%	12	32%	13	37%	24	52%	31	62%	31	74%	88	85%	84	84%	67	84%	120	75%
Population Size	<=500	5	42%	10	27%	15	43%	14	30%	19	38%	17	40%	52	50%	46	46%	41	51%	74	46%
	501-999	3	25%	8	22%	8	23%	10	22%	12	24%	7	17%	22	21%	24	24%	12	15%	29	18%
	>=1000	4	33%	19	51%	12	34%	22	48%	19	38%	18	43%	29	28%	30	30%	27	34%	57	36%
CQI Experience	Baseline	12	100%	29	78%	10	29%	8	17%	9	18%	12	29%	60	58%	15	15%	5	6%	29	18%
	1 or 2 cycles	0	0%	8	22%	25	71%	31	67%	26	52%	19	45%	22	21%	52	52%	47	59%	75	47%
	>3 CQI cycles	0	0%	0	0%	0	0%	7	15%	15	30%	12	29%	23	22%	33	33%	28	35%	56	35%
Number of audited records		**315**		**997**		**954**		**1,443**		**1,668**		**1,547**		**3,556**		**4,107**		**3,292**		**17,879**	
	Age (mean & range)	54 (21-87)		51 (15-94)		52 (16-88)		53 (16-91)		52 (15-91)		54 (16-92)		54 (15-97)		54 (15-94)		53 (15-98)		53 (15-98)	
Sex	Male	142	45%	408	41%	385	40%	587	41%	693	42%	704	46%	1,655	47%	1,996	49%	1,463	44%	8,033	45%
	Female	173	55%	587	59%	569	60%	856	59%	975	58%	843	54%	1,901	53%	2,111	51%	1,829	56%	9,844	55%
Indigenous status	Yes	221	70%	871	87%	814	85%	1,237	86%	1,500	90%	1,324	86%	2,708	76%	3,051	74%	2,901	88%	14,627	82%
	No	88	28%	95	10%	108	11%	178	12%	115	7%	152	10%	579	16%	802	20%	267	8%	2,384	13%
	Not recorded	6	2%	31	3%	32	3%	28	2%	53	3%	71	5%	269	8%	254	6%	124	4%	868	5%
Attended within last 6 months		269	85%	860	86%	861	90%	1,282	89%	1,564	94%	1,425	92%	3,228	91%	3,690	90%	3,151	96%	16,330	91%
Reason for last attendance	Chronic Disease	214	68%	585	59%	542	57%	821	57%	1019	61%	890	58%	2,203	62%	2,768	67%	2,141	65%	11,183	63%
	Acute care	48	15%	239	24%	255	27%	340	24%	407	24%	389	25%	854	24%	788	19%	684	21%	4,004	22%
	Other	51	16%	168	17%	156	16%	276	19%	241	14%	268	17%	499	14%	551	13%	467	14%	2,677	15%
	Not recorded	2	1%	5	1%	1	0%	6	0%	1	0%	0	0%	0	0%	0	0%	0	0%	15	0%
Profession patient first seen by	ATSIHP	83	26%	270	27%	194	20%	327	23%	344	21%	321	21%	676	19%	660	16%	540	16%	3,415	19%
	Nurse	123	39%	316	32%	398	42%	599	42%	819	49%	598	39%	2,013	57%	2,158	53%	1,782	54%	8,806	49%
	GP	62	20%	289	29%	251	26%	353	24%	276	17%	403	26%	488	14%	717	17%	700	21%	3,539	20%
	Specialist	13	4%	28	3%	46	5%	29	2%	39	2%	29	2%	68	2%	95	2%	69	2%	416	2%
	Allied health	6	2%	19	2%	26	3%	39	3%	86	5%	86	6%	188	5%	367	9%	150	5%	967	5%
	Other	2	1%	24	2%	11	1%	16	1%	31	2%	15	1%	42	1%	25	1%	32	1%	198	1%
	Not stated	26	8%	51	5%	28	3%	80	6%	73	4%	95	6%	81	2%	85	2%	19	1%	538	3%

2.2. Overall Chronic Illness Care Delivery

Stakeholder feedback on the priority evidence-practice gaps in chronic illness care highlighted the importance of continuing attention to holistic care, and ensuring that focus on specific indicators does not detract from the importance of providing high quality care across the scope of best practice. Figure 2 shows trends in a composite indicator of overall service delivery to patients with chronic illness in accordance with best practice guidelines. The composite indicators* for each chronic condition include services such as chronic disease management plans, vaccinations, physical checks, clinical examinations and brief interventions. Follow-up actions for abnormal findings have not been included as they relate to specific subgroups of the patient population.

Summary of trends (Figure 2.2)

Over years

- Across all chronic conditions, the mean and median level of care delivery ranged between 60% and 80% of services included within the best practice composite indicators.
- Generally, there was little evidence of improvement over years and consistent wide variation in service delivery between health centres with some delivering less than 40% of best practice care.
- For CKD, CHD and hypertension, there was a drop in the mean and median level of recorded delivery and increased variation between health centres in 2012, coinciding with a substantial increase in the number of centres auditing for these conditions.

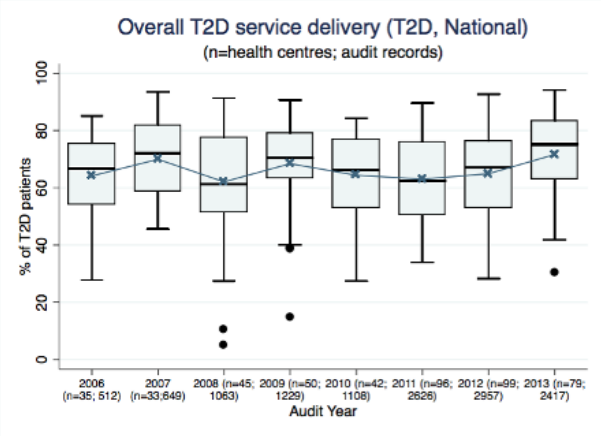
Over successive audit cycles

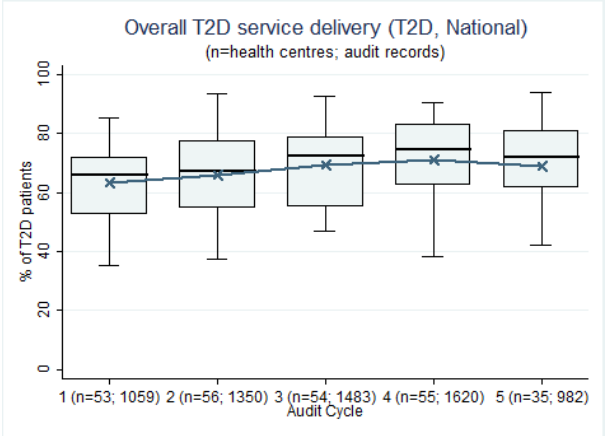
- For health centres that completed three or more audit cycles for T2D, CKD and hypertension, there were trends of improvement in the mean and median level of care according to best practice guidelines.
- For CKD and T2D, there was a narrowing in the variation between health centres across the first three audit cycles, with a notable improvement in the health centres with the lowest levels of overall delivery of care.

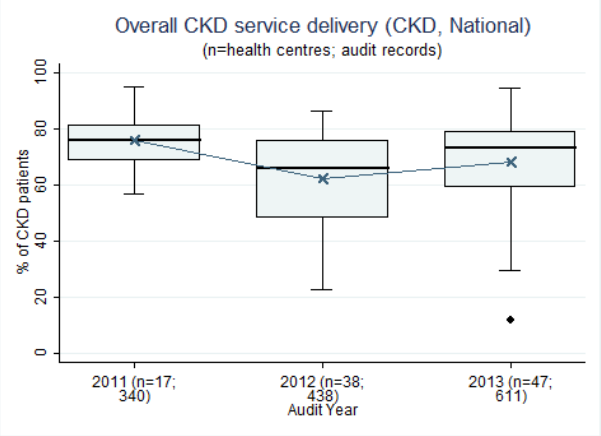
*****Composite indicators include up to 22 best practice indicators present in the V&M audit tool: current chronic disease management plan, chronic disease management/medication discussion, influenza and pneumococcal vaccination, weight and waist circumference (within 6 months), BMI, blood pressure (within 6 months), nutrition and physical activity advice, ACR, eGFR, full lipid profile, total cholesterol, tobacco and alcohol use with brief intervention/s if required. In addition, for T2D: visual acuity, dilated eye check, feet check and HbA1c (within 6 months); for HT: dilated eye check and blood glucose level; and for CKD and CHD: blood glucose level.

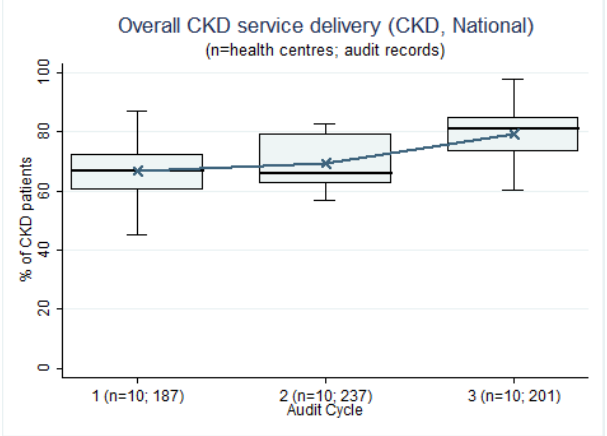
Figure 2.2: Mean health centre <u>overall service delivery</u> to patients, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patient records audited who attended in previous 12 months).

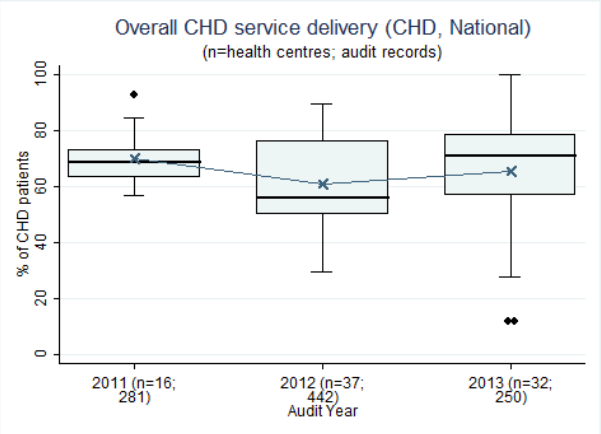
Year | **Audit Cycle**



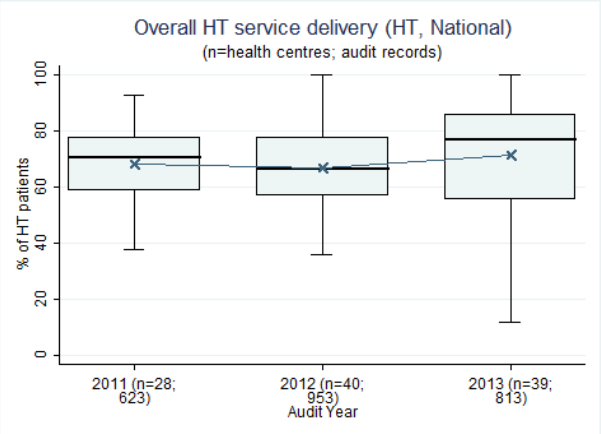


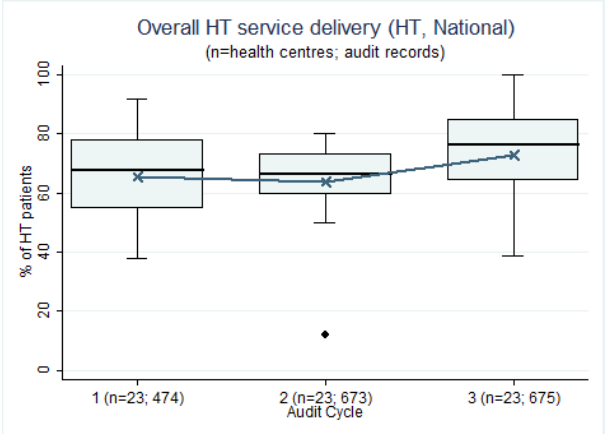






No data presented for CHD due to a small number of health centres completing 3 audit cycles.





2.3. Follow-up of abnormal findings

Close to 90% of survey respondents regarded follow-up of abnormal clinical findings as a priority area for improvement. The indicators included here are the documentation of a follow-up plan (within 2-4 weeks) and medication review for abnormal blood pressure (BP) and medication review for abnormal cholesterol and HbA1c results. Follow-up plan indicators for abnormal HbA1c and cholesterol were introduced to the V&M tool in December 2011, hence there is limited data to allow for analysis of trends over time. Out of the clinical examinations included in the Phase 1 report, 87% of stakeholders regarded strengthening provision of regular HbA1c checks as a priority for improvement.

Summary of trends (Figures 2.3-2.7)

Over years

- There was wide variation between health centres in delivery of six monthly HbA1c checks and documented follow-up actions for patients showing abnormal HbA1c, blood pressure and cholesterol results.
- Rates of documented plans for abnormal BP were relatively low prior to 2012 (Figure 2.5). There was a marked increase in median rates in 2012 across all chronic conditions and a concurrent increase in variation between health centres, ranging from 0-100%.
- For T2D, there was a trend in improvement in medication review and/or adjustment for all types of abnormal findings. In particular, there were marked increases in 2009 coinciding with the addition to the V&M tool of the indicator 'medication reviewed but not adjusted', suggesting that for a large proportion of patients, medication is generally reviewed but not adjusted.
- There was evidence of an improvement trend in median level rates of medication review (and/or adjusted) for abnormal finding in other chronic conditions, particularly in 2012. However, there was a concurrent increase in variation between health centres ranging from 0 to 100%.

Over cycles

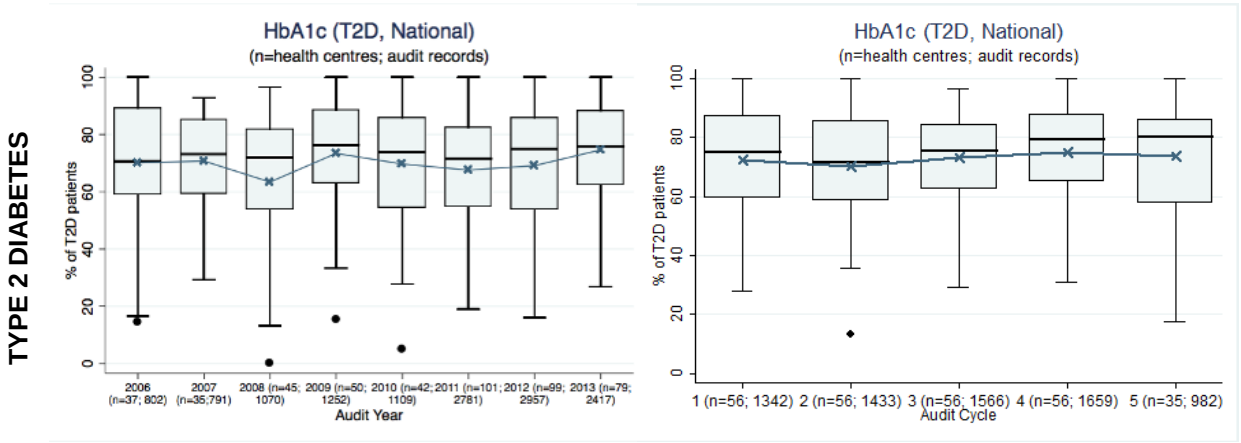
- There were clear improvements in median delivery rates of six monthly HbA1c checks and follow-up actions for abnormal results across all chronic conditions. However, there was also consistently wide variation with some health centres showing no record of delivery across the key follow-up actions investigated.

HbA1c checks and follow-up of abnormal HbA1c readings

There was a relatively high median rate of six monthly HbA1c checks for T2D patients (around 75%) (Figure 2.3). However, there was consistently wide variation across years and audit cycles and no apparent improvement over time for health centres at the lower end of the range.

Figure 2.3: Mean health centre delivery of HbA1c checks within 6 months, by audit year for all health centres and by audit cycle for health centres that have at least 4 years of audit data (n=number of health centres; number of T2D patients who attended in previous 6 months).

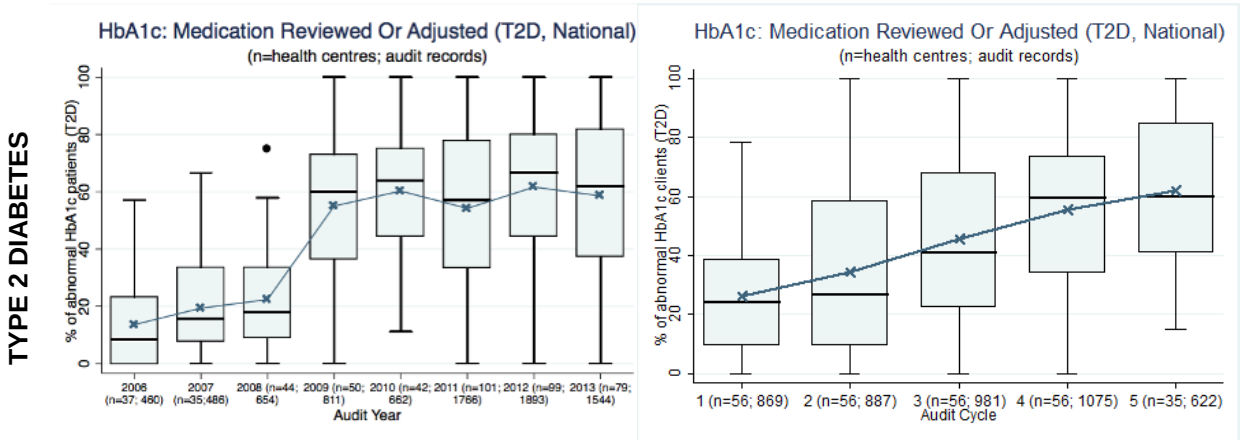
Year **Audit Cycle**



In relation to follow-up action for abnormal HbA1c results, there was a marked increase in medication review rates in 2009 coinciding with the addition of the "medication review but no adjustment" indicator to the V&M tool (Figure 2.4). This suggests that for a large proportion of patients, medication is generally reviewed but not adjusted. There was an improvement trend in medication review across audit cycles with the median rates increasing from 25% to 60% between cycle one and four. However, the variation in rates between health centres was consistently wide, ranging from 0 to 100%.

Figure 2.4: Mean health centre rates of medication review or adjustment for patients with abnormal HbA1c, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of T2D patients with abnormal HbA1c).

Year **Audit Cycle**



Follow-up of Abnormal Blood Pressure

The indicator for documentation of a follow-up plan (within 2 to 4 weeks of an abnormal blood pressure finding) was introduced to the V&M tool in December 2007. For all chronic conditions, median rates of follow-up plan documentation increased substantially from less than 10% to more than 50% after 2011 (Figure 2.5). There was also a corresponding increase in variation between health centres. Across audit cycles for each chronic condition, there was an increasing trend in median rates but also increased variation between the same cohort of health centres that completed at least three audit cycles.

There was evidence of improvement in rates of medication review and/or adjustment for patients with abnormal blood pressure over years and successive audit cycles (Figure 2.6). For T2D, similar to abnormal HbA1c results (Figure 2.4), there was a marked increase in medication review rates in 2009, coinciding with the introduction of the indicator "medication reviewed but not adjusted". Across audit cycles, there was an increase in median medication review rates for all chronic conditions, particularly T2D (7 to 30% over 4 cycles) and CKD (18 to 41% across three cycles). Wide variation persisted between health centres for all chronic conditions across years and audit cycles.

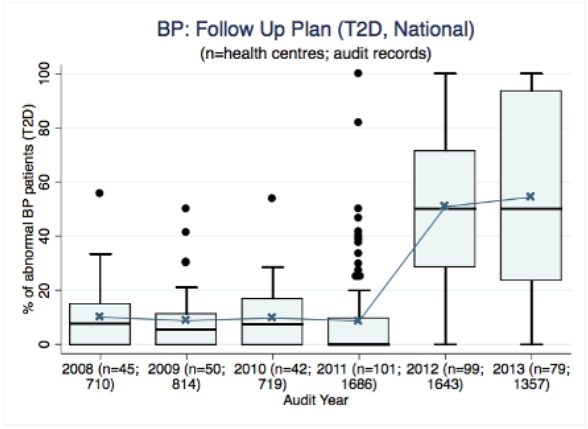
Follow-up of Abnormal Total Cholesterol/HDL Ratio Readings

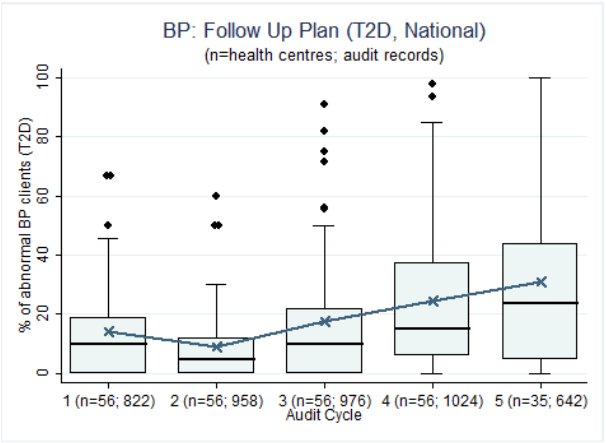
For T2D abnormal cholesterol, there was a marked increase in 2009 coinciding with the introduction of the "medication reviewed but not adjusted" indicator (Figure 2.7). From 2009, the median medication review rates for T2D increased from 35 to 50% in 2013. However, there was no apparent improvement in level of medication review for CKD, CHD and hypertension. There was evidence of improvement over successive audit cycles for all chronic conditions although wide variation between health centres (0 to 100%) persisted over cycles.

Figure 2.5: Mean health centre rates of <u>follow-up plan documentation for patients with abnormal BP</u>, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients with abnormal BP).

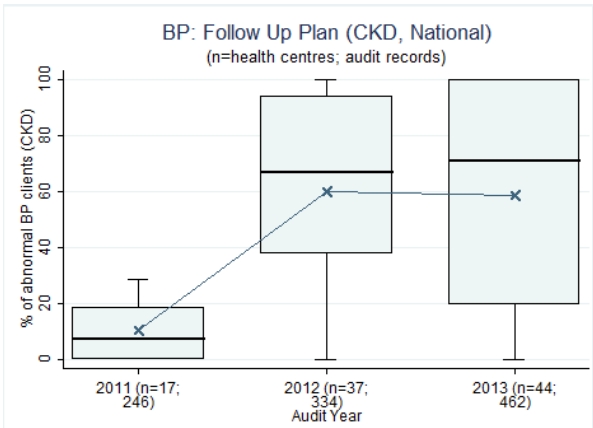
Year | **Audit Cycle**

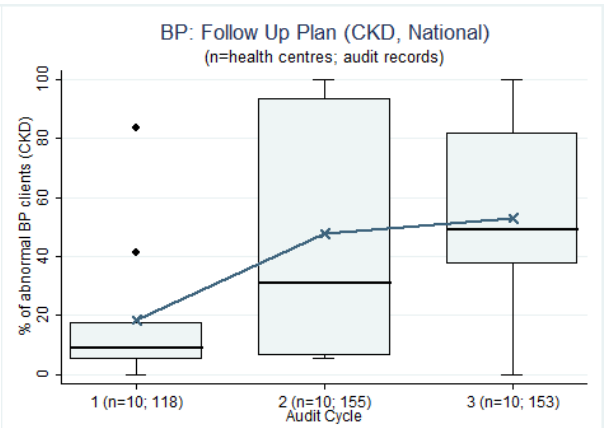
TYPE 2 DIABETES



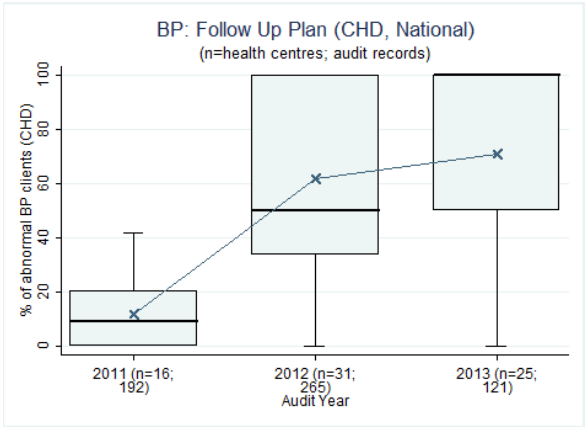


CHRONIC KIDNEY DISEASE



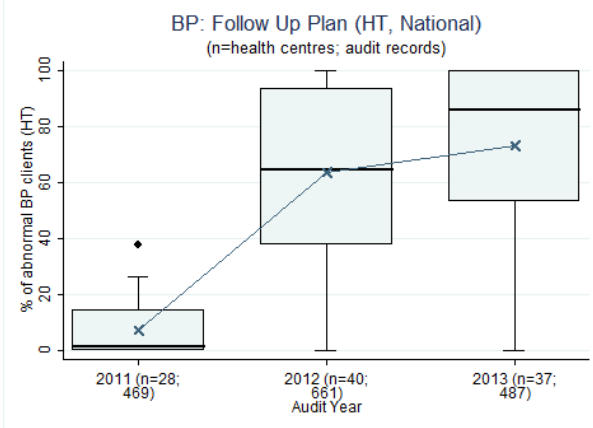


CORONARY HEART DISEASE



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

HYPERTENSION



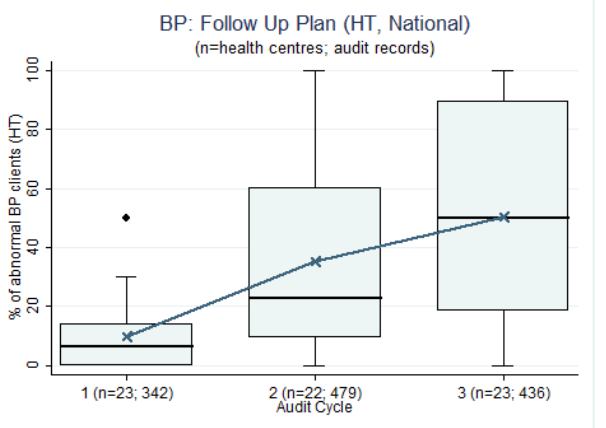
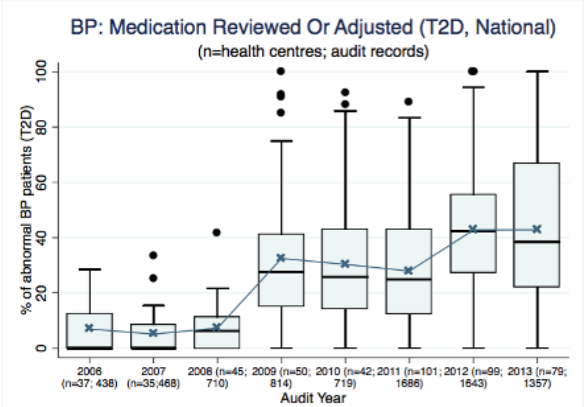
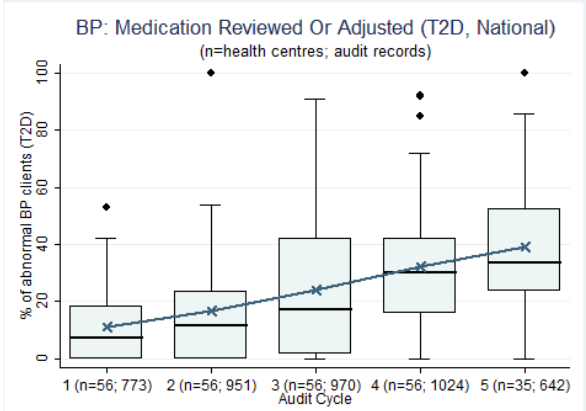


Figure 2.6: Mean health centre rates of <u>medication review or adjustment for patients with abnormal BP</u>, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients with abnormal BP).

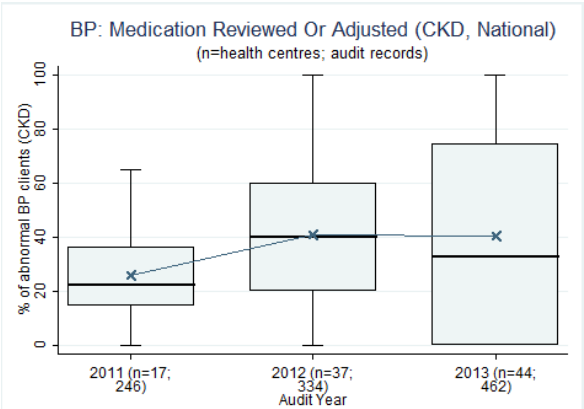
Year | **Audit Cycle**

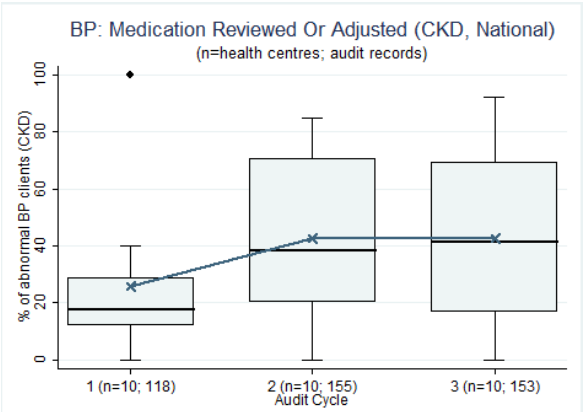
TYPE 2 DIABETES



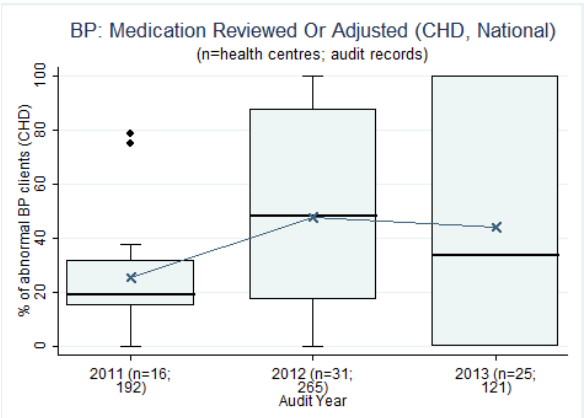


CHRONIC KIDNEY DISEASE



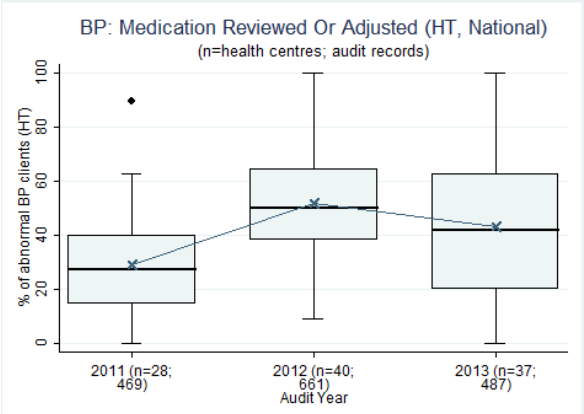


CORONARY HEART DISEASE



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

HYPERTENSION



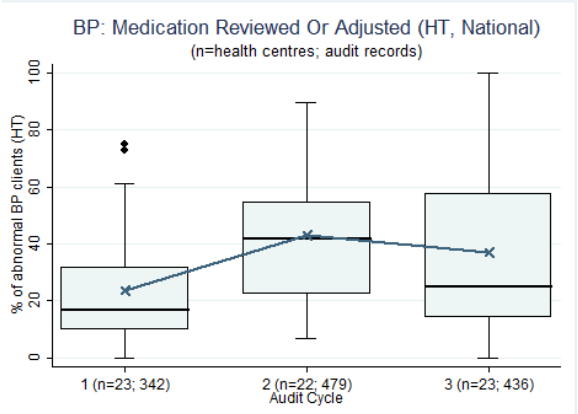
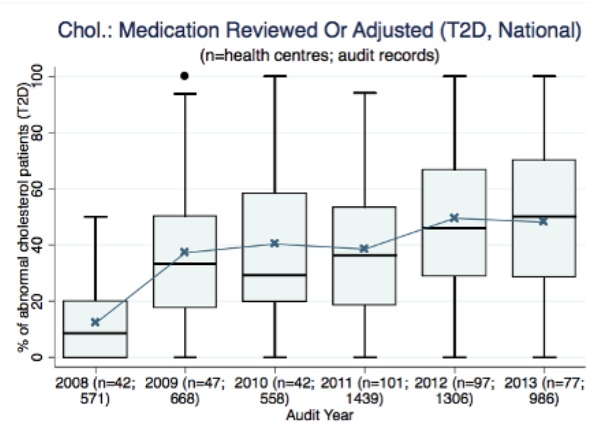
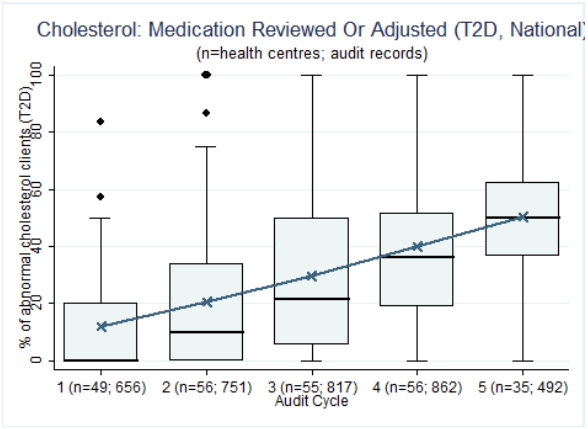


Figure 2.7: Mean health centre rates of <u>medication review or adjustment for patients with abnormal cholesterol</u>, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients with abnormal cholesterol).

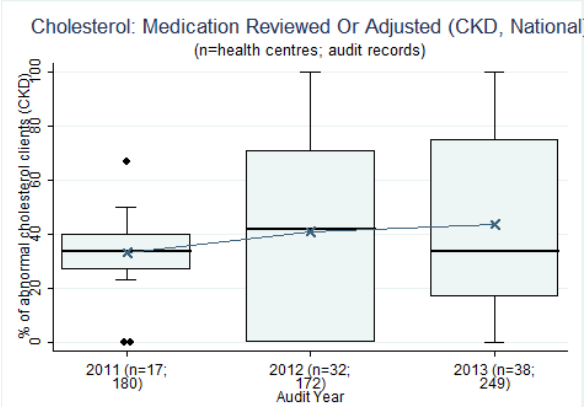
Year **Audit Cycle**

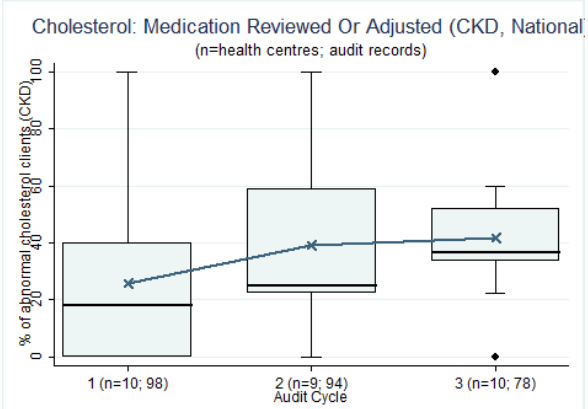
TYPE 2 DIABETES



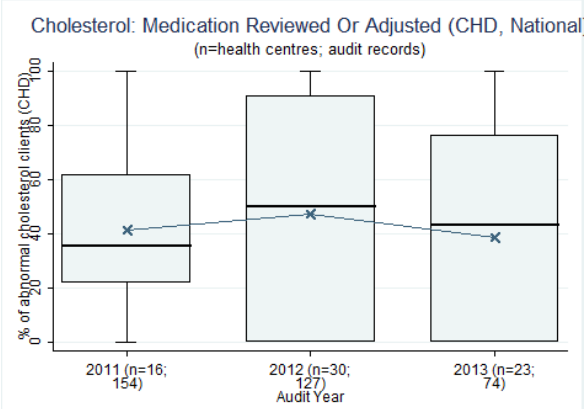


CHRONIC KIDNEY DISEASE



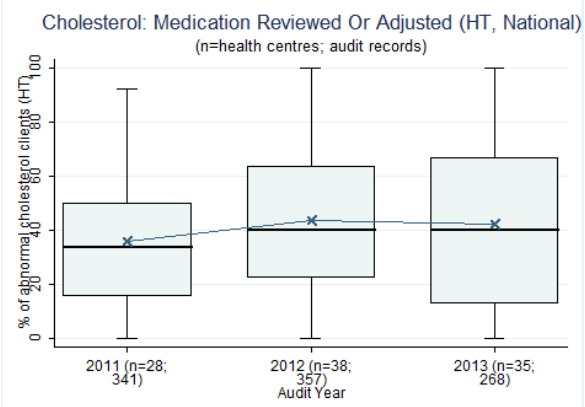


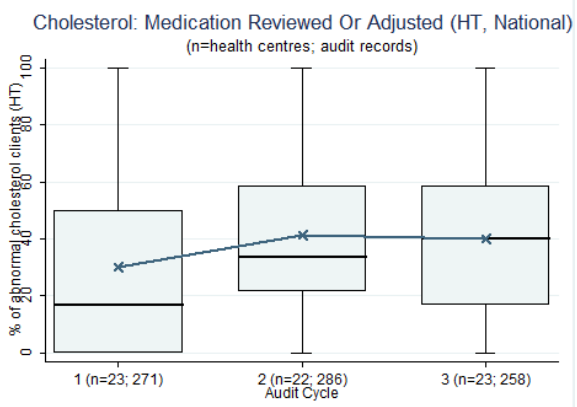
CORONARY HEART DISEASE



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

HYPERTENSION





2.4. Current Treatment

Over 85% of survey respondents regarded strengthening efforts to encourage practitioners to ***adhere to evidence based current treatment guidelines*** as a priority for improvement.

Summary of trends (Figures 2.8-2.11)

Over years

- There were generally high median prescription rates (above 70%) for metformin, anti-clotting and lipid lowering medication for patients with the relevant chronic illness.
- There were relatively low prescription rates (less than 40%) for insulin and beta blocker medication for T2D and CHD/hypertension patients respectively.
- For blood pressure medication, ACE inhibitors were prescribed at a higher rate (between 50% and 80%) compared to angiotensin blockers drugs (between 20% and 40%) for CKD, CHD and hypertension.
- For all chronic conditions, there was wide variation between health centres with some health centres recording low rates of prescription for recommended medications.

Over cycles

- There was little evidence of improvement and wide variation between health centres in prescription rates over successive audit cycles for all chronic conditions.

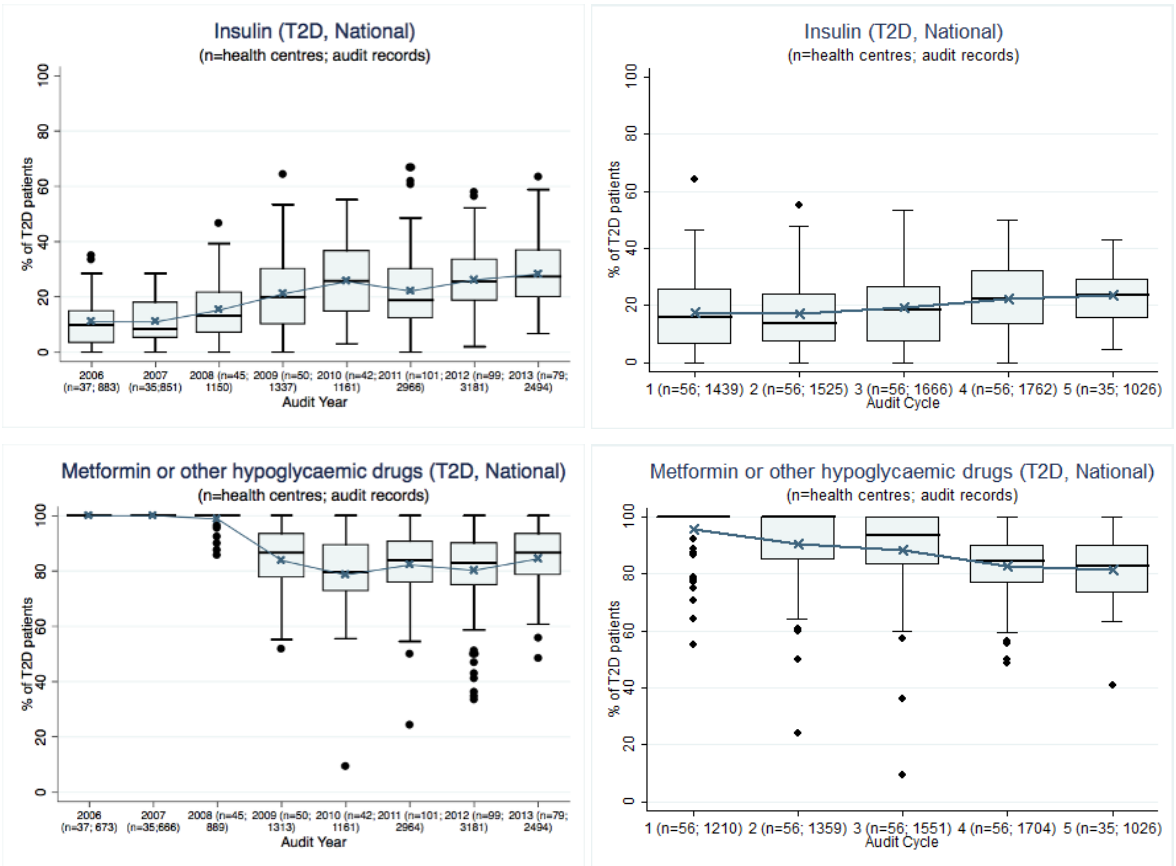
Type 2 Diabetes

The median prescription level for insulin increased from 10 to 27% between 2006 and 2013, and there was some evidence of an increase over successive audit cycles (Figure 2.8). However, there was wide variation between health centres in insulin prescription rates over years and successive audit cycles.

Compared to insulin, prescription rates for metformin (or other hypoglycaemic drugs) were higher with most health centres providing this medication to over 60% of patients, suggesting that it is an important first-line medication for people with T2D. However, there was considerable variation between health centres with some recording markedly lower prescription rates of metformin.

Figure 2.8: Mean health centre prescription rates for recommended medications, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of T2D patients).

Year **Audit Cycle**

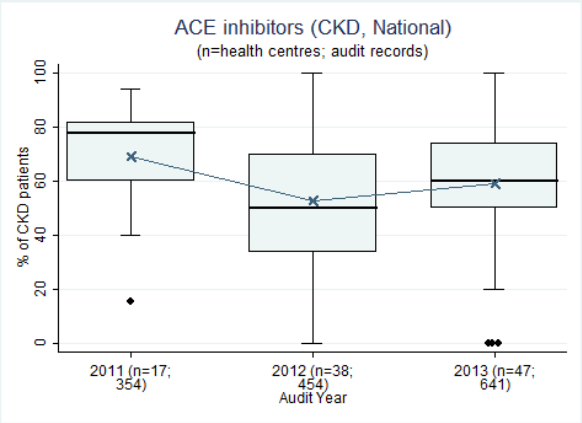


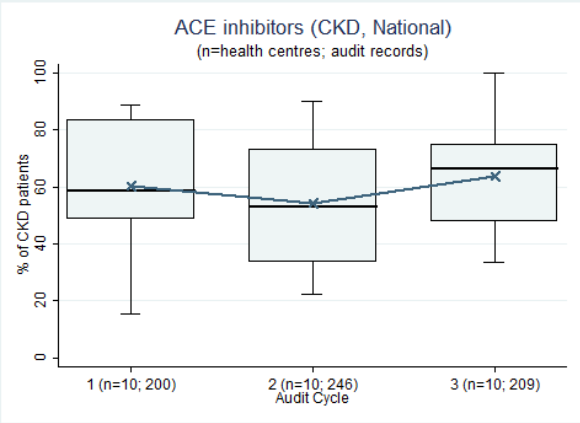
Chronic Kidney Disease

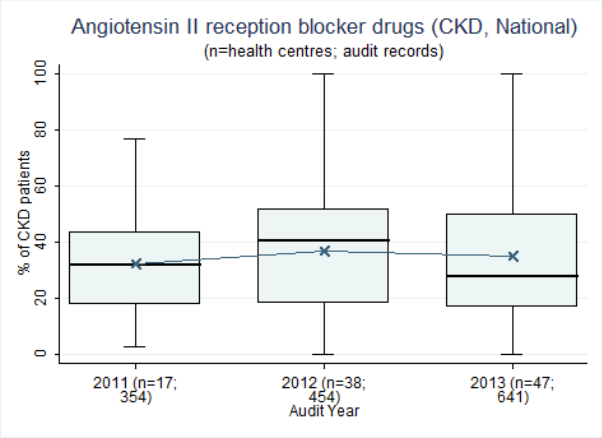
For patients with CKD, there was wide variation in prescription rates for blood pressure medication (angiotensin-converting enzyme (ACE) inhibitor or angiotensin blocker drugs) ranging from 0 to 100% (Figure 2.9). Median rates of ACE inhibitor prescription were higher (around 50 to 60%) compared to angiotensin blocker drugs (between 20 and 40%). For the cohort of ten health centres that completed three CKD audit cycles, there was some evidence of improvement for those at the lower end in recording ACE inhibitors prescriptions. Median prescription rates and level of variation did not change over successive cycles for angiotensin blocker drugs.

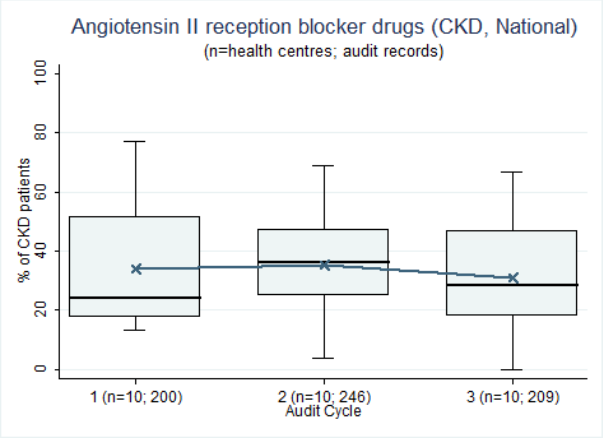
Figure 2.9: Mean health centre prescription rates for recommended medications, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of CKD patients).

Year **Audit Cycle**





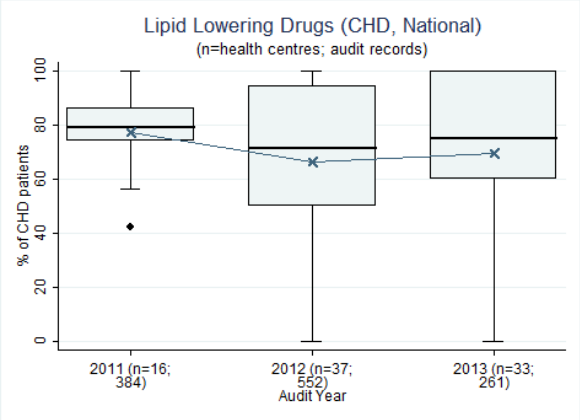


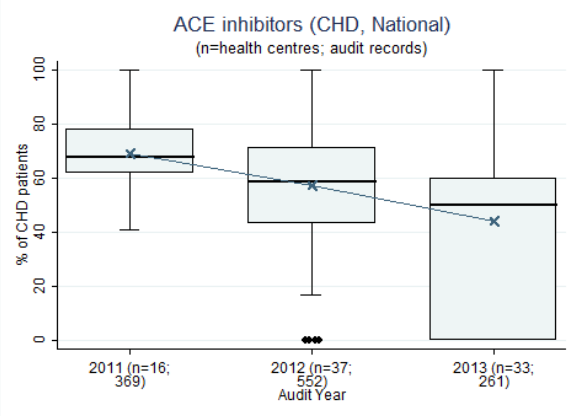


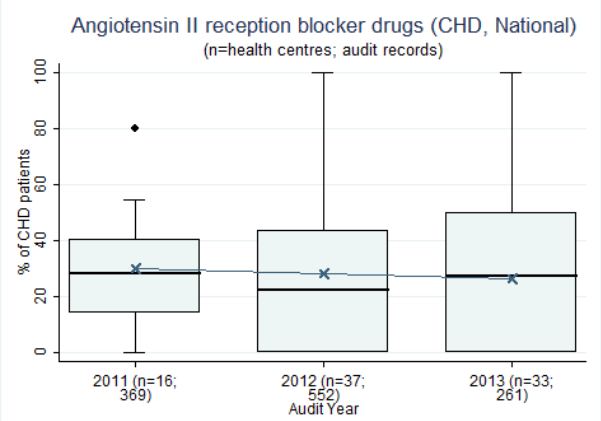
Coronary Heart Disease

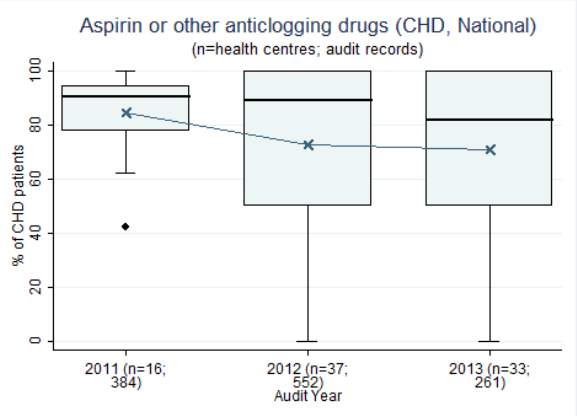
Over years, there was wide variation in recorded prescriptions of recommended medications for CHD patients (Figure 2.10). Variation increased in 2012 coinciding with an increase in the number of health centres auditing for CHD. While there were generally high median prescription levels for lipid lowering and anti-clotting drugs (around 80%), there was wide variation between health centres with some recording prescription rates below 50%. There was a decreasing trend of recorded prescriptions for ACE inhibitors and betablockers between 2011 and 2013.

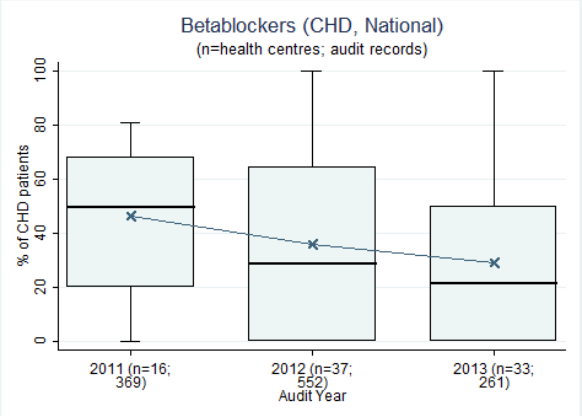
Figure 2.10: Mean health centre prescription rates for recommended medications, by audit year for all health centres (n=number of health centres; number of CHD patients). NB: Trends over audit cycles not presented for CHD due to a small number of health centres that have completed 3 cycles.









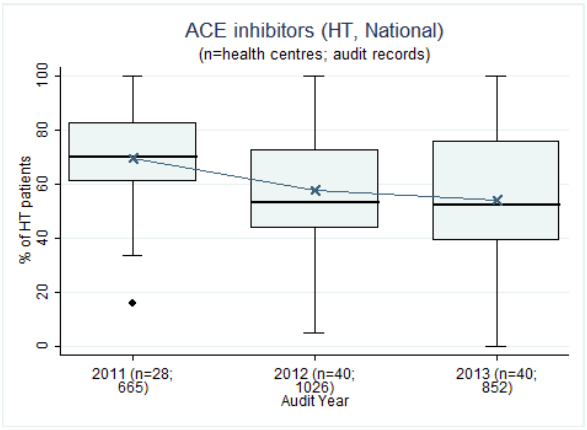


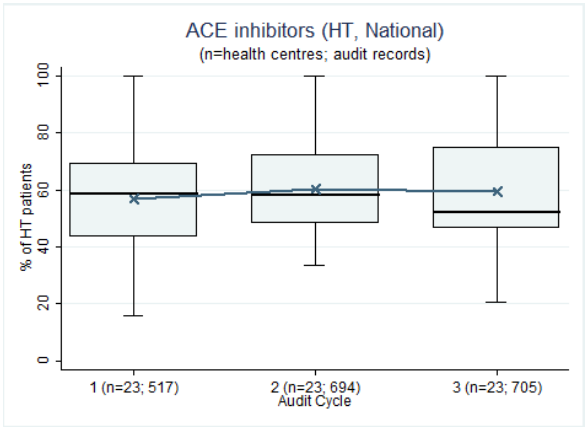
Hypertension

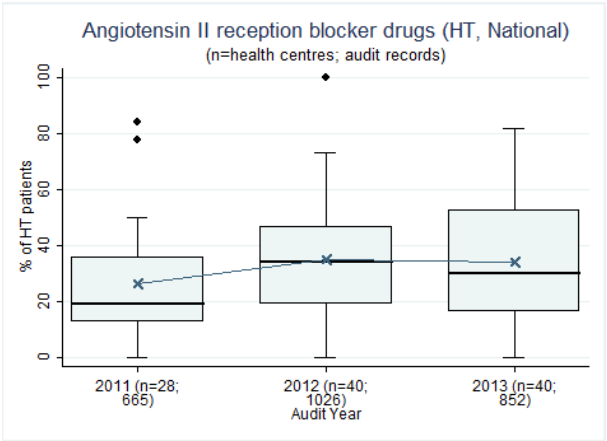
For patients with hypertension, there was large variation between health centres in prescription of recommended medications over years and successive audit cycles (Figure 2.11). There was no apparent improvement with median levels of recorded prescription remaining the same over time (approximately 60% for ACE inhibitors; 20-30% for angiotensin blocker drugs; and 20% for beta blockers). Between 2011 and 2013, the majority of health centres had less than 50% betablocker prescription rates for patients with hypertension.

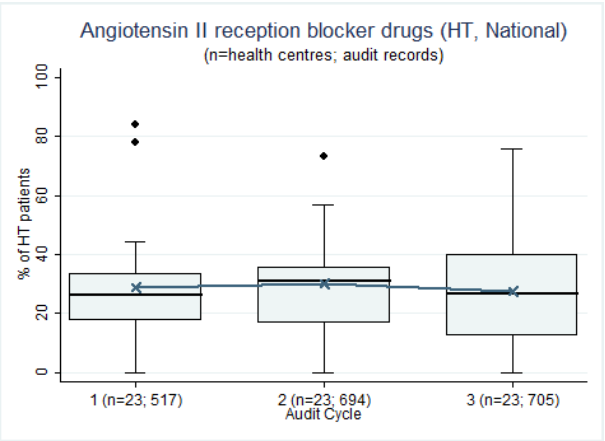
Figure 2.11: Mean health centre prescription rates for recommended medications, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of hypertension patients).

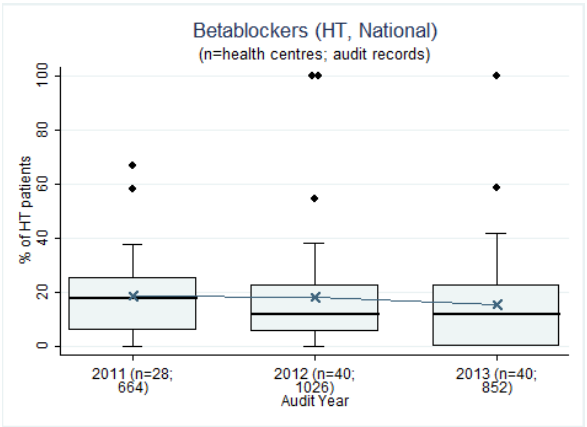
Year **Audit Cycle**

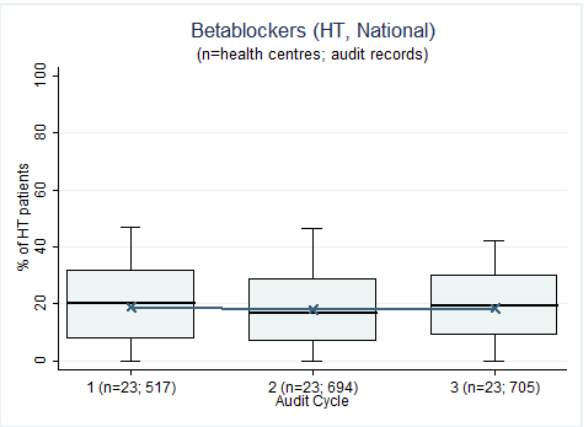












2.5. Emotional and Social Wellbeing Screening and Support

Over 85% of survey respondents agreed that strengthening capability of health centres in emotional wellbeing assessment and support is a priority for improvement.

Summary of trends (Figures 2.12-2.13)
Over years and successive audit cycles

- There were improvements in recorded enquiry regarding emotional wellbeing among patients with a chronic illness from 2011.
- There was wide variation between health centres, with some centres having no record of enquiry regarding emotional wellbeing.
- In terms of support provided to patients considered at risk, there was some evidence of improvement over years in median provision rates of brief interventions by health centre staff. However, there was wide variation between health centres over time in provision of support actions investigated.

Emotional Wellbeing Screening

Screening for emotional wellbeing risk occurs through the use of standard tools or through other forms of discussion with the patient. Figure 2.12 shows rates of screening using either of these methods for patients with a chronic illness from 2009 (when emotional wellbeing indicators were added to the V&M tool). In general, rates of screening increased over years, particularly from 2011. Mean and median levels of screening also increased over successive audit cycles, however there was consistent wide variation between health centres with some recording no screening activity. In 2013, the median screening rate was highest for T2D patients (52%) and lowest for hypertension patients (23%).

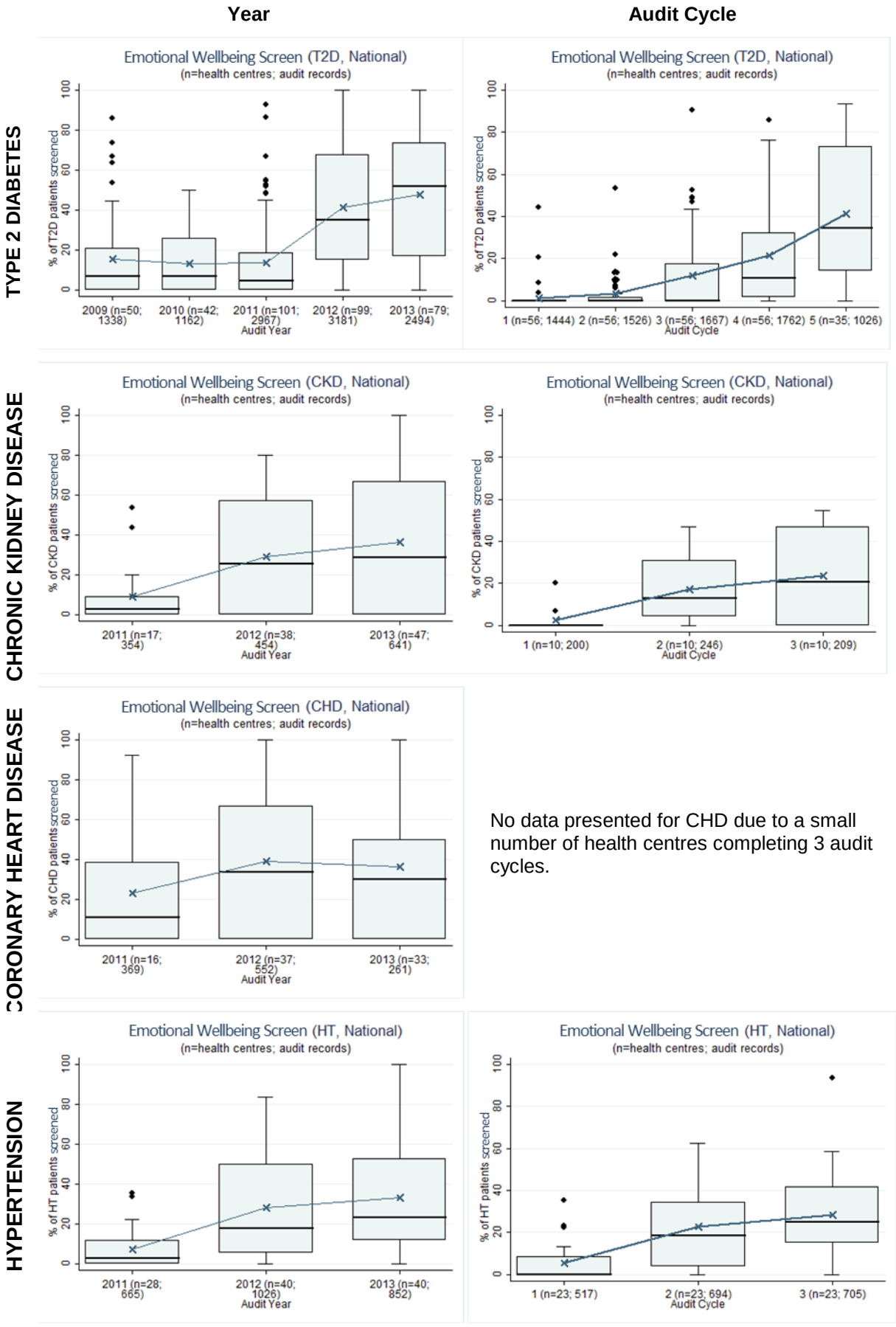
Number of Patients Identified At Risk of an Emotional Wellbeing Concern

Out of all patients screened, the percentage identified as being at risk of emotional wellbeing issues was substantially higher between 2009 and 2011 (46-75%) compared to 2012 and 2013 (14-17%) (Table 2.4). Screening rates were lower in the earlier years suggesting that over this time period, screening mainly occurred for patients suspected of being at risk.

Table 2.4: Number (and %) of patients with a record of emotional wellbeing screen; and those identified at risk, by audit year across all participating health centres.

Year	2009	2010	2011	2012	2013
Number of Health Centres	**36**	**42**	**103**	**100**	**80**
Number of patients that attended within previous 12 months	1628	1490	3489	4020	3262
Number (& %) of patients with emotional wellbeing screen	315 (19%)	253 (17%)	618 (18%)	1730 (43%)	1617 (50%)
Number of patients identified at risk (& % of those screened)	146 (46%)	189 (75%)	302 (49%)	299 (17%)	228 (14%)

Figure 2.12: Mean health centre delivery of <u>emotional wellbeing screen or discussion</u>, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients who attended in last 12 months).

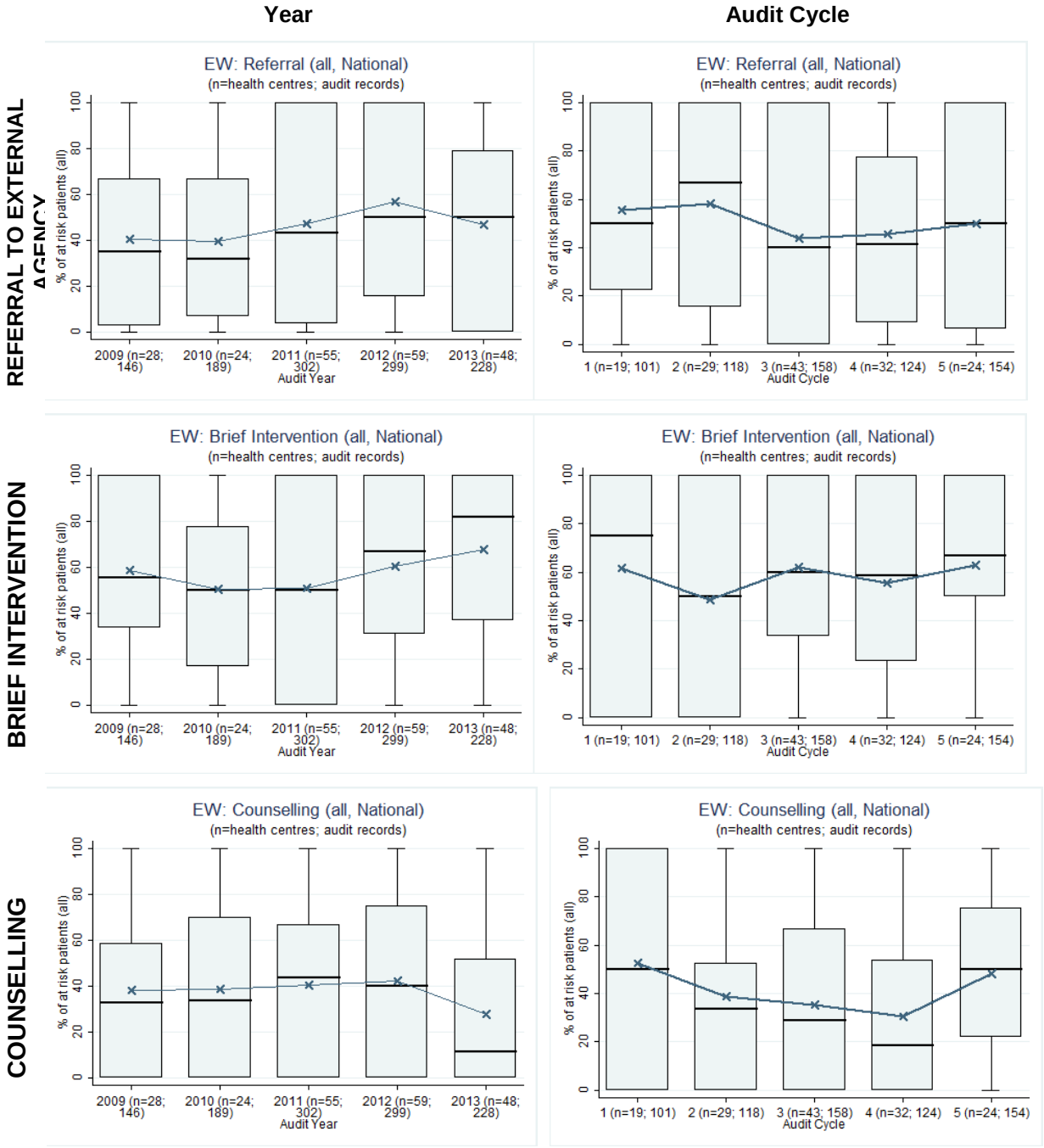


No data presented for CHD due to a small number of health centres completing 3 audit cycles.

Follow-up Actions for Patients Identified at Risk of Issue/s affecting Emotional Wellbeing

Figure 2.13 combines data for all chronic conditions on follow-up actions for patients identified at risk of an emotional wellbeing concern (Table 2.5). Over years and successive audit cycles, there was wide variation between health centres in recorded support (Figure 2.13). From 2011 to 2013, the median delivery rate of brief interventions increased from approximately 50 to 80%. Equivalent scores in 2013 for provision of counselling and referral to an external support agency were around 10 and 35% respectively. There was no clear trend of improvement over successive audit cycles for those health centres that completed three or more V&M audits.

Figure 2.13: ***Mean health centre delivery of follow-up actions for patients identified at risk of emotional wellbeing concern, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of V&M audit data (n=number of health centres; number of patients identified at risk of EW issue).***



2.6. Risk factors, brief interventions and referral

Eighty percent of survey respondents regarded the following ***risk factors and brief interventions*** as priority areas for improvement: recording of healthy weight indicators (waist circumference within 6 months and BMI within 12 months); provision of advice on physical activity; provision of advice and referrals for tobacco users; and absolute cardiovascular risk assessment for patients with a chronic illness. The cardiovascular risk assessment and tobacco user referral indicators were added to the V&M tool in December 2011, hence limited data is available to analyse trends over time.

Summary of trends (Figures 2.14-2.17)
Over years
- No evidence of improvement across healthy weight indicators and brief interventions apart from physical activity advice to patients with T2D.
- There was consistent wide variation between health centres in recording of waist circumference and BMI and in provision of brief interventions for physical activity and smoking.

Over successive audit cycles
- There were improvements in median recording of BMI and delivery of brief interventions and some reduction in variation between health centres in provision of brief interventions for physical activity and smoking.

Waist circumference and BMI

Median rates of waist circumference and BMI recording were generally higher for T2D compared to other chronic conditions (Figures 14 and 15). Over years and across all chronic conditions, there were no improvements in the healthy weight indicators and consistent wide variation with some health centres showing low levels of recording. There were, however, improvements in median BMI recording levels over three or more audit cycles (for example, from 14 to 73% for T2D) for all chronic conditions (Figure 15). For waist circumference checks, there was some evidence of improvement in median rates of delivery for patients with hypertension over three successive cycles (from 18 to 38%) (Figure 14).

Physical Activity Advice

For T2D, there was improvement in provision of physical activity advice over time with the median level delivery increasing from 47 to 80% between 2006 and 2013 (Figure 16). For other chronic conditions, there was no clear trend in improvement for physical activity advice and consistent wide variation over years. Over three successive cycles for all chronic conditions, there was evidence of improvement and a reduction in variation with an increase in rates of physical activity advice for health centres at the lower end.

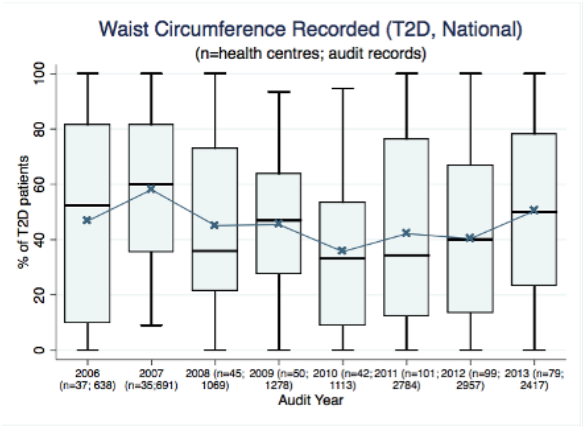
Brief intervention for tobacco users

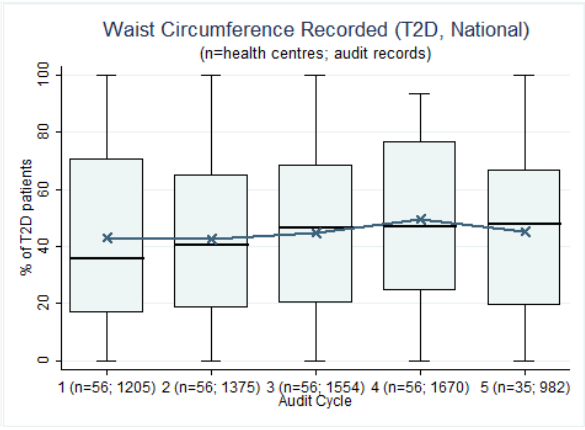
Over years and successive audit cycles, median rates of provision of brief interventions for smokers were generally high across all chronic conditions (between 90 and 100% for CHD and hypertension and above 70% for T2D and CKD). However, over years there was wide variation between health centres with some showing low levels of recording brief interventions for tobacco use (Figure 17). There was some improvement over successive audit cycles in rates of advice to smokers for health centres at the lower end of the range.

Figure 2.14: Mean health centre delivery of <u>waist circumference checks</u> within 6 months, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients who attended in previous 6 months).

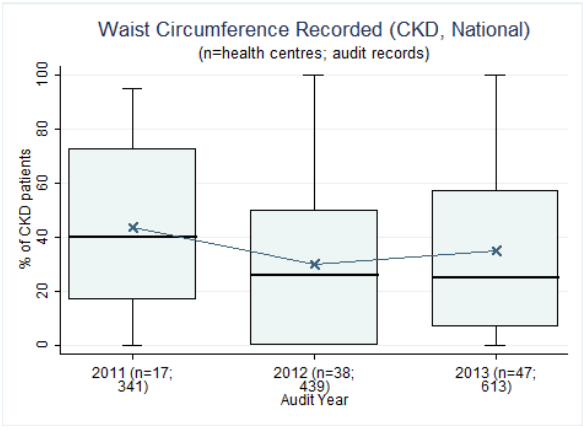
Year | **Audit Cycle**

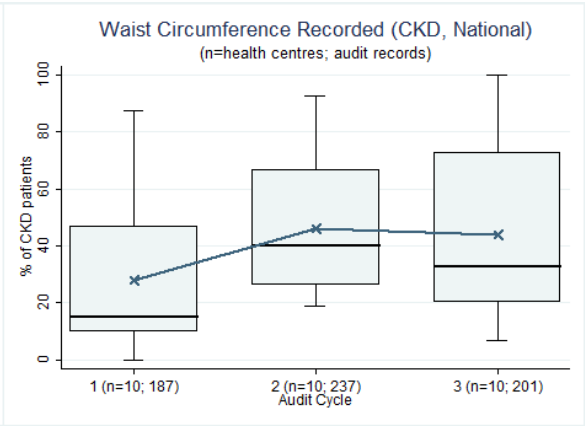
TYPE 2 DIABETES



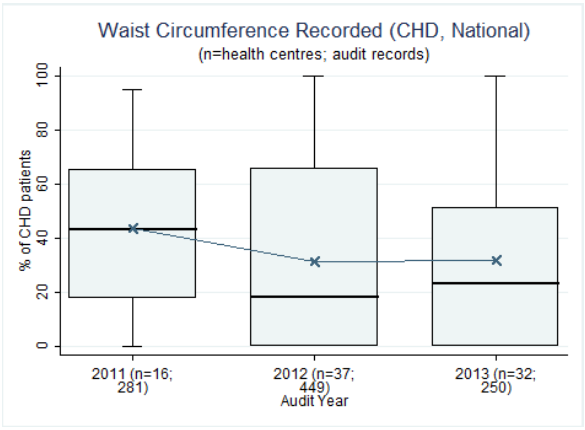


CHRONIC KIDNEY DISEASE



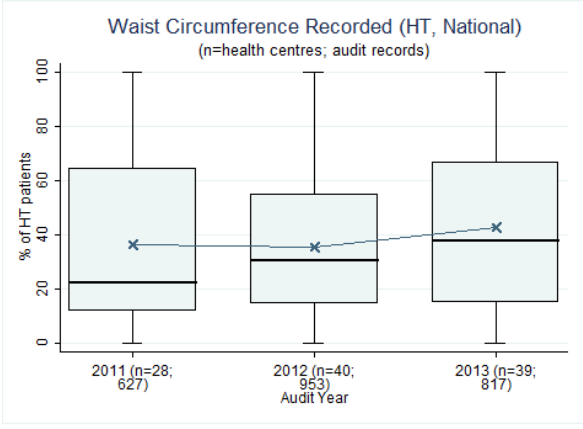


CORONARY HEART DISEASE



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

HYPERTENSION



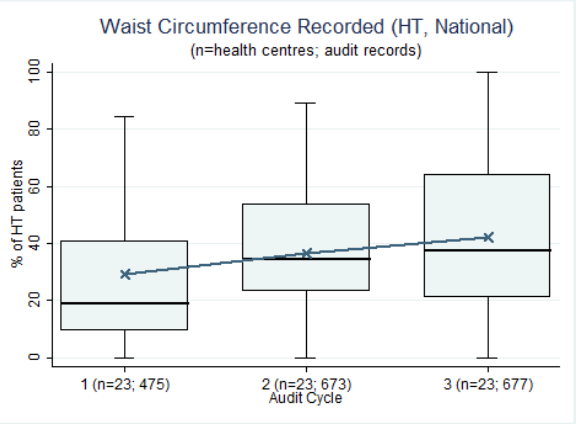
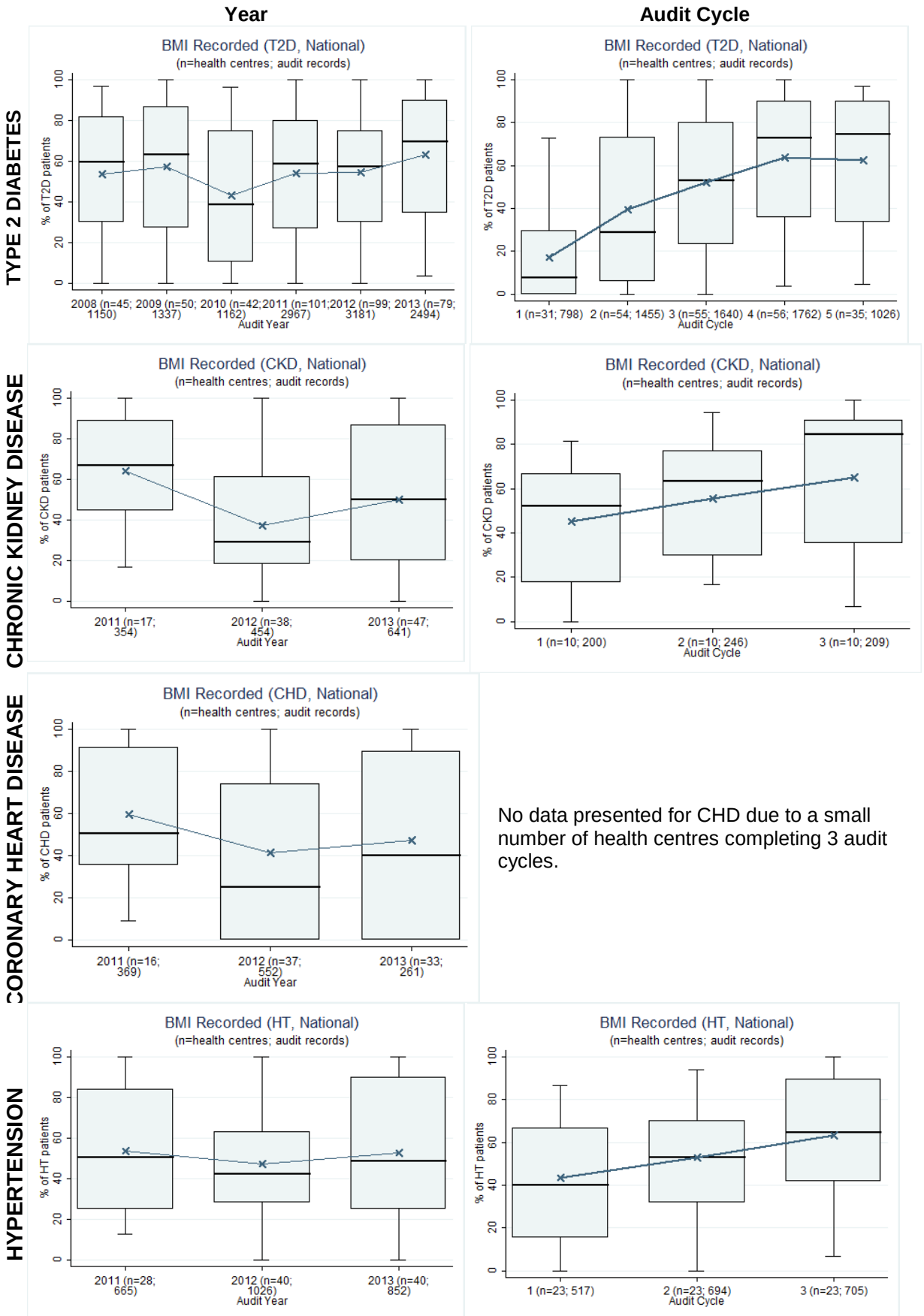


Figure 2.15: Mean health centre recording of <u>BMI</u> within 12 months, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients who attended in previous 12 months).

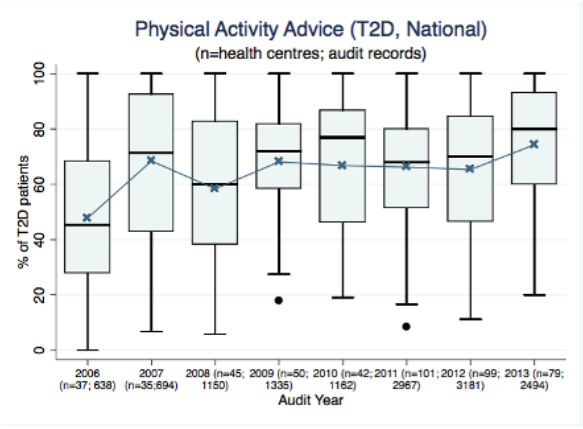


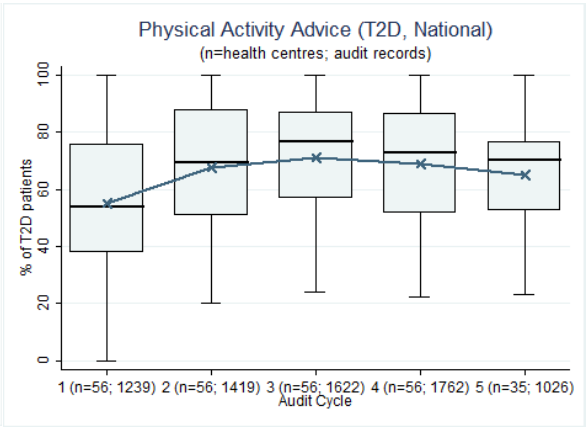
No data presented for CHD due to a small number of health centres completing 3 audit cycles.

Figure 2.16: Mean health centre delivery of <u>physical activity advice</u>, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients who attended in previous 12 months).

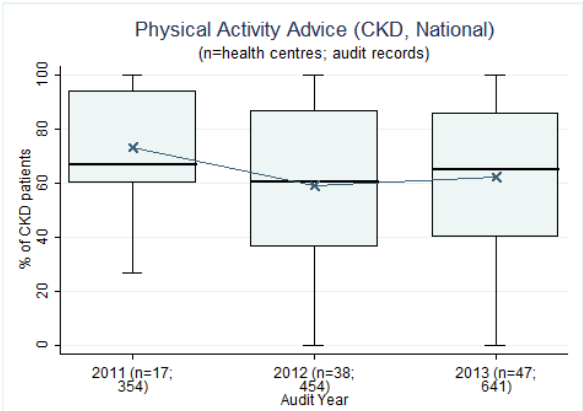
Year | **Audit Cycle**

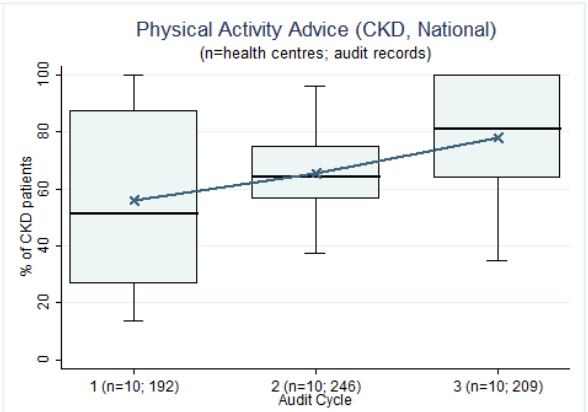
TYPE 2 DIABETES



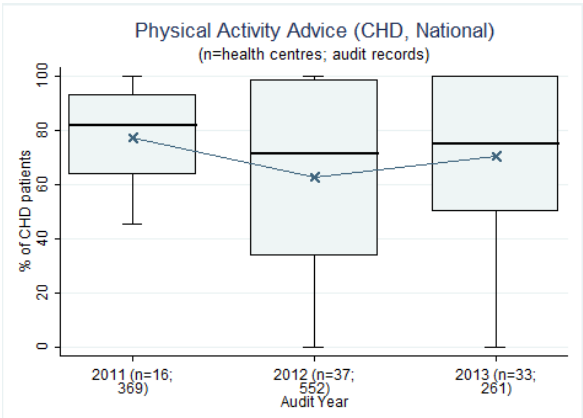


CHRONIC KIDNEY DISEASE



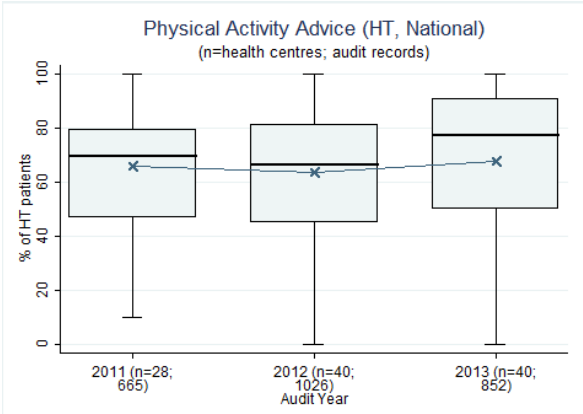


CORONARY HEART DISEASE



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

HYPERTENSION



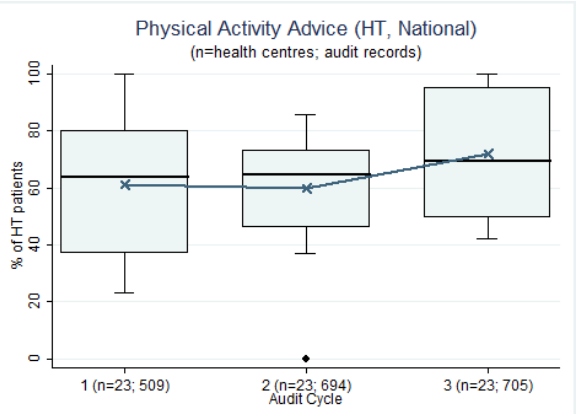
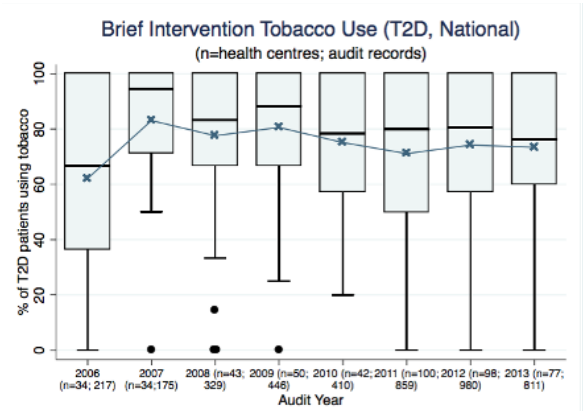
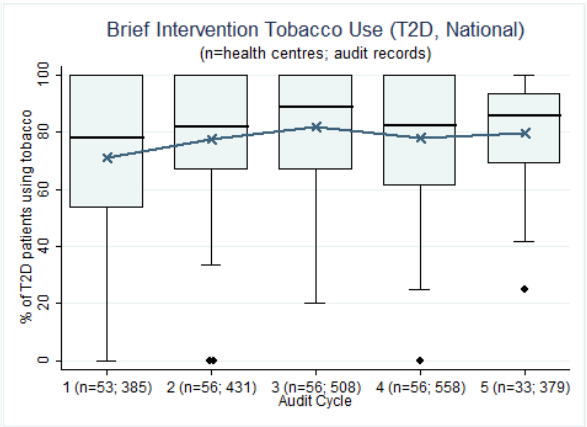


Figure 2.17: Mean health centre delivery of <u>brief interventions for smoking</u>, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients who use tobacco).

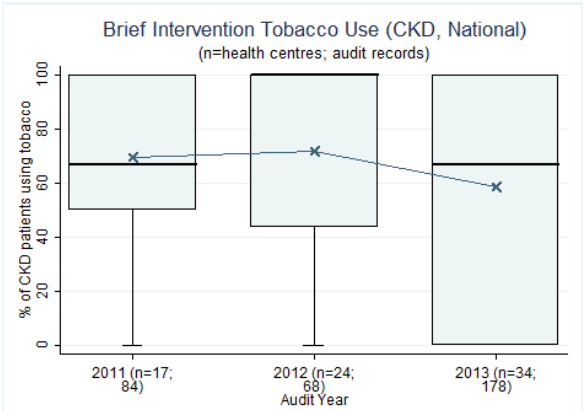
Year | **Audit Cycle**

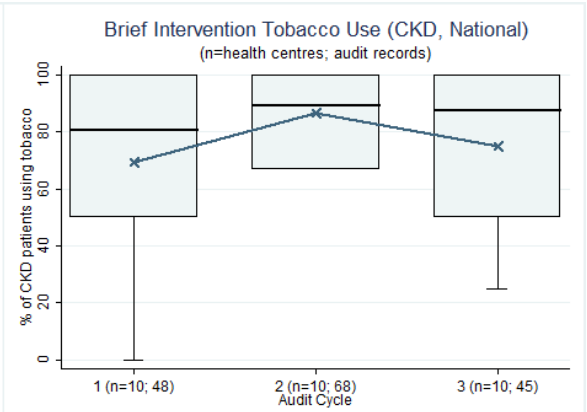
TYPE 2 DIABETES



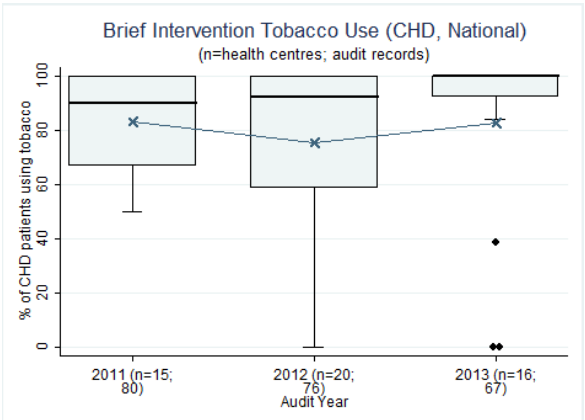


CHRONIC KIDNEY DISEASE



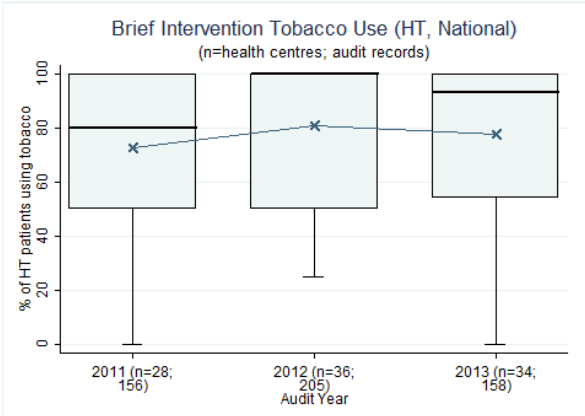


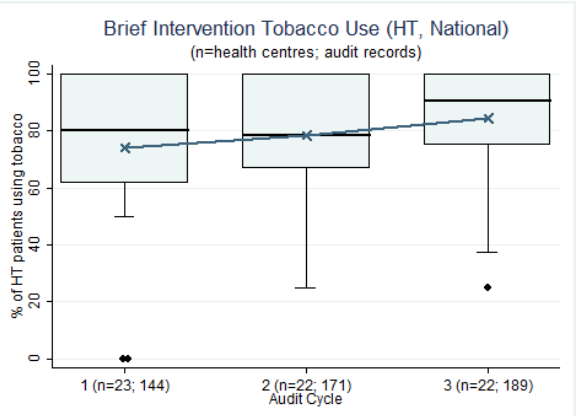
CORONARY HEART DISEASE



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

HYPERTENSION





2.7. Influenza and Pneumococcal Vaccinations

Approximately 70% of survey respondents regarded adult vaccinations as a priority area for improvement, especially for patients with CKD, CHD and hypertension.

Summary of trends (Figures 18-19)
Over years and successive audit cycles

- There remains wide variation across health centres in recording of influenza and pneumococcal vaccinations for most chronic conditions, ranging from 0 to 100% of patients.
- There was some improvement in median level recording of influenza vaccinations, particularly for CKD patients over three successive audit cycles.
- There was no indication of improvement in pneumococcal vaccinations for any chronic condition over time or successive audit cycles.

Influenza vaccinations

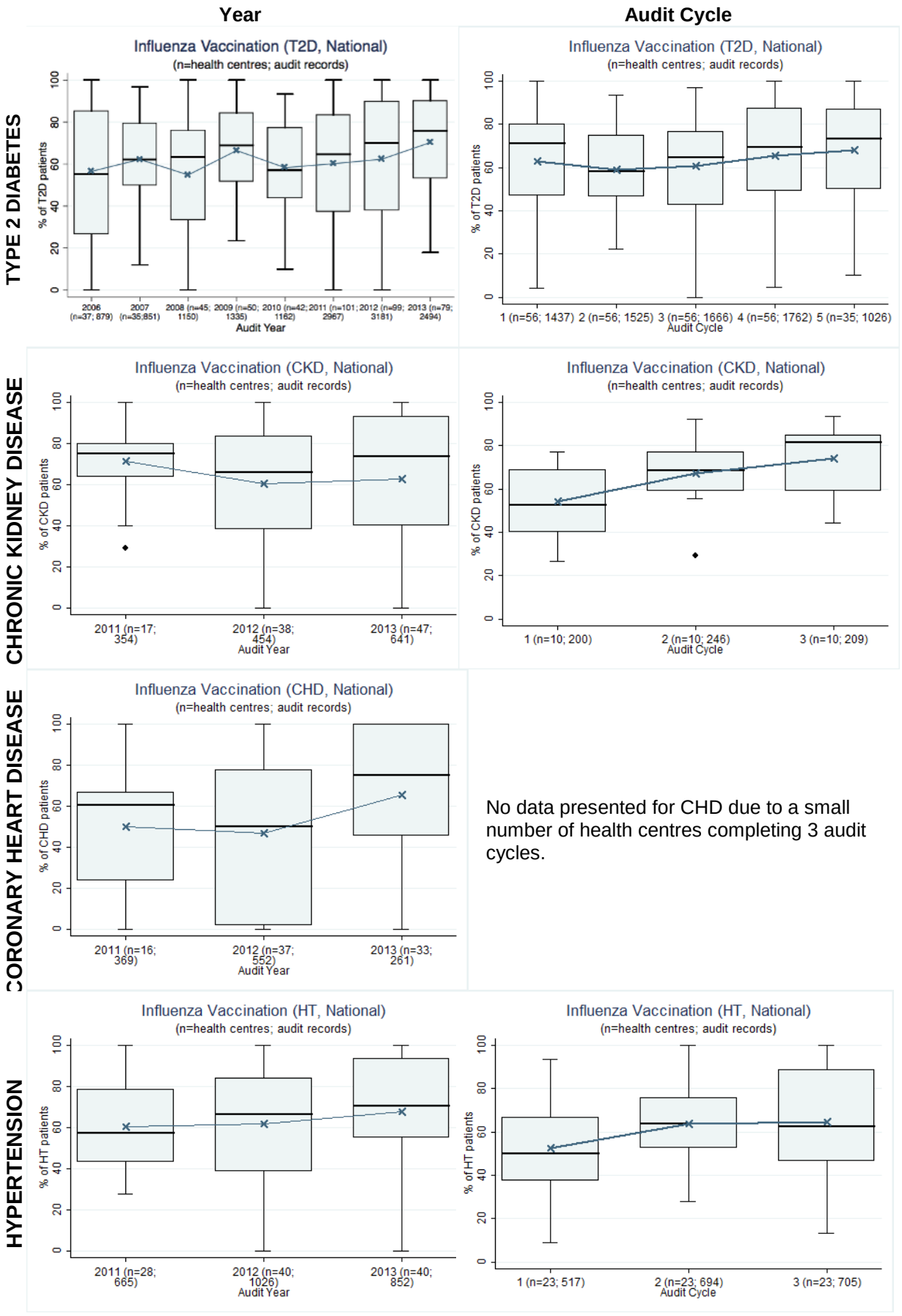
Over years, for most chronic conditions, there were improvements in the median rate of influenza vaccination (Figure 18). However, there remains wide variation between health centres with some recording low levels of influenza vaccination particularly for patients with CKD, CHD and hypertension.

For the 10 health centres that completed 3 CKD audit cycles, there was marked improvement in the median influenza vaccination rates from 60 to 82% and improvement in health centres at the lower end of the range. For other chronic conditions over successive cycles, there were improvements in median influenza vaccination rates however, wide variation persisted between health centres (from 10% to 100%).

Pneumococcal vaccinations

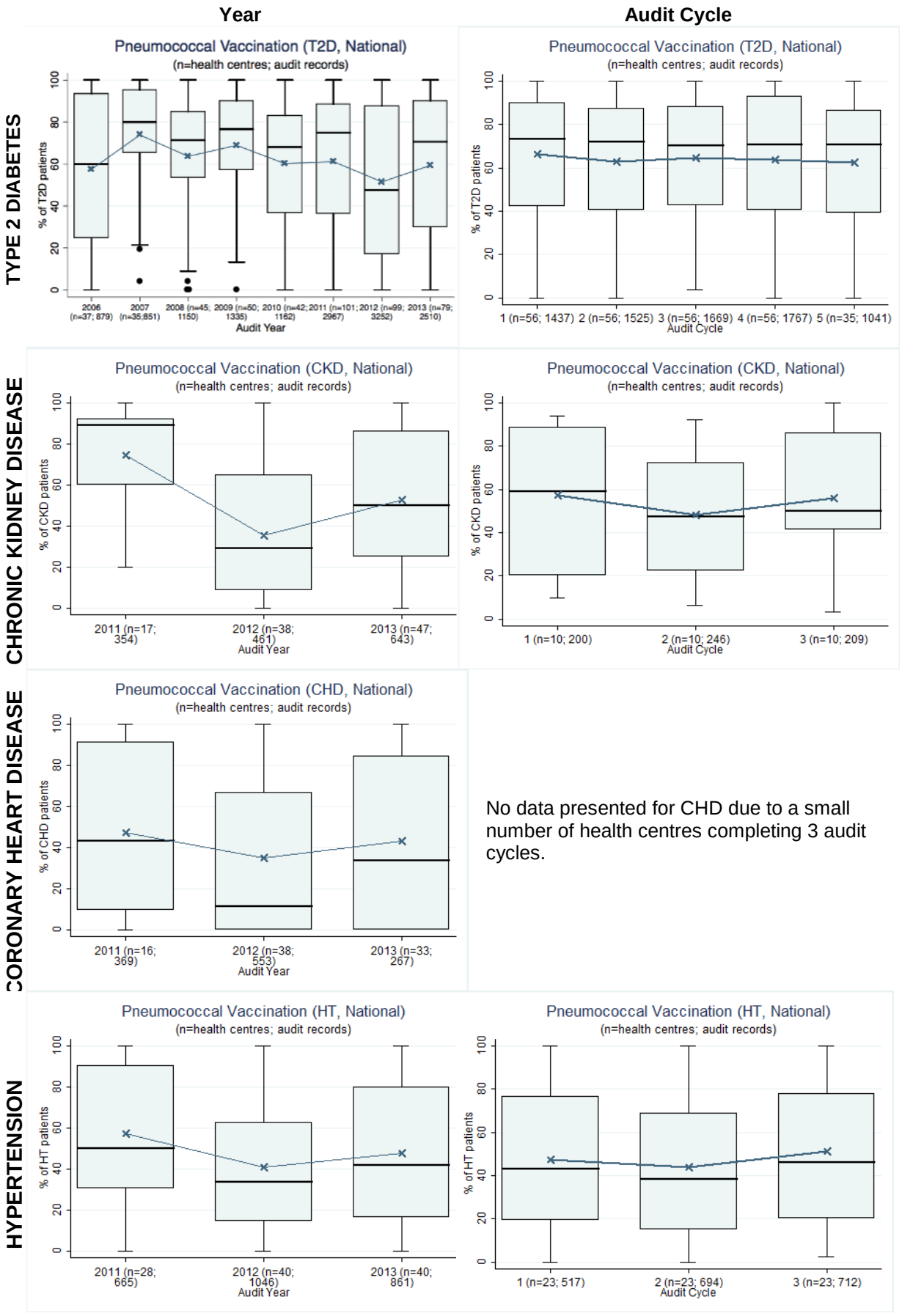
For all chronic conditions, there was no evidence of improvement in pneumococcal vaccination rates and consistent wide variation between health centres (0% to 100%) across all years and cycles (Figure 19).

Figure 2.18: Mean health centre rates of <u>influenza vaccination</u> within 12 months, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients records audited who attended in last 12 months).



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

Figure 2.19: Mean health centre rates of pneumococcal vaccination, by audit year for all health centres and by audit cycle for health centres that have at least 3 years of audit data (n=number of health centres; number of patients records audited who attended in last 12 months).



No data presented for CHD due to a small number of health centres completing 3 audit cycles.

2.8. Health Centre Systems

Eighty-five percent of survey respondents agreed that strengthening links between health centres and communities, and strengthening quality improvement activities as priority areas for health system improvement. In addition, 80% of respondents identified as a priority, provision of support for health centres that recorded system assessment scores in the lowest 20% of all health centres.

Summary of trends (Figures 2.20-2.22)
Over years and successive audit cycles

- There has been continued wide variation between all health centres over years in scores for overall systems assessment, links with community and organisational support for quality improvement systems.
- For health centres that participated in three or more systems assessment, the scores for overall systems, links with community and organisational support for quality improvement showed improvement in scores and decreasing variation between health centres over successive cycles, including an increase in scores for health centres at the lower end of the range.

This section of the report examines the data on the following indicators relevant to these evidence practice gaps: overall systems assessment scores, and domain scores for links with the community and organisation influence and integration. The latter domain refers to the use of organisational influence to create structures, processes and a culture that promotes safe, high quality care; and how well all system components are integrated across the centre.

For background information on the SAT, please refer to Appendix C. In brief, each item is scored separately on a scale of 0-11. System domain scores are derived from the average of the scores for each component within the system domain. Higher scores reflect better function.

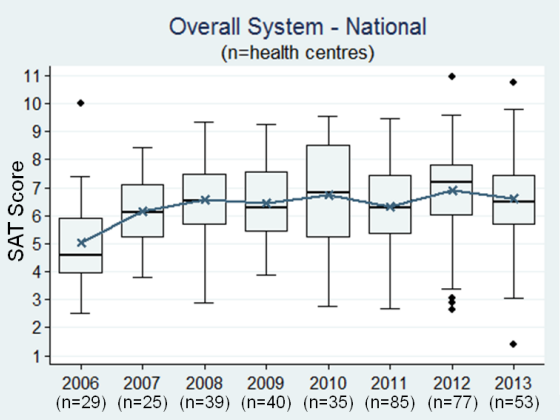
Figures 20-22 show the average component scores within the relevant system domain for health centres that undertook a SAT between 2006 and 2013. Nationally, 143 of the 160 health centres that completed a V&M audit undertook a systems assessment at least once over this period. Table 2.2 on page 71 provides more information on the frequency of SAT completion over years.

Overall systems

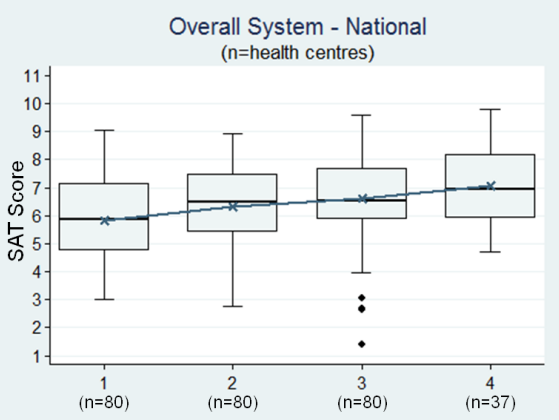
The overall systems assessment scores showed no specific trend in improvement over 2007 to 2012 and continued wide variation (Figure 20). For health centres that had participated in three or more audit cycles, there was some improvement in the mean and the median scores over successive cycles including improvement in scores for health centres at the lower end of the range.

Figure 2.20: Overall system assessment score*, by year for all health centres and by cycle for health centres that have at least 3 years of systems assessment data (n=number of health centres that conducted a systems assessment).

YEAR



CYCLE

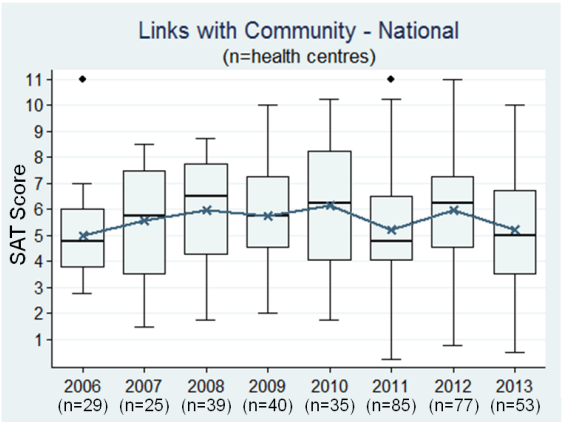


Community Links

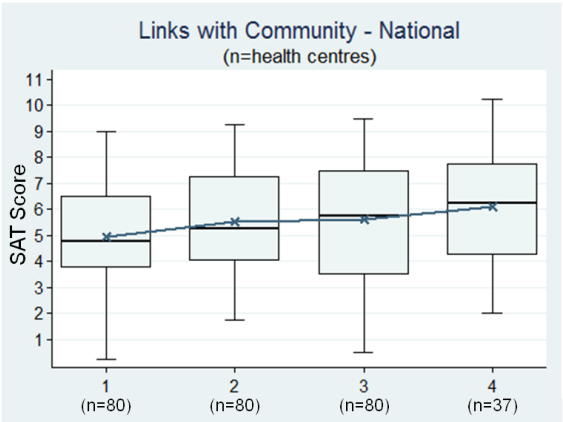
For links with the community, the median and mean scores for all health centres were between four and seven over all years and there was consistent wide variation (Figure 2.21). Similar to the overall systems score, there was some improvement in the mean and the median scores for links with community over successive cycles.

Figure 2.21: Community Links domain score#, by year for all health centres and by cycle for health centres that have at least 3 years of systems assessment data (n=number of health centres that conducted a systems assessment).

YEAR



CYCLE



*Overall score is the average of each of the five domain scores that make up the total systems assessment (ie, delivery system design, information systems and decision support, self-management support, links with the community, other health services and other resources and organisational influence and integration.

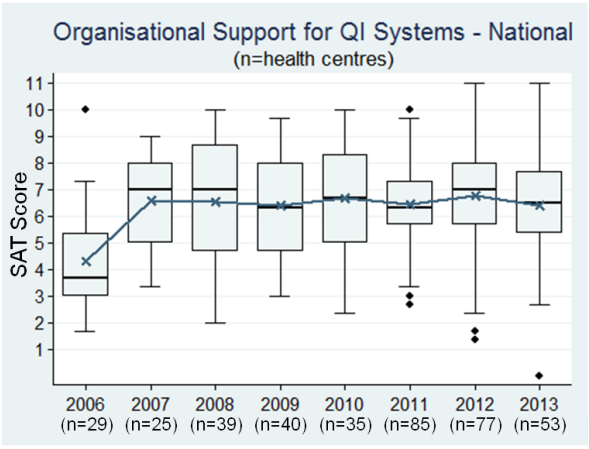
#Community Links score includes the following components: communication and cooperation on governance and operation of the health centre and other community-based organisations and programs; linking health centre clients to outside resources; working out in the community; and communication and cooperation on regional health planning and development of health resources.

Quality Improvement Systems

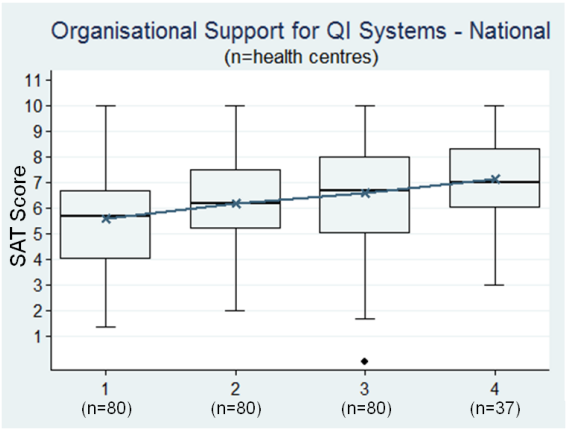
For quality improvement systems, the median and mean scores for all health centres remained stable at around 6 to 7 over the years 2007 to 2013 (Figure 2.22). Again, for health centres that had participated in three or more audit cycles, there was an improvement in the mean and median scores for quality improvement systems over successive cycles with some evidence of improvement for health centres at the lower end of the range.

Figure 2.22: <u>Organisation Influence and Integration</u> domain score[@], by year for all health centres and by cycle for health centres that have at least 3 years of systems assessment data (n=number of health centres that conducted a systems assessment).

YEAR



CYCLE



[@]Organisation Influence score includes the following components: organisational commitment; quality improvement strategies; and integration of health system components.