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RESEARCH ARTICLE

Relationship between residential aged care facility characteristics and breaches of the Australian aged care regulatory standards: non-compliance notices and sanctions

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Abstract

Objectives: To examine the relationship between structural characteristics of Australian residential aged care facilities (RACFs) and breaches of the aged care quality standards.

Methods: Facility-level analysis of audits, sanctions and non-compliance notices of all accredited Australian RACFs between 2015/16 and 2018/19. Structural factors of interest included RACF size, remoteness, ownership type and jurisdiction. Two government data sources were joined. Each outcome was analysed to calculate time trends, unadjusted rates and relative risks.

Results: Non-compliance notices were imposed on 369 RACFs (13%) and 83 sanctions on 75 RACFs (3%). Compared with New South Wales (NSW), non-compliance notices were less likely in Victoria, Queensland and the Northern Territory (NT), more likely in South Australia (SA), and comparable in Western Australia (WA), Tasmania and the Australian Capital Territory (ACT). RACFs with more than 100 beds and RACFs located in remote and outer regional areas (vs. major cities) also increased the likelihood of non-compliance notices. Compared with NSW, sanctions were less likely in Victoria, Queensland, NT and WA and comparable in SA, Tasmania and ACT. Additionally, the likelihood of sanctions was higher for RACFs with more than 40 beds. For both non-compliance notices and sanctions, no significant relationship was found with RACF ownership type.

Conclusions: We partially confirmed other Australian findings about the relationship between RACF structural characteristics and regulatory sanctions and reported new findings about non-compliance notices. Routine and standardised public reporting of RACF performance is needed to build trust that Australia's latest aged care reforms have led to sustained quality improvements.

KEYWORDS

government regulation, health services for the aged, long-term care, public reporting of health-care data, quality of health care

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1 | INTRODUCTION

There are 271,472 Australians living in residential aged care facilities (RACFs).¹ These vulnerable older people depend on others to meet their care needs and are least able to voice concerns when this does not occur.² Australian RACFs must comply with minimum standards assessed by the Commonwealth Government regulator.^{3,4} Australia's aged care industry has been problematic for at least two decades, having undergone 18 major inquiries and reviews since 1997.⁵ The Commonwealth Government commissioned a Royal Commission into Aged Care Quality and Safety in 2018, the most extensive investigation into Australia's aged care sector to date.⁶ In their 2021 Final Report, the Commissioners were critical of the commercialisation, legislation, regulation and funding of Australia's aged care industry.⁶

Previous studies have reported quality differences between RACFs with different structural characteristics. Some studies have found for-profit RACFs perform worse than non-profit RACFs on some quality indicators, including higher rates of sanctions,⁷ ED admissions, falls and pressure injuries.⁸ A common narrative is that for-profit providers drive down costs to optimise shareholder returns, and this reduces the quality of care through reduced spending on staff (number, skill level and training) and essential resident services and supplies (e.g. food and continence pads).⁹ Many international studies have also identified that smaller RACFs have higher service quality than larger RACFs,¹⁰ although this has not been replicated in Australia.⁷ Furthermore, RACFs in remote areas of Australia have previously been shown to have higher rates of sanctions,⁷ noting they face additional challenges, including difficulty attracting and retaining quality staff and restricted access to specialist services.¹¹ In Australia, the influence of RACF structural characteristics on regulatory compliance is underinvestigated using contemporary administrative data.

This study analysed the relationship between RACF breaches under the former Accreditation Standards (Standards)¹² and four RACF structural characteristics available in public data: jurisdiction, remoteness, size and ownership type. Previous Australian work investigated these same RACF structural characteristics using sanctions data spanning 1999 to 2012.^{7,13} However, government statistics show that the number of RACF operators, RACF size and ownership change over time,¹⁴ which limits the generalisability of these past findings to other years. Our study updates the story of this past work by using more contemporary data that also includes non-compliance notices and adjusts the relative risks to factor in differences in RACF accreditation cycles. Additionally, our study timeframe coincides with eight major public reports and inquiries into Australia's aged care that resulted

POLICY IMPACT STATEMENT

The 2018 Royal Commission exposed substantial abuse, neglect and substandard care in Australia's residential aged care industry. Our study shows routine integration of secondary data sources provides relevant and low-cost insights that can improve public transparency in the safety and quality performance of Australian residential aged care.

in major Commonwealth regulatory changes since the previous studies.⁵ This included strengthening of the Complaints Principles and shifting responsibility for the Aged Care Complaints Scheme to an independent Aged Care Complaints Commissioner.¹⁵

2 | METHODS

2.1 | Study design and population

We used a retrospective cohort design that included all Australian RACFs from 2015/16 to 2018/19 that operated at any point during this time. Hence, it included RACFs that operated for the entire period, those that closed/merged and new RACFs that opened. Ethics approval was obtained from the Human Research Ethics Committee at the Edith Cowan University Human Research Ethics Committee ref: 2020-01572-ALAN (Low Risk Review). Informed consent was not required from the RACFs, either as a condition of ethics or data custodian approval.

2.2 | Database description

The Aged Care Quality and Safety Commission (ACQSC) provided data about RACF accreditation audit activity, non-compliance notices and sanctions. The Australian Institute of Health and Welfare (AIHW) provided data about RACF structural characteristics (jurisdiction, remoteness, size and ownership type), originally collected by the Commonwealth Department of Health and Ageing as annual snapshots and with about 4% missing data for RACF ownership type and size.

2.3 | Data integration

The RACF cohort (spine) was defined using the ACQSC audit data extract. The non-compliance notice and sanction

extracts from ACQSC were joined to this spine using the unique identifier for each RACF that was common to each extract. The RACF characteristics (AIHW) were joined to the spine using address matching, because AIHW was unable to provide the same unique identifier as the ACQSC. The integrated data set was constructed so that it factored in when a RACF changed its structural characteristics over time, namely size and ownership status.

2.4 | Independent variables

We explored four RACF characteristics: jurisdiction (state/territory), remoteness area (major cities, inner regional, outer regional, remote and very remote), the number of government-approved/allocated places (beds/size) and ownership type. Three of these AIHW variables underwent further grouping due to small counts and/or to improve comparability with previous studies (remoteness, size and ownership type).^{7,13} A fifth variable was constructed for use in the final multivariate regression models to adjust for the potential confounding effect that some RACFs had more (re)accreditation audits than others during the study timeframe.

2.5 | Outcome

The outcome of interest was breach of the Standards, as measured by a non-compliance notice or sanction being imposed by the regulator. During our study timeframe, the Australian Aged Care Quality Agency assessed RACFs against these four Accreditation Standards (covering 44 expected outcomes): (1) management, systems, staffing and organisational development; (2) health and personal care; (3) care recipient lifestyle; and (4) physical environment and safe systems.¹² A detailed analysis of non-compliance notices and sanctions at the level of expected outcomes was beyond the scope of this study.

2.6 | Statistical analysis

Non-compliance notice and sanction outcomes were analysed separately at a facility-level, using a similar approach to others where possible.⁷ We used Poisson regression to investigate the presence of a linear time trend (unadjusted) for each outcome (number of outcome events divided by service years of exposure). Poisson regression was also used to explore the association between RACF characteristics and non-compliance notice and sanction rates, first on a univariate basis and then using backward selection to determine the final model. The referent categories for

the independent variables were for-profit ownership (largest RACF market share), New South Wales (NSW, most populace Australian state), major cities (most populace geographic region), and over 100 approved places/beds. Where changes occurred to a RACF's structural characteristics over time (e.g. change of ownership or size), these were factored into the Poisson analysis. No overdispersion was evident in the Poisson analyses. Multicollinearity between RACF size and remoteness was investigated using Spearman rank correlation (strong multicollinearity defined as a Spearman rho >0.8). Multicollinearity involving nominal variables (RACF jurisdiction and ownership type) was investigated with chi-squared tests (strong multicollinearity defined as Cramer's V >0.4). No multicollinearity was evident. Chi-squared tests were used to investigate whether the proportion of audits conducted per financial year (four financial years combined) differed by RACF structural characteristics.

2.7 | ETHICS STATEMENT

Ethics approval was granted by the Edith Cowan University Human Research Ethics Committee ref: 2020-01572-ALAN (Low Risk Review).

3 | RESULTS

There were 2856 RACFs operating at some point between 2015/16 and 2018/19, the majority for all 4 years ($n = 2623, 92\%$). As shown in [Table 1](#), 438 non-compliance notices were imposed on 369 (13%) RACFs for 906 reasons (breached expected outcomes) and 83 sanctions on 75 RACFs (3%) for 776 reasons, with both peaking in 2018/19. The median and maximum number of breach reasons was higher for sanctions than for non-compliance notices, as expected. A small number of RACFs were in breach of the Standards multiple times over the 4 years. Significant linear time trends were found for the rates of non-compliance notices ($p < 0.001$) and sanctions ($p < 0.001$).

The number of RACFs that had at least one accreditation audit varied during this period: 866 in 2015/16, 488 in 2016/17, 1124 in 2017/18 and 1195 in 2018/19. The 2016/17 dip occurred in all Australian states, but not the territories (which have far fewer RACFs than the states). Most accreditation audits occurred on a three-yearly cycle (87%). [Table 2](#) shows the proportion of audits conducted per financial year by structural characteristics; there were no differences in the proportion of RACFs audited in a financial year by ownership type, remoteness or size of RACF. Differences were found by jurisdiction, with South

TABLE 1 Summary of audits, non-compliance notices and sanctions of Australian residential aged care facilities, 2015/16 to 2018/19.

	Financial Year				Total
	2015/16	2016/17	2017/18	2018/19	
Total No of RACFs	2727	2728	2738	2752	2856 ^a
No. RACFs with ≥1 audits (%)	866 (32)	487 (18)	1124 (41)	1195 (43)	2706 (95)
No audits per RACF					
1	862	472	1088	1149	1784
2	4	13	34	41	805
3	0	2	2	5	84
4	0	0	0	0	29
5	0	0	0	0	4
Total	870	504	1162	1246	3782
No. RACFs with ≥1 NCN ^b (%)	23 (1)	44 (2)	126 (5)	210 (8)	369 ^c (13)
No. NCN events imposed on RACFs					
1	22	38	110	200	306
2	1	6	15	9	58
3	0	0	1	1	4
4	0	0	0	0	1
Total	24	50	143	221	438
No. NCN reasons					
Median	2	2	2	2	2
Range	1–6	1–6	1–6	1–6	1–9
Total	54	111	289	452	906
No. RACFs with ≥1 sanction ^b (%)	2 (0)	10 (0)	22 (1)	42 (2)	75 ^d (3)
No. sanctions imposed on RACFs					
1	2	10	19	38	67
2	0	0	3	4	8
Total	2	10	25	46	83
No. sanction reasons					
Median	3.5	3.5	3.5	12	5
Range	3–4	1–25	1–20	1–50	1–50
Total	7	67	101	601	776

^aThe majority of RACFs ($n = 2623$, 92%) were operating in all four financial years.

^bCount of unique residential aged care facilities (RACFs).

^cTotal is 403 if the 32 RACFs that received non-compliance notices (NCN) in two separate financial years and the one RACF that received a NCN in three separate financial years are counted more than once.

^dTotal is 76 if the one RACF that was sanctioned in two separate financial years is double counted.

Australia having the lowest percentage of audits (28%) and Queensland the highest (37%).

Table 3 shows the frequency of non-compliance notices and sanctions according to service years of exposure and RACF characteristics (jurisdiction, ownership type, remoteness and size/beds). These unadjusted rates do not consider the association between the different RACF characteristics, nor do these rates accommodate RACF differences in the periodic cycles for accreditation audits. For example, some RACFs had more accreditation visits than others over the study period, especially non-new

RACFs and those put on a shorter accreditation cycle due to past regulatory concerns about compliance with the Standards.

South Australian (SA) RACFs had the highest rate of non-compliance notices, and Victoria had the lowest. There was negligible difference between the rates of non-compliance notices for for-profit and not-for-profit RACFs, and both had higher rates than government-owned RACFs. RACFs in remote areas had non-compliance notices imposed at a higher rate than major cities, inner regional and outer regional areas. The rate of non-compliance notices

TABLE 2 Proportion of Australian residential aged care facilities audited in a financial year by RACF structural factors, 2015/16 to 2018/19

RACF structural factor ^a	Percentage audited per financial year	χ^2
Total	34	
Jurisdiction		
ACT	35	
NT	35	
QLD	37	
SA	28	
TAS	32	
VIC	33	
WA	32	
NSW	34	0.001
Ownership type		
For-Profit	35	
Not-for-Profit	32	
Government	35	
Missing	32	0.06
Remoteness		
Major city	34	
Inner regional	33	
Outer regional	34	
Remote ^b	34	0.9
Size		
20 beds or less	32	
21–40 beds	33	
41–60 beds	33	
61–80 beds	33	
81–100 beds	34	
Over 100 beds	35	
Missing	32	0.7

^aThe same RACF may have contributed exposure time to more than one level of a structural characteristic if this structural characteristic changed for the RACF during the study timeframe, as collected annually by the Commonwealth Department of Health and Ageing.

^bIncludes remote and very remote locations.

was higher in larger RACFs with over 100 beds and lowest in RACFs with 20 beds or less (Table 3).

For sanctions, Table 3 shows that the Northern Territory (NT) and Australian Capital Territory (ACT) had the highest sanction rates (albeit the least number of RACFs), and Victoria and Western Australia (WA) had the lowest rate. For-profit RACFs had the highest sanction rate, followed by not-for-profit RACFs and then government-owned RACFs. Residential aged care facilities in major cities had the highest sanction rate, and remote areas had no

sanctions. Larger RACFs (81 or more beds) had the highest sanction rates, and RACFs with 20 beds or less had no sanctions.

Multiple Poisson regression of non-compliance notices included all of the RACF structural factors listed in Table 3, plus it adjusted for the significant confounding effect caused by differences in the number of accreditation audits each RACF experienced during the study period. Univariate analysis found that jurisdiction ($\chi^2 = 75.88$, $p < 0.001$) and size ($\chi^2 = 40.52$, $p < 0.001$) were significantly associated with the likelihood of receiving a non-compliance notice, which endured in the final multivariate Poisson model ($\chi^2_{\text{Jurisdiction}} = 77.44$, $p < 0.001$; $\chi^2_{\text{Size}} = 48.26$, $p < 0.001$). Univariate analysis showed that neither ownership type nor remoteness had a statistically significant relationship with the likelihood of receiving a non-compliance notice ($\chi^2_{\text{Owner}} = 4.41$, $p = 0.1$; $\chi^2_{\text{Remoteness}} = 3.23$, $p = 0.3$), but remoteness was statistically significant in the final multivariate model ($\chi^2_{\text{Remoteness}} = 11.94$, $p = 0.008$).

As shown in Table 4, three jurisdictions were less likely to receive a non-compliance notice than NSW: Victoria (relative risk (RR) = 0.45, 95% confidence interval (CI): 0.34–0.60), Queensland (RR = 0.57, 95% CI: 0.43–0.76) and NT (RR = 0.19, 95% CI: 0.11–0.34). SA was more likely (RR = 1.97, 95% CI 1.51–2.57); WA and ACT were comparable with NSW. Multivariate results also found that RACFs in remote and outer regional areas were more likely to experience a non-compliance notice compared with RACFs in major cities (RR_{Remote} = 2.05, 95% CI 1.00–4.20, RR_{Outer} = 1.63, 1.20–2.23). Additionally, smaller RACFs were less likely to receive a non-compliance notice compared with RACFs with more than 100 beds, most noticeably RACFs with 20 beds or less (RR = 0.26, 95% CI 0.13–0.52). As with the univariate analysis, multivariate analysis found that RACF ownership type had no significant association with the likelihood of receiving a non-compliance notice between 2015/16 and 2018/19 ($\chi^2 = 0.53$, $p = 0.7674$); hence, it was the only RACF characteristic removed from our final model.

Sparse sanctions data required remoteness to be grouped into a dichotomous variable (major cities/not major cities) for the sanctions Poisson analysis. Similarly, two RACF size values were combined into one (40 beds or less). Univariate analysis found that jurisdiction ($\chi^2 = 31.11$, $p < 0.001$), size ($\chi^2 = 28.0$, $p < 0.001$), ownership type ($\chi^2 = 9.66$, $p < 0.008$) and remoteness ($\chi^2 = 5.32$, $p = 0.02$) were significantly associated with the likelihood of receiving a sanction, but remoteness ($\chi^2 = 0.06$, $p = 0.8$) and ownership type ($\chi^2 = 2.09$, $p = 0.4$) were subsequently dropped from the final multivariate model (Table 4). This final model adjusted for the confounding effect caused by RACF differences in their accreditation

TABLE 3 Characteristics of Australian residential aged care facilities (RACFs) that received non-compliance notices or sanctions from the Commonwealth regulator, 2015/16 to 2018/19 (combined)

RACF structural factor ^a	Service years	No. non-compliance events ^b	No. RACFs with ≥1 non-compliance notice	No. sanction events	No. RACFs with ≥1 sanction ^c
Jurisdiction					
ACT	103	6	6	2	2
NT	48	2	2	1	1
QLD	1812	56	52	5	5
SA	1003	82	72	15	15
TAS	298	17	16	2	2
VIC	3053	57	53	10	9
WA	958	37	33	2	2
NSW	3520	181	169	46	40
Total	10795	438	403	83	76
Ownership type					
For-Profit	3462	153	142	43	39
Not-for-Profit	6018	243	222	36	33
Government ^d	972	29	27	4	4
Missing	343	13	12	0	0
Total	10795	438	403	83	76
Remoteness					
Major city	6723	269	245	62	57
Inner regional	2588	96	89	12	11
Outer regional	1291	61	57	9	8
Remote ^e	192	12	12	0	0
Total	10794 ^f	438	403	83	76
Size					
20 beds or less	525	9	9	0	0
21–40 beds	1708	43	41	4	4
41–60 beds	2372	78	73	18	18
61–80 beds	1863	81	75	13	12
81–100 beds	1496	60	54	17	16
Over 100 beds	2488	154	139	31	26
Missing	343	13	12	0	0
Total	10795	438	403	83	76

^aThe same RACF may have contributed exposure time to more than one level of a structural characteristic if this structural characteristic changed for the RACF during the study timeframe, as collected annually by the Commonwealth Department of Health and Ageing.

^bThirty-three residential aged care facilities (RACFs) have been counted more than once in this table because they received a non-compliance notice in more than one financial year.

^cOne RACF has been counted more than once in this table because it was sanctioned in more than one financial year.

^dIncludes both local government and state government.

^eIncludes remote and very remote locations.

^fRounding error.

cycles. Four jurisdictions were less likely to have a sanction imposed than NSW: Victoria (RR = 0.33, 95% CI: 0.16–0.71), Queensland (RR = 0.20, 95% CI: 0.08–0.51), NT (RR = 0.34, 95% CI: 0.20–0.58) and WA (RR = 0.23,

95% CI: 0.06–0.95). SA, Tasmania and ACT were comparable with NSW. Additionally, smaller RACFs (40 beds or less) were less likely to receive a sanction compared with RACFs with more than 100 beds (Table 5).

TABLE 4 Relative risk of a non-compliance notice (NCN) event by an Australian residential aged care facility (RACF), 2015/16 to 2018/19 (combined)

RACF structural factor ^a	Relative risk of a NCN event ^b	95% CI ^b	p-value ^b
Jurisdiction			
ACT	0.83	0.43, 1.59	0.6
NT	0.19	0.11, 0.34	<0.001
QLD	0.57	0.43, 0.76	<0.001
SA	1.97	1.51, 2.57	<0.001
TAS	1.29	0.72, 2.33	0.4
VIC	0.45	0.34, 0.60	<0.001
WA	0.87	0.60, 1.28	0.5
NSW	1	-	-
Remoteness			
Remote ^c	2.05	1.00, 4.20	0.05
Outer regional	1.63	1.20, 2.23	0.002
Inner regional	1.22	0.97, 1.55	0.09
Major city	1	-	-
Size			
20 beds or less	0.26	0.13, 0.52	<0.001
21–40 beds	0.37	0.26, 0.53	<0.001
41–60 beds	0.54	0.41, 0.69	<0.001
61–80 beds	0.66	0.51, 0.86	0.002
81–100 beds	0.64	0.47, 0.86	0.004
Over 100 beds	1	-	-
No. of accreditation audits			
N/A	2.52	2.31, 2.74	<0.001

^aThe same RACF may have contributed exposure time to more than one level of a structural characteristic if this structural characteristic changed for the RACF during the study timeframe, as collected annually by the Commonwealth Department of Health and Ageing.

^bFinal model specification: $\lambda_{\text{non-compliance}} = \exp^{\beta_1 \text{jurisdiction} + \beta_2 \text{remoteness} + \beta_3 \text{size} + \beta_4 \text{audits} + \text{constant}}$.

^cIncludes remote and very remote locations.

TABLE 5 Relative risk of a sanction event by an Australian residential aged care facility (RACF), 2015/16 to 2018/19 (combined)

RACF structural factor ^a	Relative risk of a sanction event ^b	95% CI ^b	p-value ^b
Jurisdiction			
ACT	1.30	0.45, 3.77	0.6
NT	0.34	0.20, 0.58	<0.001
QLD	0.20	0.08, 0.51	<0.001
SA	1.37	0.77, 2.42	0.3
TAS	0.86	0.22, 3.44	0.8
VIC	0.33	0.16, 0.71	0.005
WA	0.23	0.06, 0.95	0.04
NSW	1	-	-
Size			
40 beds or less	0.17	0.06, 0.50	0.001
41–60 beds	0.71	0.38, 1.32	0.3
61–80 beds	0.62	0.31, 1.25	0.2
81–100 beds	0.88	0.49, 1.58	0.7
Over 100 beds	1	-	-
No. of accreditation audits			
	4.55	3.61, 5.73	<0.001

^aThe same RACF may have contributed exposure time to more than one level of a structural characteristic if this structural characteristic changed for the RACF during the study timeframe, as collected annually by the Commonwealth Department of Health and Ageing.

^bFinal model specification: $\lambda_{\text{sanction}} = \exp^{\beta_1 \text{jurisdiction} + \beta_2 \text{size} + \beta_3 \text{audits} + \text{constant}}$.

4 | DISCUSSION

This study of 2856 Australian RACFs from 2015/16 to 2018/19 explored whether four RACF characteristics (jurisdiction, remoteness, ownership type and size) were associated with the rate and likelihood of regulator-imposed non-compliance notices and sanctions. This study period was prior to COVID-19 and covers the final years of the aged care Accreditation Standards¹² before it was replaced with new Quality Standards.¹⁶ Australian studies using these types of data are rare.^{7,13} We used an analytical approach similar to Baldwin, Chenoweth and Liu⁷ to improve comparability. The main study differences were that ours used a shorter timeframe, more recent data, included non-compliance notices and adjusted the multivariate models for RACF differences in accreditation cycles (because RACFs with regulatory breaches usually have shorter periods between accreditation audits). Separate analysis of the audits showed no difference in the proportion of RACFs audited based on their ownership, remoteness or size. Hence, our finding of higher non-compliance and sanction rates for two of these RACF structural characteristics (size and remoteness) is unlikely to be due to higher rates of auditing based on these characteristics. Our model also included audits as a predictive factor to further control for non-random auditing influencing sanction and non-compliance rates. As such, these appear to be real differences in non-compliance and sanctions rates across these RACF structural characteristics, rather than an artefact of auditing selection.

We found a significant positive trend in the annual rate for both non-compliance notices and sanctions, unlike Baldwin's study.⁷ Non-compliance notices and sanctions peaked in 2018/19, potentially due to improved detection of quality and safety issues since the regulator replaced notified site audits (for re-accreditation purposes) with site audits without notice from 1 July 2018;¹⁷ or improved vigilance (regulator, staff, family, etc.) as a result of the 2018 Royal Commission.⁶

Residential aged care facility jurisdiction was associated with regulatory breaches. Baldwin's study of sanctions found that NSW's relative risk was significantly lower than ACT, NT, Queensland, SA and Victoria. Conversely, our more recent data found a reversal of this relationship for the NT, Queensland and Victoria, with a lower likelihood also found for WA. South Australian residential aged care facilities continued to show a higher likelihood of sanctions, which has now been apparent for at least 18 years. We found most of these same associations for non-compliance notices, except WA. Victoria's improvement since Baldwin's study may be explained by its mandating of minimum nurse ratios in public aged care in 2015.¹⁸

Like others, we found sanctions were relatively rare.^{7,13} This potentially concealed associations with RACF remoteness. For non-compliance notices, we found a higher rate in remote and outer regional areas compared with RACFs in major cities, irrespective of jurisdiction and RACF size. This is broadly consistent with Baldwin's study of sanctions,⁷ which found a statistical association for RACFs in remote but not regional areas. The Royal Commission reported lack of a targeted strategy for the provision of aged care services in remote areas.⁶ A NT submission elaborated on these challenges, including their higher costs of service provision, geographic isolation and dispersion, smaller economies of scale, restricted access to specialist services and workforce issues (qualifications, attraction and retention).¹⁹

We found no statistically significant relationship between RACF ownership type and regulatory breaches, irrespective of jurisdiction, size, remoteness or differences in RACF accreditation cycles. This is contrary to Baldwin's study that found sanctions were more likely for for-profit RACFs compared with not-for-profit operators.⁷ Regulatory compliance alone provides only limited evidence of RACF quality.¹³ Quality has multiple dimensions, and different RACF ownership types perform better on some quality measures than others. For example, an Australian study over 6 years (including our study period) found that government-owned RACFs performed better than for-profit and not-for-profit RACFs in terms of ED admissions, falls, dementia-related hospitalisations, pressure injuries and care hours (total and registered nursing).⁸ However, for-profit RACFs outperformed government-owned RACFs on resident assaults, and government-owned RACFs performed worse on antipsychotic use, complaints and resident assaults compared with not-for-profit RACFs.⁸

Unlike Baldwin,⁷ we found larger RACFs (over 100 beds) had a higher sanction rate than smaller RACFs (40 beds or less). For non-compliance notices, this effect was found for all RACFs with 100 or fewer beds. These findings support at least 26 international studies that found smaller RACFs have higher service quality than larger ones.^{7,10} Expanded routine RACF data collection is needed to inform policy, planning and performance monitoring, especially decisions about staff-to-resident ratios, the accreditation cycle of existing RACFs with over 100 beds, the approval of new large RACFs and funding that prioritises quality above economies of scale.

That our study did not fully confirm past findings highlights that RACF compliance with the Standards varies over time and is influenced by the accreditation cycle of each RACF. Our findings are also potentially explained by other variables beyond the scope of our study. This includes RACF complaints (volume, type

and handling), finances (income, expenses and profits), workforce (staff ratios, mix, qualifications, turnover) and recipient casemix (care acuity).²⁰ Organisational culture is another important factor that may explain our results, especially how RACFs adapt to and distribute regulatory responsibilities to staff within their RACFs, and how they manage the tension between regulatory compliance and person-centred practice.²¹ How regulatory assessors manage this tension is also unclear and potentially differs between assessors based on their expertise and subjective perceptions. Intra and interjurisdictional variation in the number of assessors may have also impacted our findings.

5 | CONCLUSIONS

We updated and partially confirmed other Australian findings about the relationship between RACF structural characteristics and regulatory sanctions and reported new findings for non-compliance notices. More research is needed to fill these knowledge gaps and to reveal new ones, by using multiple research approaches that fully explore the complex factors influencing residential aged care quality.

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CONFLICTS OF INTEREST

No conflicts of interest declared.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are from two Australian Government resources available in the public domain at these URLs: (1) <https://www.gen-agedcaredata.gov.au/Search?term=aged%20care%20service%20list&page=1>; (2) <https://www.myagedcare.gov.au/non-compliance-checker>.

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REFERENCES

1. Australian Institute of Health and Welfare. Aged care data snapshot 2021 – third release. 2021. <https://www.gen-agedcaredata.gov.au/Resources/Access-data/2021/October/Aged-care-data-snapshot%E2%80%942021>. Accessed September 30, 2022.
2. Batchelor F, Savvas S, Dang C, et al. Inside the system: aged care residents' perspectives. 2020. <https://agedcare.royalcommission.gov.au/sites/default/files/2020-10/research-paper-13.pdf>. Accessed September 30, 2022.
3. Aged Care Quality and Safety Commission. Site audit frequently asked questions. 2021. <https://www.agedcarequality.gov.au/providers/assessment-processes/accreditation-and-re-accreditation/re-accreditation-of-residential-services/frequently-asked-questions#site-audit>. Accessed September 30, 2022.
4. Aged Care Quality and Safety Commission. The complaints process. 2021. <https://www.agedcarequality.gov.au/making-complaint/complaints-process>. Accessed September 30, 2022.
5. Royal Commission into Aged Care Quality and Safety. Background paper 8: a history of aged care reviews. 2019. <https://agedcare.royalcommission.gov.au/news-and-media/background-paper-8-history-aged-care-reviews>. Accessed September 30, 2022.
6. Royal Commission into Aged Care Quality and Safety. Final report: care, dignity and respect. 2021; 1. <https://agedcare.royalcommission.gov.au/publications/final-report>. Accessed September 30, 2022.
7. Baldwin R, Chenoweth L, Dela Rama M, Liu Z. Quality failures in residential aged care in Australia: the relationship between structural factors and regulation imposed sanctions. *Australas J Ageing*. 2015;34(4):E7-E12.
8. Yong J, Yang O, Zhang Y, Scott A. Ownership, quality and prices of nursing homes in Australia: why greater private sector participation did not improve performance. *Health Policy*. 2021;125(11):1475-1481.
9. Swerissen H. Quality costs more. Very few aged care facilities deliver high quality care while also making a profit. 2021. <https://theconversation.com/quality-costs-more-very-few-aged-care-facilities-deliver-high-quality-care-while-also-making-a-profit-178022>. Accessed September 30, 2022.
10. Baldwin R, Chenoweth L, Dela Rama M, Wang AY. Does size matter in aged care facilities? A literature review of the relationship between the number of facility beds and quality. *Health Care Manage Rev*. 2017;42(4):315-327.
11. Henderson J, Willis E, Xiao L, Toffoli L, Verrall C. Nurses' perceptions of the impact of the aged care reform on services for

- residents in multi-purpose services and residential aged care facilities in rural Australia. *Australas J Ageing*. 2016;35(4):E18-e23.
12. Federal Register of Legislation. Quality of Care Principles 2014 (F2015C00075). 2015. <https://www.legislation.gov.au/Details/F2015C00075>. Accessed September 30, 2022.
 13. Ellis JM, Howe A. The role of sanctions in Australia's residential aged care quality assurance system. *Int J Qual Health Care*. 2010;22(6):452-460.
 14. Australian Institute of Health and Welfare. Providers, services and places in aged care. 2022. <https://www.gen-agedcare.data.gov.au/Topics/Providers,-services-and-places-in-aged-care#Size%20of%20residential%20aged%20care%20services%20over%20time>. Accessed September 30, 2022.
 15. Aged Care Complaints Commissioner. Guidelines for the Aged Care Complaints Commissioner (Version 2.0). 2016. <https://agedcare.royalcommission.gov.au/system/files/2020-06/CTH.0001.4002.0549.pdf>. Accessed September 30, 2022.
 16. Federal Register of Legislation. Quality of Care Principles 2014 (F2021C00887). 2021. <https://www.legislation.gov.au/Details/F2021C00887>. Accessed September 30, 2022.
 17. Aged Care Quality and Safety Commission. Re-accreditation of residential services. 2021. <https://www.agedcarequality.gov.au/providers/assessment-processes/accreditation-and-re-accreditation/re-accreditation-of-residential-services>.
 18. Victorian Government. Safe patient care (nurse to patient and midwife to patient ratios) Act 2015. 2015. <https://www.legislation.vic.gov.au/in-force/acts/safe-patient-care-nurse-patient-and-midwife-patient-ratios-act-2015/008>. Accessed September 30, 2022.
 19. Northern Territory Council of Social Services (NTCOSS). NTCOSS Submission to the Royal Commission into Aged Care Quality and Safety. 2019. <https://ntcross.org.au/ntcos-submissions/ntcross-submission-to-the-royal-commission-into-aged-care-quality-and-safety/>. Accessed September 30, 2022.
 20. Dyer SM, Valeri M, Arora N, et al. Review of international systems for long-term care of older people. 2019. <https://agedcare.royalcommission.gov.au/publications/research-paper-2-review-international-systems-long-term-care-older-people>. Accessed September 30, 2022.
 21. Biggs S, Carr A. How provider organisations interpret regulation in the context of residential dementia aged care. *Australas J Ageing*. 2019;38(S2):83-89.

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