Why openness with health inspectors pays

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Abstract: The effect of the quality of information obtained by Standards Monitoring Teams on the compliance of 410 Australian nursing homes with Commonwealth regulatory standards is explored. We find that information matters. Lack of openness is a hallmark of a poor quality facility, openness of a high quality facility. Secondly, open flow of information becomes a resource that does enable the regulatory process to improve the quality of care. From an industry perspective, therefore, openness pays because it 1. works against being marked off by an inspection team as a problem facility that is covering up; and 2. allows the facility to improve the quality of the service it delivers to the consumer. (*Aust J Public Health* 1994; 18: 165–9)

The proposition tested in this paper is basic to any type of health care regulation. Is obtaining information from health care providers crucial to improving their compliance with the law? Regulatory inspectors naturally assume that it is important for success at their job that they be able to get lots of information about what is going on at regulated organisations.[1,2] But is this assumption right? After all, there are ways that inspectors might be quite effective while wandering in the dark. They might have positive effects on compliance simply by being there. Their visits symbolise the importance the state and the community places on compliance with the law. Also, their visits may remind managers of compliance obligations which they will forget unless an inspector comes and taps them on the shoulder now and then. Finally, inspectors might have positive effects by directing enforcement actions against the most obviously and egregiously noncompliant 2 per cent of organisations, while being pretty much in the dark about what is going on at the remaining 98 per cent.

In this paper we test the effect of information on effectiveness in securing compliance with regulatory standards in the domain of quality of care regulation at Australian nursing homes. Inspection here is by Commonwealth Standards Monitoring Teams, who assess the compliance of nursing homes with 31 standards at least every second year.

Method

Standards Monitoring Teams normally consist of two members, quite often three and occasionally more, but never fewer than two. One of the team members is always a registered nurse. The 31 standards they rate cover health care, social independence, freedom of choice, privacy and dignity enjoyed by residents, the environment of the nursing home, the variety of experience available to residents, and safety (including risks from fire, violence, infection and the use of restraints). On each standard the home is rated as having met the standard (1), that action is required (0.5), or that urgent action is required (0) by the team. These standards are summed to form a total measure of compliance ranging from 0 (no compliance) to 31 (absolute compliance). The distribution of scores for the dependent measure of compliance is provided in Figure 1. There were no missing data.

The 31 standards were described in an earlier work, which also concluded that it makes measurement sense to add scores on all 31 standards to get a total compliance score for the nursing home.[3] Earlier work has also found the reliability of this compliance measure to be good, with test–retest reliabilities based on separate inspections by our employees at the same time as the team visit ranging from 0.93 to 0.96.[4] The validation evidence that compliance with these 31 standards actually captures quality-of-life outcomes is encouraging, though not as impressive as the reliability results.[4]

Following each of 410 standards monitoring visits to nursing homes during the first two years of the program (1988–1989), Standards Monitoring Teams were asked to complete a short questionnaire on the visit. The response rate was 99 per cent. After energetic follow-up, 406 usable questionnaires were received. These were normally completed by one member of the team who consulted with other team members before recording a collective assessment by the team.

The relevant question to the teams was: 'How much information useful to making compliance

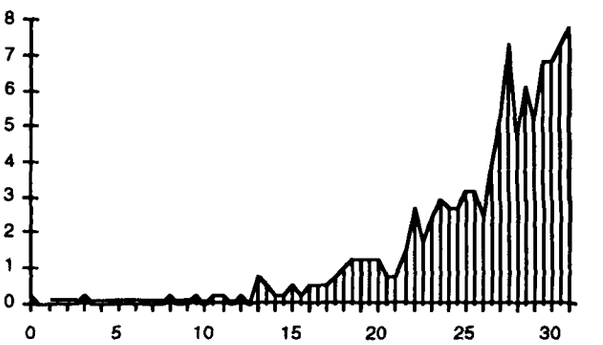

Figure 1: Compliance ratings (per cent for each score)

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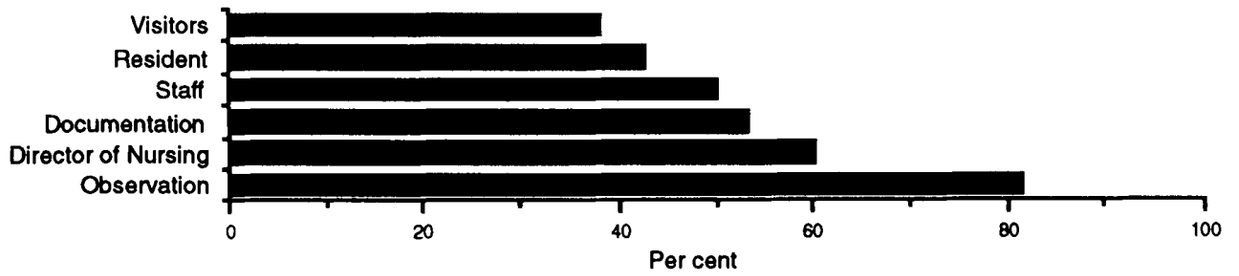

Figure 2: Source yielding most useful information. The exact wording of the question to the Standards Monitoring Team was: 'How much information useful to making compliance ratings did you get from ... ?'

ratings did you get from ... ?' Then the six sources of information displayed in Figure 2 were assessed. For each of them, teams were asked to rate the source from 1 ('no useful information') to 7 ('a lot of useful information'). The quantitative data in Figure 2 are consistent with conclusions from our qualitative observations of standards monitoring visits that all six sources of information are important, with interviews with visitors to the nursing home being least important and direct observation most important.

Intercorrelations and factor analyses of these six sources of information showed that when one was high the others tended to be high also. Adding all six sources into a total information scale yielded a Cronbach alpha of 0.81. For the theoretical question addressed in this paper, it might be argued that it is better to restrict the measure of information to those that are directly under the control of the nursing home. This means excluding the three sources of information that do not depend on the cooperation of the nursing home—residents, visitors and direct observation by the team. An argument for not excluding them is that in important ways these sources of information are indirectly under the control of facility management. Management can make visitors unwelcome, particularly for the day of the visit; they can put obstacles and distractions in the way of the team's capacity to observe and they can intimidate both residents and visitors into silence. In any case, we reran all analyses in this paper with the three sources of information only indirectly under nursing home control excluded from the measure of information. No results were changed in any important way in these analyses.

Before assessing the effect of the value of the information collected by the team on compliance with the 31 standards, we controlled for those variables shown in previous studies to affect compliance significantly.[5] The most important of these was the state in which the nursing home was found. The nature of the industry, its historical funding levels and the training of Standards Monitoring Teams vary by state. In the multiple regression results reported in Table 2, three state dummies were included, the excluded state being South Australia, the state with the lowest compliance ratings. Controls were also included for whether the nursing home was a not-for-profit or a for-profit home, the size (number of beds) and age of the home, the percentage of the residents who were female and the percentage who were married, the mean disability of residents and the number of standards monitors on the team. This was the set of controls that previous research had argued and found to be important background and structural variables.[5] To check for sampling bias, a dummy was also included for whether the home was randomly

Table 1: Intercorrelations of variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Number on SMT [a]																	
2	New South Wales	0.02																
3	Queensland	-0.11*	-0.39															
4	Victoria	-0.08	-0.46†	-0.26†														
5	Not-for-profit home	0.04	-0.03	0.10*	-0.08													
6	Age of home	-0.10*	0.02	-0.19†	0.02	-0.27†												
7	Number of beds	0.22*	0.12*	0.12*	-0.20†	0.00	-0.18†											
8	Mean disability	-0.05	-0.39†	0.02	0.41†	0.04	0.00	-0.13†										
9	Per cent female	-0.08	-0.07	0.06	0.12*	0.08	0.05	0.19*	0.06									
10	Per cent married	0.05	-0.19†	0.03	0.02	0.07	-0.10*	0.07	0.15†	-0.36†								
11	Random sample	0.04	-0.21†	-0.09	0.46†	-0.01	0.05	-0.09*	0.17†	0.00	-0.09							
12	Information	0.01	0.14†	0.02	-0.29†	0.17†	-0.15†	0.14†	-0.03	0.02	0.10*	-0.23†						
13	Resistance to regulators	0.03	-0.06	0.16†	-0.06	-0.01	-0.01	0.09	-0.01	-0.09	0.06	-0.04	-0.15*					
14	Minimal cooperation	-0.05	-0.01	-0.01	0.11*	-0.14*	0.00	-0.06	0.07	-0.08	0.02	0.12*	-0.20†	0.32†				
15	Unconditional cooperation	-0.03	0.02	0.16†	-0.08	0.02	0.00	0.04	0.11*	-0.01	0.03	-0.04	0.02	0.02	0.08			
16	Compliance —time 1	-0.14†	0.06	0.20†	0.11*	0.18†	-0.25†	-0.09	0.11*	0.14†	0.06	-0.03	0.20†	-0.14†	-0.03	0.04		
17	Lag between visits	-0.06	-0.02	0.24†	-0.14†	0.05	-0.08	0.07	-0.07	0.02	-0.01	-0.49†	-0.03	0.07	-0.02	0.12*	0.01	
18	Compliance —time 2	-0.07	0.28†	0.15†	-0.26†	0.22†	-0.16†	0.03	-0.12*	0.12*	0.03	-0.24†	0.31†	-0.01	-0.12*	0.09	0.38†	0.09

Note: (a) SMT = Standards Monitoring Team. *$P<0.05$, †$P<0.01$

Table 2: Predicting compliance at Time 1

Variable	Model 1 Coefficient[a]	SE[b]	Model 2 Coefficient	SE	Model 3 Coefficient	SE
Number on Standards Monitoring Team	−0.05	0.97	−0.04	0.94	−0.03	0.94
New South Wales	0.52‡	0.63	0.55‡	0.61	0.55‡	0.61
Queensland	0.47‡	0.74	0.52‡	0.72	0.54‡	0.73
Victoria	0.44‡	0.75	0.53‡	0.75	0.53‡	0.75
Not-for-profit home	0.11*	0.46	0.08	0.45	0.09*	0.45
Age of home	−0.16‡	0.01	−0.14†	0.01	−0.13†	0.01
Number of beds	−0.12*	0.01	−0.14†	0.01	−0.13†	0.01
Mean disability of residents	0.08	0.11	0.07	0.11	0.07	0.11
Per cent female	0.12*	0.01	0.09	0.01	0.09	0.01
Per cent married	0.14†	0.02	0.12*	0.02	0.13†	0.02
Random sample	−0.07	0.48	−0.06	0.47	−0.06	0.47
Information			0.24‡	0.04	0.22‡	0.04
Resistance to regulators					−0.12†	0.11
Minimal cooperation					0.01	0.13
Unconditional cooperation					−0.02	0.11
Adjusted R^2	0.27‡		0.32‡		0.32	
Change in R^2			0.05‡		0.01	

Notes: (a) Standardised regession coefficients. (b) SE = standard error. *$P<0.05$, †$P<0.01$, ‡$P<0.001$

selected or part of a supplementary sample of all homes visited during the study period.[6] Table 1 presents intercorrelations among the controls and with the dependent variables. While many of the controls were significantly correlated there were no multicollinearity problems. No significant deviation from linearity was found for any of the predictors with the dependent measures, ensuring appropriate use of a linear regression model.

Results

Table 2 shows the results of an ordinary least squares regression, exploring the effect of the quality of information available to teams on compliance, over and above the effect of these control variables. Compliance was measured twice, at the time of the initial standards monitoring visit, and at the time of their second full visit, 18 to 24 months later. By the time of the second visit, the sample of nursing homes had dropped to 322, because of failure to complete the second visit within the required time, and home closures. At Time 1, the control variables explained 27 per cent of the variance in compliance. Adding the quality of information to the controls significantly increased the variance explained by 5 per cent.

At Time 2 a similar picture emerged. The control variables measured at Time 1 explained 26 per cent of the variance in compliance. Adding the quality of information (at Time 1) to the controls significantly increased the variance explained at Time 2 by 3 per cent.

Hence, with both the simultaneous and lagged effect, when the team collected more useful information, compliance was higher. The question is how

Table 3: Factor analysis of subcultural resistance items [a]

	Factor loadings 1	2	3	Item to total correlation
Resistance to regulators				
The nursing home industry should get organised to resist unreasonable demands by Teams	0.09	0.80	0.11	0.47
The nursing home industry needs more people willing to stand up against the Department of Community Services and Health	0.32	0.70	−0.07	0.29
My friends in the industry often say to me that it is important not to let the Department of Community Services and Health push you around	−0.03	0.67	−0.02	0.42
Cronbach alpha				0.58
Unconditional cooperation				
No matter how cooperative or uncooperative the Team is with me, the best policy for me is to always be cooperative with them	0.06	−0.07	0.72	0.11
Everyone is better off when the nursing home industry seeks a more cooperative relationship with the Department of Community Services and Health	0.00	0.09	0.69	0.11
Cronbach alpha				0.19
Minimal cooperation				
If the Team got tough with me, I would become uncooperative with them	0.72	0.20	−0.29	0.38
No matter how cooperative or uncooperative the Team is with me, the best policy for me is to give them only as much cooperation as the law requires	0.72	0.05	0.06	0.36
My policy is that so long as the Team is cooperative with me, I will be cooperative with them	0.69	0.08	0.32	0.36
Cronbach alpha				0.56
Eigen values	2.15	1.24	1.09	
Percentage of variance explained	26.9	15.5	13.7	

Note: (a) Response categories were: strongly agree, agree, neither agree nor disagree, strongly disagree

Table 4: Predicting compliance at Time 2, controlling for compliance at Time 1

Variable	Model 1 Coefficient[a]	SE[b]	Model 2 Coefficient	SE	Model 3 Coefficient	SE
Compliance at Time 1	0.35‡	0.05	0.29‡	0.05	0.30‡	0.05
New South Wales	0.24†	0.68	0.28‡	0.68	0.28‡	0.69
Queensland	0.14*	0.85	0.19†	0.86	0.17†	0.87
Victoria	-0.10	0.84	-0.01	0.87	-0.01	0.87
Lag between visits	-0.02	0.06	-0.01	0.06	-0.01	0.06
Random sample	-0.12	0.60	-0.10	0.59	-0.10	0.59
Information			0.18‡	0.04	0.17†	0.04
Resistance to regulators					0.07	0.12
Minimal cooperation					-0.08	0.15
Unconditional cooperation					0.05	0.12
Adjusted R^2	0.26‡		0.29‡		0.29	
Change in R^2			0.03‡		0.01	

Notes: (a) Standardised regession coefficients. (b) SE = standard error. *$P<0.05$, †$P<0.01$, ‡$P<0.001$

to interpret these results. There are two obvious interpretations. One is that information is easier to obtain from homes that are well run; such homes are more open and discuss matters more freely at all levels. Because of greater openness they have more visitors and more transparent documentation. If this is the case, it is compliance that causes openness rather than the reverse. The other interpretation is that openness facilitates compliance: when Standards Monitoring Teams can get to the bottom of what is going on, they can use this information to demand changes which will improve performance on the 31 standards.

This second interpretation has no plausibility with regard to the significant association between information and compliance at Time 1. In this case, the measurement of the quality of information and the quality of compliance was simultaneous, so we can discount the interpretation that the information was used for the subsequent improvement of compliance. Hence, we interpret the Time 1 result as support for the hypothesis that compliant homes are more transparent than noncompliant homes.

With the Time 2 effect, the usefulness of information is measured well in advance of subsequent compliance, so the interpretation that transparency enables compliance is open to us here. However, we still cannot dismiss the competing interpretation. One way of formulating this competing interpretation is that the cooperativeness of the nursing home explains both its openness and its compliance. If this is the case, adding a control for the cooperativeness of the nursing home will eliminate, or at least reduce, the effect of information on compliance. This has been done in the third column of Table 2. Actually, three different cooperation measures have been added to test this competing interpretation. Factor analytic research has established that attitudes of cooperativeness of the directors of nursing of these nursing homes are multidimensional.[5] Three scales were added to the regressions in Table 2: 1. a subculture-of-resistance scale measuring willingness to stand up to government regulators; 2. a scale measuring a belief in unconditional cooperation with regulators; and 3. a scale measuring a belief in conditional or minimal cooperation.[5] The items and factor analysis results for the scales are presented in Table 3.

The third column of Table 2 shows that the addition of these cooperation-resistance measures did not significantly reduce the effect of information on compliance either at Time 1 or Time 2. So we can reject the cooperation version of the questioning of an effect of information on compliance. This might be the most plausible competing interpretation of the information–compliance association. But there are others. Competent organisations might be more transparent, more communicative, with better documented procedures, even if they are not more cooperative with Standards Monitoring Teams. Hence, it might be competence rather than cooperativeness that is jointly a feature of compliant and open organisations.

The best way to take seriously all such competing interpretations is to test the following hypothesis. *Information at Time 1 improves compliance at Time 2 after controlling for the level of compliance at Time 1.* If it is true that being a high compliance home causes information to flow more freely, then controlling for compliance at Time 1 partials out the effect of high compliance on information. Any residual effect of information on subsequent compliance at Time 2 cannot therefore be interpreted as a compliance-causing-information effect, once Time 1 compliance has been controlled. Similarly, if it is true that some third variable (for example, managerial competence) correlates with both compliance and information, thus producing a spurious association between them, controlling for compliance at Time 1 partials out any such shared variance between compliance and information that is caused by this third variable.

Table 4 essentially adds compliance at Time 1 to the models in Table 2. However, a number of control variables have been dropped in the process. These variables are: the number of standards monitors on the team, whether the home is not-for-profit, the age and size of the home, the mean disability of the residents, and the percentage of residents who are female and who are married. Because of their association with Time 1 compliance, the addition of Time 1 compliance to the model captures the explanatory power of these variables. That is, the effect of these variables on Time 2 compliance is captured by the control for Time 1 compliance. In these circumstances, in leaving in the model both Time 1 compliance and the redundant controls we risk

multicollinearity problems. However, previous research has shown why the state controls remain important even with a Time 1 control.[7] A control was also added for the length of time between the first and second standards monitoring visit.

The results in Table 4 show that the effect of an increase in the usefulness of information gathered by Standards Monitoring Teams is to improve compliance significantly at Time 2 after controlling for compliance at Time 1. The size of the information coefficient in Table 2 is lower than the information coefficients in Table 1, but only slightly lower. This suggests that when the team succeeds in getting access to a lot of useful information at Time 1, they are able to use this information to help the nursing home to improve compliance between Time 1 and Time 2.

Discussion

The simultaneous association at Time 1 between compliance and the usefulness of the information collected by the Standards Monitoring Team cannot easily be explained in terms of information availability enabling improved compliance. This result is consistent with the conclusion that openness of information (or transparency) is a characteristic of nursing homes that provide high quality care. But this is clearly not the whole story. The effect of usefulness of information in explaining subsequent Time 2 compliance, even after controlling for Time 1 compliance, is consistent with the conclusion that openness of information is used to advantage through the standards monitoring process to improve compliance between visits. Our qualitative observations of standards monitoring visits suggest that improvement occurs when the team is able to get to the bottom of what the problems are. This improvement is mediated not so much by enforcement as by a regulatory dialogue about the problems. The process concludes with managers of the nursing home establishing strategies for improvement.[8] That is, it is more often driven by dialogic problem-solving than by enforcement, though there are times when improvement is enforcement-driven. Either way, the team's getting to the bottom of the story is a prerequisite for progress.

To some, these findings might seem banal and unsurprising. It is useful, however, to confirm empirically for the first time in any business-regulatory domain a presumption that is both basic and taken for granted. There have been many other widely held presumptions that we have found not to be true in this program of research.

From a government point of view, the effect of improved quality of information on improved compliance, while significant, is not massive. However, there are other reasons why governments should want to improve the quality of the information they collect in regulatory encounters. Pre-eminent among these is justice. Without quality information gathering, the reliability and validity (and therefore the justice) of enforcement decisions is bound to be low.

These findings are of practical importance. They mean that when Standards Monitoring Teams confront nursing homes who cover up, who discourage staff, residents and visitors from speaking openly with the team or who intentionally obscure the paper trail in their documentation of care, there are two things they can now say to the nursing homes:

1. Our research shows that it is the nursing homes with the worst compliance who are most likely to be tight-lipped and to cover up. So when you decide to be less than open with us, you are simply putting out a red flag that marks you as a nursing home requiring more vigorous scrutiny.
2. Our research also shows that when nursing homes are open with the Standards Monitoring Team, the transparency and frankness of dialogue is a resource that the standards monitoring process does use to bring about real improvement in the quality of care residents receive. So if you want to improve the quality of life for your residents, be open with us and we may surprise you at how our fresh eyes can discover problems that you will want to fix as soon as they are brought to your attention.

For these two reasons, health care industry associations ought to take to their members the message that openness pays.

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