

Ministry of Health Aged Residential Care Certification Data

Comparison of Medication Issues: 2009 and 2012

November 2013

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Executive Summary

This report presents the findings of an analysis and review of medication management data from 516 aged residential care (ARC) facility audits collected on behalf of the Ministry of Health (MoH) between 1 January and 31 December 2012. Over this period evidence was collected across seven categories relating to different aspects of medications management best practice as well as legal requirements. The results of the 2012 analysis were compared to a similar 2010 report (audit data from 1 July 2009 to 30 June 2010) of medication management issues that utilised the same analysis methods for 561 facilities. Data for both the 2009/2010 and 2012 samples were recorded in electronic form with 'free text' narrative by MoH certification auditors. All data were anonymous and specific facility names were blinded to the researchers. Identical themes and categories were used in the 2010 and 2012 analyses to enable a full comparison. Eight audit data categories for medication management were identified from both datasets, though only six categories were identical for both the 2010 and 2012 reports. One category was unique to the 2010 dataset and one category was unique to the 2012 dataset.

Results of this analysis show that overall there is clear evidence of significantly more partial attainments (PA) for the medication management category in the 2012 sample than the 2010 sample. This may be related to the increased emphasis on medication management training for certification auditors that has occurred since 2010. Policy and procedures was the only major category to show significantly fewer PAs in 2012 than in 2010. The introduction in 2010 of the *Medicines Care Guides for Residential Aged Care* may have influenced the improvement in facility implementation of best practice policy and procedures. Comparison of 2010 and 2012 data for the remaining four major categories (Staff competence; Allergies procedures; Self-administration; Recording and communicating information; Accounting for resident and other's views and Consumers receiving medicines in a safe manner) showed no statistically significant changes. The comparison of the major category partial attainment results are summarised below:

- Medication management: 25.7% of audits in 2010 and 45% in 2012 ($p < .001$)
- Policy and procedures: 2.9% of audits in 2010 to 0.8% of audits in 2012 ($p = .01$)
- Staff competence: 12.7% of audits in 2010 to 11.2% of audits in 2012 ($p = .48$)
- Allergies procedures: 4.1% of audits in 2010 to 5.2% of audits in 2012 ($p = .38$)
- Self-administration: 5.5% of audits in 2010 to 8.1% of audits in 2012 ($p = .09$)
- Recording and communicating information: 19.4% of audits in 2010 to 21.3% in 2012 ($p = .45$)
- Accounting for resident and other's views: 0% of 2010 audits only
- Consumers receiving medicines in a safe manner: 3.5% of 2012 audits only

Within major categories there were a few sub-categories that showed significantly more PAs from 2010 to 2012. The majority were sub-categories of the medications management group. The issues identified included documentation and transcribing, medicines labelling and administration, 3-monthly GP reviews, and standing orders. These results may also be related to the increased medication management and compliance training initiated for auditors by HealthCERT. One medication management category regarding staff competency needs updating/recording showed significantly fewer PAs in 2012 compared to 2010. However, there were several sub-categories within these major categories that did show significant increased PAs in 2012 including documentation of allergies, medication self-administration procedures, recording and transcribing medications and prescriptions.

Overall, there was significantly improved compliance with medication policy and procedures and more PAs of medications compliance issues in 2012 than in 2010. This may reflect not only staff and facility compliance due to improved guidance, but also changes in auditing procedures that focus on medication management as the result of increased auditor training.

This report presents the findings from an analysis, review and comparison of data from 516 aged residential care (ARC) facility audits collected on behalf of the Ministry of Health (MoH) during 2012 (1 January to 31 December 2012) and the findings of a similar 2010 analysis of data from 561 ARC facility audits conducted between July 2009 and June 2010. Over these two periods, evidence was collected across eight categories relating to different aspects of medications management best practice as well as legal requirements. Six categories used for the two time periods were identical, however one field was unique to the 2010 sample, and one field was unique to the 2012 sample.

The data were in free text format within an Excel spreadsheet. One column was used for each of the eight categories of evidence of medications management and contained the auditor's notes. The records reviewed were of varying lengths and contained data relating to the auditor's findings across a wide range of variables of compliance standards. Each record was highlighted and numbered according to the theme and the category that had been developed from the 2010 report. These numbers were then counted and double checked for accuracy.

Medication Management		Patient Safety		Clinical Outcomes		Patient Satisfaction		Healthcare Costs	
Category	Sub-category	Category	Sub-category	Category	Sub-category	Category	Sub-category	Category	Sub-category
Medication Management	Prescription Accuracy	Patient Safety	Adverse Events	Clinical Outcomes	Readmission Rates	Patient Satisfaction	Healthcare Costs	Healthcare Costs	Insurance Claims
	Medication Adherence		Medication Errors		Medication Errors		Medication Errors		
	Drug Interactions		Drug Interactions		Drug Interactions		Drug Interactions		
	Drug Interactions		Drug Interactions		Drug Interactions		Drug Interactions		
Patient Safety	Medication Errors	Clinical Outcomes	Readmission Rates	Patient Satisfaction	Healthcare Costs	Healthcare Costs	Insurance Claims	Healthcare Costs	Insurance Claims
	Medication Adherence		Medication Errors		Medication Errors		Medication Errors		
	Drug Interactions		Drug Interactions		Drug Interactions		Drug Interactions		
	Drug Interactions		Drug Interactions		Drug Interactions		Drug Interactions		
Clinical Outcomes	Readmission Rates	Patient Satisfaction	Healthcare Costs	Healthcare Costs	Insurance Claims	Healthcare Costs	Insurance Claims	Healthcare Costs	Insurance Claims
	Medication Errors		Medication Errors		Medication Errors		Medication Errors		
	Medication Adherence		Medication Adherence		Medication Adherence		Medication Adherence		
	Drug Interactions		Drug Interactions		Drug Interactions		Drug Interactions		
Patient Satisfaction	Healthcare Costs	Healthcare Costs	Insurance Claims	Healthcare Costs	Insurance Claims	Healthcare Costs	Insurance Claims	Healthcare Costs	Insurance Claims
	Insurance Claims		Insurance Claims		Insurance Claims		Insurance Claims		
	Insurance Claims		Insurance Claims		Insurance Claims		Insurance Claims		
	Insurance Claims		Insurance Claims		Insurance Claims		Insurance Claims		

Category	Description
Medicines management system	A medicines management system is implemented to manage the safe and appropriate prescribing, dispensing, administration, review, storage, disposal, and medicine reconciliation in order to comply with legislation, protocols, and guidelines.
Policies and procedures	Policies and procedures clearly document the service provider's responsibilities in relation to each stage of medicine management.
Staff competence	Service providers responsible for medicine management are competent to perform the function for each stage they manage.
Allergies procedures	A process is implemented to identify, record, and communicate a consumer's medicine allergies or sensitivities and respond appropriately to adverse reactions or errors.
Self-administration procedures	The facilitation of safe self-administration of medicines by consumers where appropriate.
Recording and communicating medication management information	Medicine management information is recorded to a level of detail, and communicated to consumers at a frequency and detail to comply with legislation and guidelines.
2010 only: Accounting for resident and others' views	Continuity of treatment and support is promoted by ensuring the views of the consumer, their family/whānau of choice where appropriate and other relevant service providers, for example GPs, are considered and documented prior to administration of new medicines and any other medical interventions.
2012 only: Consumers receiving medicines in a safe manner	Consumers receive medicines in a safe and timely manner that complies with current legislative requirements and safe practice guidelines.

3. Data analysis method

A three stage method was used to analyse the data:

- **Highlighting the compliance issues:** The first task was to highlight the relevant text identifying compliance issues from each record and summarise the findings.
- **Identifying categories and cross checking:** In 2010, an iterative process aggregated the recorded compliance issues to identify themes without losing detail about the specific nature of any non-compliance events. This process allowed for descriptive statistics to be produced enabling common compliance issues to be identified. For the 2012 database, each record was matched to the existing categories that had been identified in the previous 2010 report and placed in the correct category, which had been numbered. Where particular issues have been recorded in more than one field, a check was performed to see how many records there were in total for that issue, but excluding any duplicate issues recorded more than once against a given provider. No new categories were identified in this process. The numbers were then checked for accuracy.
- **Describing the data:** Simple counts were made for each compliance issue identified by the auditor. Any compliance issues that had been identified more than once in the same field were recorded only once for that facility. The proportion (as a percentage) of partial attainments (PA) to total audits for each year was calculated for each compliance category. Contingency tables and chi-square tests were used to determine if differences between 2010 and 2012 proportion of PAs for each category and sub-category were significantly different or more likely due to normal variation (chance).

4. Findings

A summary of the number of partial attainments (PAs) in each of the evidence categories is provided below (table 2). The seventh field relating to the timeliness of consumers receiving their medication had no auditor description in the findings, however compliance issues were noted from the description in the evidence field and categorised. Each individual audit can include PAs in more than one medication compliance category and multiple sub-category compliance issues. A detailed description of each category follows.

TABLE 2: COMPARISON OF AUDIT CATEGORY PARTIAL ATTAINMENT PERCENTAGES: 2010 AND 2012

Category	2010 % Partial attainments	2012 % Partial attainments	p value
Medication Management Systems	25.7%	45.0%	< .001
Policies and Procedures	2.9%	0.8%	.01
Staff Competence	12.7%	11.2%	.48
Allergies Procedures	4.1%	5.2%	.38
Self-administration	5.5%	8.1%	.09
Recording and communicating medication management information	19.4%	21.3%	.45
Listening to residents' and others' views	0%	-	
Consumers receiving medicines in a safe and timely manner	-	3.5%	

5.1 Medications management systems

This evidence field attracted the most PAs, and showed a significant increase in the percentage of PAs between 2010 and 2012. In 2010, there were 25.7% PAs and in 2012 there were 45.0% PAs ($p < .001$). In 2012 there were significantly more PAs in the moderate risk category ($p < .001$) compared to 2010. There was a non-significant increase in low and high risk PAs (see table 3 below). This category is a 'catch-all' category and many of the issues identified within the data could have been placed under a number of categories. Indeed, there are some over-lapping themes in this category and the *Recording and communicating medicines management Information* category. An overview of medication management subcategories PAs for 2010 and 2012 is represented figure 1 and table 4 below.

	2010	2012
Medication management systems category partial attainments	25.7% (144 of 561 audits)	45.0%* (232 of 516 audits)

* $p < .001$

TABLE 3: MEDICATION MANAGEMENT SYSTEMS RISK LEVEL CATEGORIES: 2010 AND 2012

Level of Risk	2010 PA risk category % (count)	2012 PA risk category % (count)
Negligible	0.4% (1)	0
Low Risk	11.6% (65)	14.0% (72)
Moderate Risk	10.3% (58)	26.0% (134)*
High Risk	3.7% (21)	5.0% (26)
Critical	0	0

* $p < .001$

FIGURE 1: MEDICATION MANAGEMENT SYSTEMS SUB-CATEGORY SUMMARY 2010 TO 2012

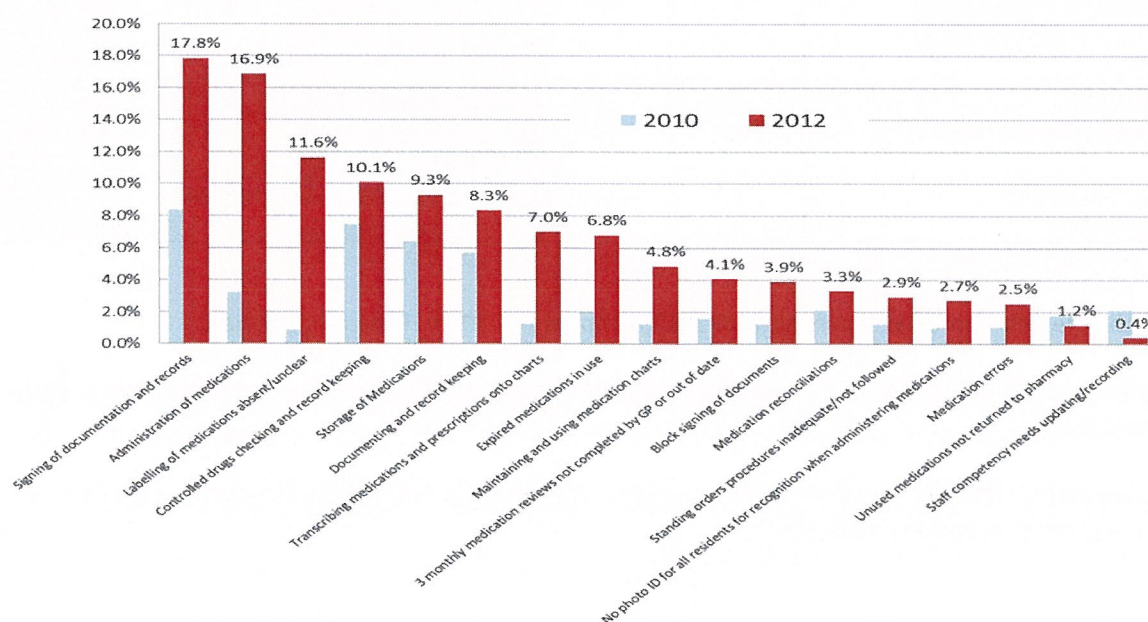


TABLE 4: MEDICATION MANAGEMENT SUB-CATEGORY DETAILED RESULTS

Medication Management Issues	2010 (561 total audits)		2012 (516 total audits)		2010	2012
	all audits (count)	Additional instances in other categories (count)	all audits (count)	Additional instances in other categories (count)	% of total Audits	% of total audits
Signing of documentation and records	25	22	86	6	8.4%	17.8%* ($p < .001$)
Administration of medications	17	1	68	19	3.2%	16.9%* ($p < .001$)
Labelling of medications absent/unclear	5	0	56	4	0.9%	11.6%* ($p < .001$)
Controlled drugs checking and record keeping	30	12	48	4	7.5%	10.1%* ($p < .001$)
Storage of medications	36	0	44	4	6.4%	9.3%
Documenting and record keeping	21	11	29	14	5.7%	8.3%
Transcribing medications and prescriptions onto charts	5	2	33	3	1.2%	7.0%* ($p < .001$)
Expired medications in use	11	0	30	5	2.0%	6.8%* ($p < .001$)
Maintaining and using medication charts	6	1	20	5	1.2%	4.8%* ($p < .001$)
3 monthly medication reviews not completed by GP or out of date	5	4	21	0	1.6%	4.1%* ($p = .01$)
Block signing of documents	3	4	20	0	1.2%	3.9%* ($p < .001$)
Medication reconciliations	12	0	17	0	2.1%	3.3%
Standing orders procedures inadequate/not followed	7	0	11	4	1.2%	2.9%* ($p = .05$)
No photo ID for all residents for recognition when administering medications	3	3	13	1	1.1%	2.7%* ($p = .05$)
Medication errors	6	0	7	6	1.1%	2.5%
Unused medications not returned to pharmacy	10	0	3	3	1.8%	1.2%
Staff competency needs updating/recording	3	9	2	0	2.1%	0.4%* ($p = .01$)

*2010-2012 difference significant to $p = .05$ or less; decreased PAs between in 2010 to 2012 in italic bold.

Only one sub-category improved significantly in 2012 compared to 2010. This category was:

- **Staff competency updating and recording** PAs decreased significantly in 2012 (0.4%) compared to 2010 (2.1%).

Unused medications not returned to pharmacy category showed slight improvement in 2012 compared to 2010 but it was not statistically significant.

The main issues with medications management that showed significantly more PAs include:

- **Signing documentation and records** was the most common issue for both time periods, however in 2012 there were over twice as many PAs in this category (8.4% in 2010 compared to 17.8% in 2012, $p < .001$) This included a failure to document a number of procedures (particularly a failure to sign medication charts, controlled drugs checking, and fridge temperatures).
- **Administration of medications** mainly related to the medications not being administered at the right time of day or not being administered when prescribed, and medication being left out. This showed a significant increase in PAs in 2012 (16.9%) compared to 2010 (3.2%) ($p < .001$).
- **Labelling of medications absent/unclear** relate largely to eye-drops that had been opened with no date recorded of the opening date. There was over a 12 fold increase in PAs for this category in 2012 (11.6%) than in 2010 (0.9%) ($p < .001$).
- **Controlled drugs checking and record keeping** related to carrying out the weekly controlled drug checks. This category increased significantly in 2012 (10.1%) compared to 2010 (7.5%) ($p < .001$).
- **Transcribing medications and prescription onto charts** was found to have significantly more PAs in 2012 (7.0%) than in 2010 (1.2%) ($p < .001$).
- **Storage of medications** relates to the security of storage, the maintenance or checking of the fridge temperature, and the storage of medications within the main fridge used for foods. This category showed a non-significant trend ($p = 0.07$) for more PAs in 2012 (9.3%) compared to 2010 (6.4%).
- **Expired Medications in Use** showed a significant increase in PAs in 2012 (6.8%) compared to 2010 (1.2%) ($p < .001$).
- **Maintaining and using medication charts, Block signing document, and the three monthly medication reviews not completed by GP** categories were found to have significantly more partial attainments in 2012 compared to 2010 ($p < .001$).
- **Standing orders procedures inadequate or not followed and no resident photo identification** categories also showed significantly increased PAs in 2012 compared to 2010 ($p < .05$).
- **Documenting and record keeping** PAs non-significant increase in 2012 (8.3%) compared to 2010 (5.7%). Much of this related to failure to document processes following medication lapses (e.g. failure to administer warfarin) and a lack of evidence showing doctor's signatures.
- **Medication reconciliation and Medication errors** category PAs were not significantly different between 2010 and 2012.

5.2 Policy and procedures

This category showed significantly fewer PAs in 2012 (0.8%) than in 2010 (2.9%), however there were very few PAs in this category overall for 2010 (16 with an additional 35 categorised as 'not applicable') and 2012 (4 in total). Table 5 shows that between the two samples, there was a significant difference in the low risk PAs (1.6% in 2010 and 0.2% in 2012) and a small and insignificant decrease in moderate risk PAs (1.2% in 2010 and 0.6% in 2012).

	2010	2012
Policy and procedures category partial attainments	2.9% (16 of 561 audits)	0.8%* (4 of 516 audits)

*p= .02

TABLE 5: POLICY AND PROCEDURES RISK LEVEL CATEGORIES: 2010 AND 2012

Level of Risk	2010 PA risk category % (count)	2012 PA risk category % (count)
Negligible	0	0
Low Risk	1.6% (9)	0.2% (1)*
Moderate Risk	1.2% (7)	0.6% (3)
High Risk	0	0
Critical	0	0

*p= .04

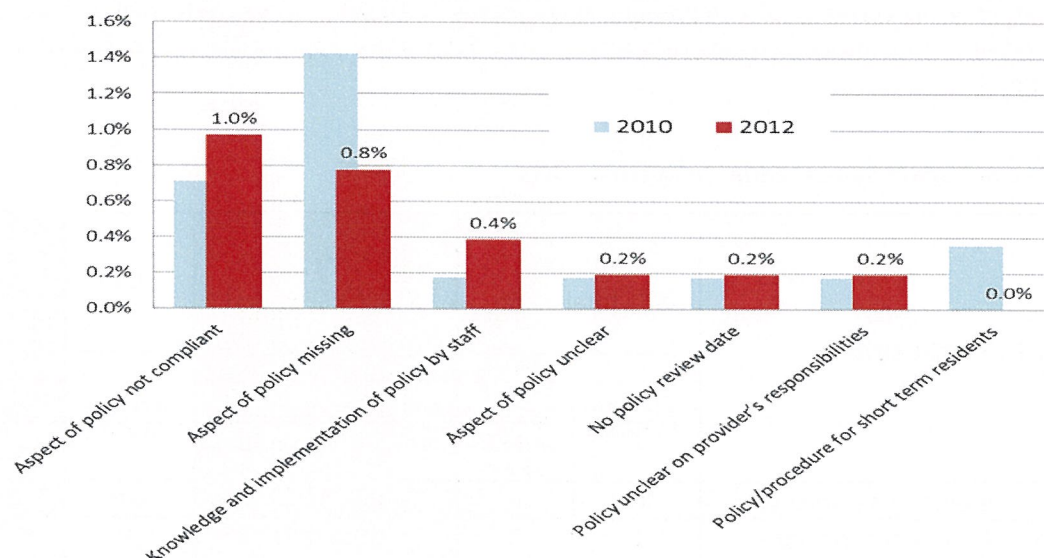
TABLE 6: POLICY AND PROCEDURE SUB-CATEGORY DETAILED RESULTS

Policy and Procedure Issues	2010 (561 total audits)		2012 (516 total audits)		2010	2012
	all audits (count)	Additional instances in other categories (count)	all audits (count)	Additional instances in other categories (count)	% of total Audits	% of total audits
Aspect of policy missing	7	1	2	2	1.4%	0.8%
Aspect of policy not compliant	4	0	1	4	0.7%	1.0%
Aspect of policy unclear	1	0	0	1	0.2%	0.2%
Knowledge and implementation of policy by staff	1	0	0	2	0.2%	0.4%
No policy review date	1	0	0	1	0.2%	0.2%
Policy/procedure for short term residents	2	0	0	0	0.4%	0.0%
Policy unclear on provider's responsibilities	1	0	1	0	0.4%	0.2%

All changes non-significant

There was no other 2012 sub-category that was significantly changed from the 2010 analysis. Figure 2 below shows a summary of results of the policy and procedures sub-category.

FIGURE 2: POLICY AND PROCEDURES SUB-CATEGORY SUMMARY 2010 TO 2012



5.3 Staff competence

This category showed slightly fewer PAs in 2012 (11.2%) than in 2010 (12.7%), although it was not statistically significant. There was no significant difference between 2010 and 2012 for low, moderate and high risk sub-categories (see table 7 below).

	2010	2012
Staff competence category partial attainments	12.7% (71 of 261 audits)	11.2% (58 of 516 audits)
All changes non-significant		

TABLE 7: STAFF COMPETENCE RISK LEVEL CATEGORIES: 2010 AND 2012

Level of Risk	2010 PA risk category % (count)	2012 PA risk category % (count)
Negligible	0% (0)	0.2%(1)
Low Risk	5.0% (28)	5.1% (26)
Moderate Risk	6.4% (36)	5.8% (30)
High Risk	1.2% (7)	0.2% (1)
Critical	0	0
All changes non-significant		

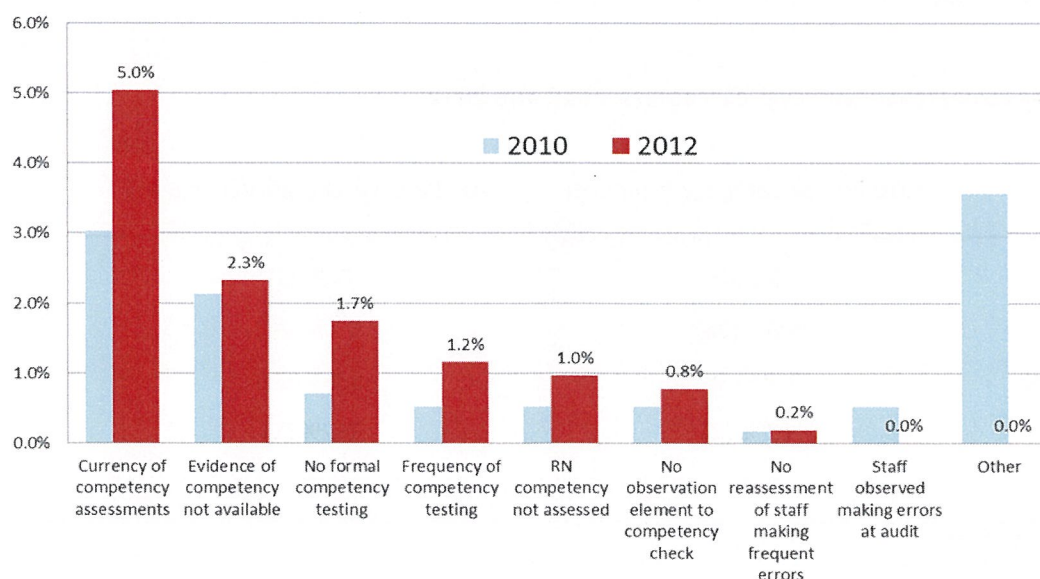
As can be seen from this table, the main issue in 2012 is the currency of competency assessments (although statistically not significantly different than 2010) and also the ability of the facility to show that competency has been assessed and is up to date. The high count in the category of 'no formal competency testing' may be a false reading; at times the auditor's notes were ambiguous and these entries may also be more suited to the first category of 'currency of competency assessments'. In 2010 there were many more issues classified as 'other'. This included issues that would have been more appropriately classified into other major categories.

TABLE 8: STAFF COMPLIANCE SUB-CATEGORY DETAILED RESULTS

Staff Competence	2010 (561 total audits)		2012 (516 total audits)		2010	2012
	all audits (count)	Additional instances in other categories (count)	all audits (count)	Additional instances in other categories (count)	% of total Audits	% of total audits
Currency of competency assessments	17	0	26	0	3.0%	5.0%
Evidence of competency not available	9	3	12	0	2.1%	2.3%
No formal competency testing	4	0	9	0	0.7%	1.7%
Frequency of competency testing	3	0	6	0	0.5%	1.2%
RN competency not assessed	3	0	5	0	0.5%	1.0%
No observation element to competency check	3	0	3	1	0.5%	0.8%
No reassessment of staff making frequent errors	1	0	1	0	0.2%	0.2%
Staff observed making errors at audit	3	0	0	0	0.5%	0.0%
Other	20	0	0	0	3.6%	0.0%*

* $p < .001$

FIGURE 3: STAFF COMPETENCE SUB-CATEGORY PARTIAL ATTAINMENTS SUMMARY 2010 TO 2012



5.4 Allergies procedure

	2010	2012
Allergies procedures category partial attainments	4.1% (23 of 561 audits)	5.2% (27 of 516 audits)

TABLE 9: ALLERGIES PROCEDURES RISK LEVEL CATEGORIES: 2010 AND 2012

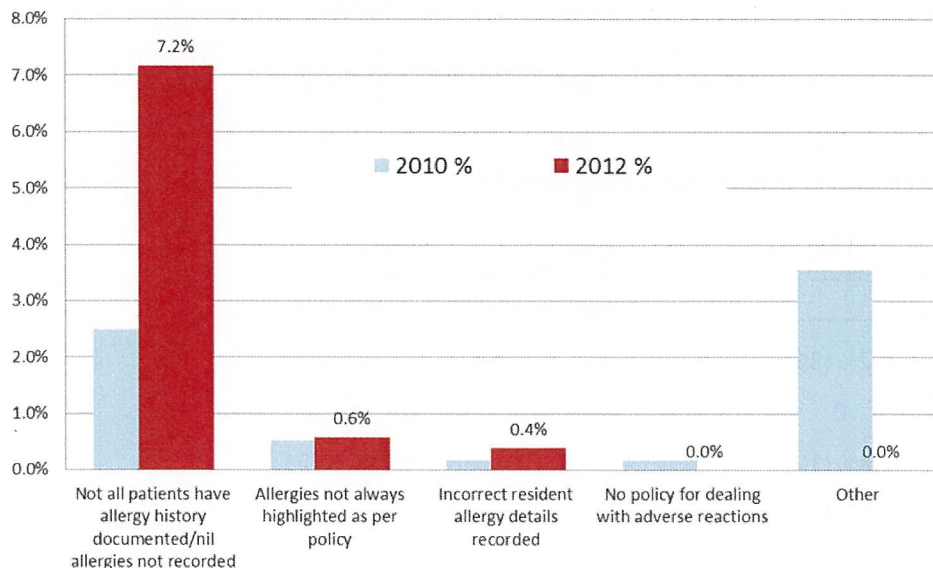
Level of Risk	2010 PA risk category % (count)	2012 PA risk category % (count)
Not applicable	6.2% (35)	
Negligible	0	0
Low Risk	1.8% (10)	1.7% (9)
Moderate or High Risk	2.3% (13)	3.5% (18)

TABLE 10: ALLERGIES PROCEDURES

Allergies Procedures Issues	2010 (561 total audits)		2012 (516 total audits)		2010	2012
	all audits (count)	Additional instances in other categories (count)	all audits (count)	Additional instances in other categories (count)	% of total Audits	% of total audits
Not all patients have allergy history documented/nil allergies not recorded	14	0	24	13	2.5%	7.2%* ($p < .001$)
Allergies not always highlighted as per policy	3	0	3	0	0.5%	0.6%
Incorrect resident allergy details recorded	1	0	0	2	0.2%	0.4%
No policy for dealing with adverse reactions	1	0	0	0	0.2%	0.0%
Other	20	0	0	0	3.6%	0.0%*

*2010-2012 DIFFERENCE SIGNIFICANT TO $P = .05$ OR LESS

FIGURE 4: ALLERGIES SUB-CATEGORY SUMMARY 2010 TO 2012



By far the greatest issue in this evidence field was that patient records do not record any allergy history. In many of these instances it is noted that the failure was in not recording 'no allergy'. It is interesting to note that of the 27 facilities that had compliance issues in this area, 24 of them had the same issue of not documenting correctly. However the facility's level of risk was variously recorded as low and moderate. It may be that the auditor was influenced by other issues that pertain to that facility.

5.5 Self-administration

	2010	2012
Self-Administration	5.5%	8.1%*
Total Partial Attainments	(31 of 561 audits)	(42 of 516 audits)
Not applicable	1.4% (8)	0

*p= .01

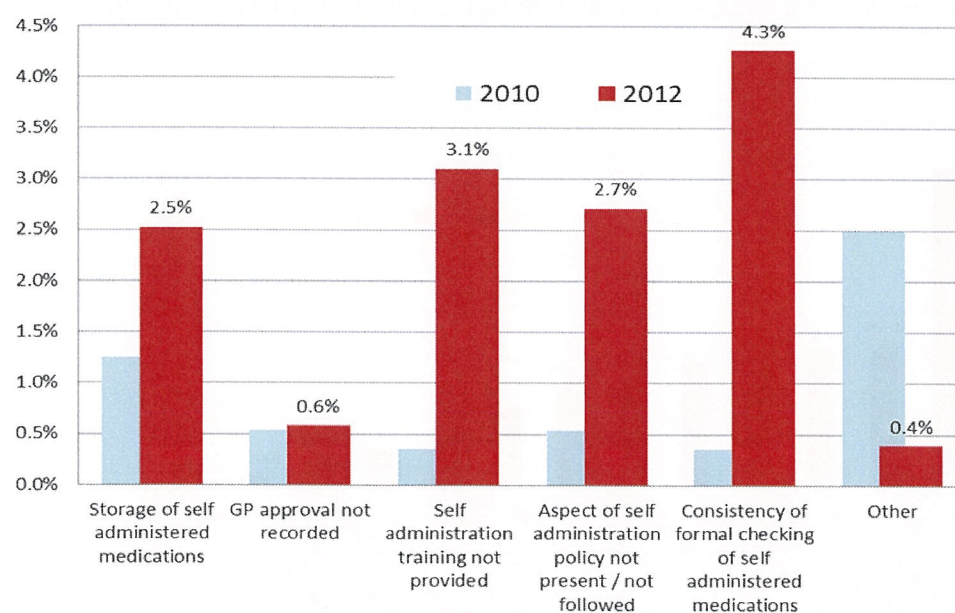
TABLE 11: SELF ADMINISTRATION RISK LEVEL CATEGORIES: 2010-2012

Level of Risk	2012 PA risk category % (count)
Negligible	0
Low Risk	4.5% (23)
Moderate Risk	3.5% (18)
High Risk	0.2% (1)

TABLE 12: SELF ADMINISTRATION SUB-CATEGORY DETAILED RESULTS

Self-Administration	2010 (561 total audits)		2012 (516 total audits)		2010	2012
	all audits (count)	Additional instances in other categories (count)	all audits (count)	Additional instances in other categories (count)	% of total Audits	% of total audits
Storage of self-administered medications	7	0	12	1	1.2%	2.5%
GP approval not recorded	3	0	3	0	0.5%	0.6%
Self-administration training not provided	2	0	13	3	0.4%	3.1%* ($p = .001$)
Aspect of self-administration policy not present / not followed	3	0	13	1	0.5%	2.7%* ($p = .009$)
Consistency of formal checking of self-administered medications	2	0	18	4	0.4%	4.3%* ($p < .001$)
Other	14	0	2	0	2.5%	0.4%* ($p < .009$)

*2010-2012 difference significant to $p=0.05$ or less

FIGURE 5: SELF-ADMINISTRATION PARTIAL ATTAINMENTS 2010 TO 2012


The main issue identified in this field was the consistency of staff checking the competency of residents to self-administer their medication. Issues were also recorded of drugs not being stored safely in locked cupboards; however five of these were identified in independent apartments where different criteria might reasonably be applied.

5.6 Recording and communicating medicine management information

	2010	2012
Recording and communicating medicines management information category partial attainments	19.4% (109 of 561 audits)	21.3% (110 of 516 audits)
No significant differences		

TABLE 13: RECORDING AND COMMUNICATING MEDICINES MANAGEMENT INFORMATION RISK LEVEL: 2010-2012

Level of Risk	2012 PA risk category % (count)
Negligible	0
Low Risk	5.0 % (26)
Moderate Risk	14.9% (77)
High Risk	1.4% (7)
Critical	0
No significant differences	

FIGURE 6: RECORDING AND COMMUNICATING MEDICINE MANAGEMENT INFORMATION SUB-CATEGORY SUMMARY

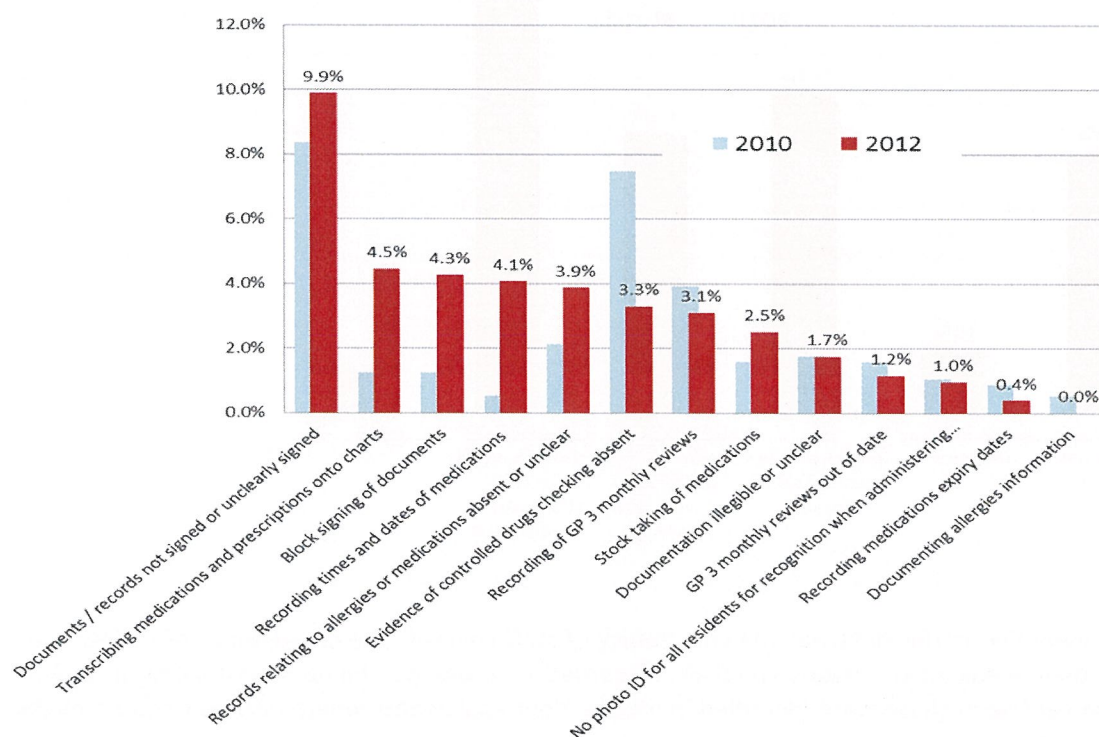


TABLE 14: RECORDING AND COMMUNICATING MEDICINE MANAGEMENT INFORMATION SUB-CATEGORY DETAILED RESULTS

Documentation	2010 (561 total audits)		2012 (516 total audits)		2010	2012
	all audits (count)	Additional instances in other categories (count)	all audits (count)	Additional instances in other categories (count)	% of total Audits	% of total audits
Documents/records not signed or unclearly signed	26	21	49	2	8.4%	9.9%
Recording of GP 3 monthly reviews	21	1	14	2	3.9%	3.1%
Evidence of controlled drugs checking absent	14	28	17	0	7.5%	3.3%* (p= .004)
Records relating to allergies or medications absent or unclear	12	0	19	1	2.1%	3.9%
Documentation illegible or unclear	10	0	4	5	1.8%	1.7%
Stock taking of medications	9	0	4	9	1.6%	2.5%
Recording medications expiry dates	5	0	2	0	0.9%	0.4%
Block signing of documents	4	3	20	2	1.2%	4.3%* (p= .001)
GP 3 monthly reviews out of date	4	5	6	0	1.6%	1.2%
Documenting allergies information	3	0	0	0	0.5%	0.0%
No photo ID for all residents for recognition when administering medications	3	3	4	1	1.1%	1.0%
Recording times and dates of medications	3	0	18	3	0.5%	4.1%* (p< .001)
Transcribing medications and prescriptions onto charts	2	5	23	0	1.2%	4.5%* (p= .003)

*2010-2012 difference significant to $p=0.05$ or less; increased PAs between in 2010 to 2012 in bold.

In 2012, there were 110 providers who partially attained the required standards for recording and communicating medicine management information effectively. 70% of these were regarded as moderate risk and 23% regarded as low risk. Only seven facilities were considered high risk in this field.

Once again, as in the first evidence field, the main issue is in the documents and medication records being signed and the block signing of medications by GPs. Transcribing of medications by the RN was also a notable compliance issue.

5.7 Consumers receive medication in a safe and timely manner

In 2012, the 18 entries in this category are not consistent with other evidence categories. While evidence was recorded, the findings relating to the evidence was not. In the findings description a total of 37 compliance issues were identified with 25 of these belonging to the Medications management systems category, particularly the signing of documents and the administration of medications. Twelve issues were identified throughout the other evidence categories, 6 of these were to do with recording information. Two of the categories had no compliance issues identified despite both facilities being recorded as either a low or moderate risk.

TABLE 15: CONSUMERS RECEIVE MEDICATION IN A SAFE AND TIMELY MANNER RISK LEVEL CATEGORIES 2012

Level of Risk	2012 (only) PA risk category % (count)
Negligible	0.4% (2)
Low Risk	1.6% (8)
Moderate Risk	1.4% (7)
High Risk	0.2% (1)
Critical	0
Total Category PAs	3.5% (18)

5.8 Listening to resident and others' views

This category did not appear in the 2012 database. In 2010, no issues were identified within the Residents' Views thematic area. Indeed of the 561 records 555 were reported as being not applicable with the remaining 6 achieving full attainment. This standard pertains more to mental health residential care rather than aged residential care.

5. Discussion

This report compares data from Ministry of Health - HealthCERT audits of aged residential care facilities in New Zealand that occurred in 2009-2010 (July 2009 to June 2010) and 2012 (January to December). HealthCERT is responsible for ensuring hospitals, rest homes, residential disability care facilities and fertility providers provide safe and reasonable levels of service for consumers, as required under the Health and Disability Service (Safety) Act 2001.¹

The results of this analysis show significantly fewer policies and procedures partial attainments (PAs) in the 2012 audit data compared to 2010. This improvement in medication policies and procedure compliance may be related to the Ministry of Health initiative to develop and distribute the *Medicines Care Guide for Residential Aged Care*. These care guides provide practical information pertaining to medication management and medication policy and procedures for staff working in aged residential care. A hard copy of the guide was distributed to all aged residential care facilities in New Zealand. This analysis clearly indicates higher compliance of best practice medication policies and procedures compared to 2010 which was the original intent of the *Medication Care Guides*. These results support the positive impact this initiative has had on aged residential care.

This review found significantly more medication compliance PAs in 2012 than in 2010 in the medication management category which includes safe and appropriate prescribing, dispensing, administration, storage, and medication review and reconciliation. All other major categories, including staff competence, allergy procedures, self-administration and recording and communicating medication management information did not show a significant difference between 2010 and 2012.

Since 2009, there have been several changes in audit procedures including increased accreditation of auditors, increased district health board and HealthCERT spot audits, and publishing audit summaries online. There has specifically been an increase in medication management and compliance training for auditors by HealthCERT, coinciding with the introduction of the *Medication Care guides*. This increased emphasis on medication management training may have increased auditor recognition of medication issues as evidenced by the increased medication compliance PAs.

Each major compliance category has several sub-categories recorded within the free text. This analysis included classifying these sub-categories from the text into themes originally identified in the 2010 report. The majority of these sub-categories showed non-significant differences overall compared to the 2010 analysis and therefore likely represent normal variation across the two audit periods. However, there were several sub-categories in the medication management category that showed significantly more PAs in 2012. The issues identified included documentation and transcribing, medicines labelling and administration, 3-monthly GP reviews, and standing orders issues. These results provide evidence of increased PAs for medication management issues overall. However, one sub-category regarding updating/recording staff competency showed significantly fewer PAs in 2012 compared to 2010.

A limitation of this analysis is the lack of standardisation of data recorded in the audit database. The 'free text' fields require researcher interpretation to determine which sub-category is the best fit. There is also some overlap between categories. This is particularly true for the *Medications management* category and the *Consumers receiving medicines in a safe manner* category. Both of these categories include indicators of medication documentation and transcription. These categories also showed duplication for issues such as checking controlled drugs, recording GPs visits and signing documents. There is also overlap with the *Allergies* category and *Recording and communicating medicine management information*. It would be helpful if standardised sub-category definitions were developed and if free text descriptors were restricted overall. Improvements in standardised definitions and decreased overlap between compliance categories

would improve future comparative analysis and would enable more timely and efficient audit data analysis reporting.

There are several important initiatives that will be launched nationally that have the potential to impact the medication management issues highlighted in this analysis. This includes issues such as increased non-compliance of medication administration, signing medication records, administration of medications, transcribing medications and prescriptions onto charts and maintaining medication charts. One such initiative is the National Medication Chart developed by Health Safety and Quality Commission. The purpose of this initiative is to standardise medication records to reduce potential errors due to clinician unfamiliarity with medication documentation. This standardized record has been introduced in public hospitals and will be introduced into aged residential care facilities in the near future. This National Medication Chart has the potential to decrease issues identified in this report such as maintaining and using medication charts, block signing documents and three monthly medication reviews not completed by the GP.

The New Zealand Electronic Prescription Service (NZePS) is a National IT Board initiative with the potential to positively impact medication compliance in residential aged care. This initiative allows GPs to send prescriptions to community pharmacies electronically. The e-prescribing has the potential to decrease medication transcription errors in residential aged care. Another initiative from the National IT Board is the eMedicines Reconciliation (eMR) which captures a patient's medication history from two or more sources. The medicines are then matched to the patient's medication record on hospital admission. This has the potential to improve medication reconciliation between acute care, primary care and aged residential care settings. This is currently being trialed in three DHB's nationally. Medication reconciliation across healthcare settings is complex and difficult and this initiative has great potential to decrease medication errors during facility transfers.

In conclusion, this analysis provides evidence of improvements in appropriate medication management policies and procedures availability in residential aged care since 2010. This analysis also shows increased medication management partial attainments between 2010 and 2012 audit periods. These results may indicate improved guidance from the Ministry of Health about medication management policy and procedures and also increase vigilance from auditors about medication management issues. Improvements in standardized definitions and decreased overlap between compliance categories would enhance future audit data analyses.

References:

1. HealthCERT - Ministry of Health. Certification of Healthcare Services. 2013; <http://www.health.govt.nz/our-work/regulation-health-and-disability-system/certification-healthcare-services>. Accessed 1/9/13, 2013.