

Patient Reactions to Staff Apology after Adverse Event and Changes of Their Views in Four Year Interval

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Abstract. In the present paper we report results of a patient survey about safety related issues carried out in 2007 in Japan focusing on patient attitudes to receiving different kinds of apology from healthcare staff after a medical accident. Results show, first, that the strongest preference of patients is for a “full” apology including a hospital promise of taking preventive actions against similar events in the future; and second, that the least effective reaction by healthcare staff is a so-called “partial” apology in which staff express sympathy or regret about the event, and which is in fact perceived as worse than “no apology”, i.e., merely informing the patient about the event and future health risk. Comparing results to a similar survey in 2003, it appears that since then Japanese patients’ perceptions of healthcare professionals and organisations, though still not very trustful, have changed slightly to a more positive point of views.

Keywords: Patient views; Apology; Adverse event; Patient questionnaire.

1 Introduction

There has been a massive increase in attention to patient safety in Japan in recent years. One of the signs of the attention has been the extensive coverage in the Japanese press of often tragic and sometimes spectacular instances of “medical errors”. For instance, the major Japanese newspapers brought stories about 412 medical accidents in 2001 [1]. Since then, the number of media reports in newspapers and broadcasts has continued to increase. According to another survey [2], a total of 655 accident cases were reported by one of the largest Japanese news agencies in the entire year of 2005. Among these only 16% were cases that occurred in the same year, and approximately 60% concerned events that had happened more than three years earlier. Such repeated press reports about both recent accidents and, not least, accidents that have happened long ago indicate increasing public concerns with patient safety issues. At the same time, the Japanese public receives from the press an impression that hospitals often deal defensively, passively or inadequately when

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patients are injured due to medical error, and the public gets the impression that they are slow and reluctant to reveal facts and apologise to the injured patients and their families. The picture seems to be similar to that of some other countries (e.g., [3], [4]).

Hospitals and hospital staff do not have an evidence-based approach to dealing with reactions to patients after adverse events. Consequently, when Japanese hospitals make plans for dealing with adverse events, efforts tend to be directed towards litigation defences and not preparing staff to deal openly and directly with patients and their families. Although a number of studies, but few Japanese, have been made of patients' views and requirements following an adverse event (e.g., [5]—[8]) little is known about patient priorities. Moreover, several studies show that differences in national culture make it questionable to transfer results across cultural borders (e.g., [9], [10]).

Accordingly, in a previous study [11], we investigated Japanese patients' views and recognition of safety related issues, in particular their expectations of disclosing actions taken by healthcare staff when suffering medical errors, compared not only with the original Danish survey [12], but also with a survey about the same actions taken by Japanese doctors [13]. Results of these studies indicated that Japanese patients were suspicious about the willingness of healthcare staff to disclose adverse events. Two potential reasons were also suggested as major potential sources behind the Japanese patient's mistrusts, namely, the steady stream of uniformly negative media reports and actual staff reluctance against openness [11]. It was also suggested that the public's views about patient safety issues were influenced to some extent by media reports as well as people's own experience healthcare contact [11].

During recent years, Japanese hospital managers have undertaken strong initiatives to enhance patient safety and include also encouraging hospital staff to deal with patients after medical mistakes and accidents. At the same time, a slight change has happened in the style and contents of media reports about healthcare issues, although there have still been extensive press reports of medical accidents. Recently, press reports have started describing situations in hospitals that readers will regard as appalling and extremely bad work conditions for healthcare professionals: lack of healthcare professionals – particularly hospital doctors – and therefore long working hours and hardly any days off. So, readers are likely to appreciate that there is an extraordinarily high workload in healthcare settings. Based on the above, one may therefore expect that patients' views may have become perhaps somewhat more positive since over the last five or so years; and more specifically, that patient expectations to staff actions after an adverse event will have become more favourable and that patients will generally show greater appreciation of efforts by staff and management to control safety.

Given the background as just outlined, it is of interest to investigate changes in patient views of and attitudes to healthcare staff and management over recent years. We particularly need to explore patients' willingness to forgive mistakes by healthcare staff and organisations [14], [15], e.g., investigate the degree of importance that patients assign to receiving an apology after an injury caused by medical error among different types of staff reactions. We therefore conducted a questionnaire-based survey in which we collected approximately 1,750 responses from patients and families in 14 Japanese hospitals. The survey data were also compared with those of

the former survey [11] to analyse changes in patient views in the last four year interval.

In the present paper we report the results of the new survey, focusing on patients' attitudes to receiving staff apology after a medical accident. Changes in patient views of safety related issues in the last half decade are also discussed based on a comparison of the 2003 and the 2007 survey. Finally, some possible ways are also discussed to improve patient views of healthcare professionals by pursuing a patient-centred approach to risk management in healthcare.

2 Questionnaires and Respondents

The questionnaire comprised seven sections, of which the present paper focuses on just the following two aspects of patient views: (1) expectations about a doctor's reactions after an adverse event, and (2) the likelihood of the respondent acceptance to the doctor's apology. The present paper also describes briefly responses to two other sections and compares them to those in the previous study [11]: perceived causes of medical errors, and patient views and recognition of safety related issues in healthcare. An additional demographic section asked respondents to supply information about clinical department, gender, age group, and recent experience of hospitalisation and whether they had suffered medical errors.

In the two main sections of the questionnaire respondents' reactions were elicited as responses to two fictitious adverse events (vignettes) – one in which the patient suffers a relatively severe outcome and the other a relatively mild outcome. The two fictitious cases, originally designed for a survey of staff attitudes to error reporting [12], [16], were stated as follows:

Case A (Mild outcome): A patient is hospitalised for planned elective surgery. Before his operation the patient will as a matter of routine for an elder or middle-aged patient receive an anticoagulant injection as a prophylactic against thrombosis. When dictating to the case notes, the doctor is interrupted several times due to patients suddenly getting ill, and the doctor forgets to include the anticoagulant for the patient. The patient develops a thrombosis in a vein in his left leg. He therefore has to remain hospitalised an additional week. It is very unlikely that he will have permanent impairment from the thrombosis.

Case B (Severe outcome): A patient is hospitalised in order to receive chemotherapy. The drug has to be given as a continuous infusion intravenously. There is no pre-mixed infusion available in the department and the doctor has to prepare it himself. While he is preparing the infusion, he is distracted. By mistake he prepares an infusion with a concentration 10 times greater than the prescribed level. The doctor does not discover the error until he administers the same drug to another patient later that day. By this time the patient has already received all of the high concentration infusion. He is aware that in the long term the drug may impair cardiac functioning. He realizes that there is a significant risk that the patient's level of functioning will be diminished and that she probably won't be able to maintain her present work.

In the first section of the questionnaire, each of the cases was followed by questions asking respondents to what extent they would expect a doctor to carry out each of the following potential actions: (1) keep it to himself/herself that he/she has made a

mistake; (2) write in patient's case-record about the event; (3) inform the patient about the adverse event and the future risk; (4) explain to the patient that the event was caused by his/her mistake; and (5) apologise about the event to the patient. Response options were given on a five point Likert-type scale, ranging from 'definitely yes' to 'definitely not'.

The questions pertaining to the two cases also asked respondents about their likelihood of receiving the doctor's *apology* (in Section 2). The context in which respondents react to any such question should be briefly outlined: In Japan patients may consult or be treated at any hospital or clinic they wish, i.e., there is free access to any hospital. Almost all Japanese citizens join public health insurance, and patients will typically pay themselves 30% of the expenses of hospital treatment, while the remainder is covered by insurance or public taxpayer funding. Therefore, we assume if a person who was a victim of an adverse event will be more likely to return to the hospital or clinic in question when needed, if the person receives a reaction (e.g., a properly expressed apology) from the doctor who was involved the case. Thus, respondents were asked to rate their likelihood of the statement on a five point Likert type scale, "I will come back to this hospital for consultation next time if the doctor undertakes this reaction" shown in Table 1. For brevity, we will refer to the six reactions listed under Apology statements as just "apologies".

Table 1. Different possible reactions by doctor in vignettes rated by respondents

Statements in the questionnaire	Abbreviation
(a) Explain about the event that you have suffered and its consequence (and in Case B, also future risks)	Event explanation
(b) Express sympathy to you about the event	Express sympathy
(c) Express sympathy and apologise to you, admitting that the hospital must take responsibility for the event	Express apology
(d) Offer exemption of expenses for additional treatment after the event, but no apology to you	Offer of fee exemption
(e) Express sympathy and apologise to you, and offer exemption of expenses for additional treatment after the event	Express apology + Offer of fee exemption
(f) Express sympathy and apologise to you, and promise you that the hospital will take action to avoid repetition of the incident	Express apology + Take preventive action

The survey was made in March-September of 2007 in Japan. We collected a total of 1,744 responses (overall response 46%) from inpatients and outpatients as well as families and relatives from 14 hospitals in Japan. Among these hospitals, nine hospitals are private and belong to the same owner group, and were located in Tokyo or near Tokyo area. The other five hospitals are public, belonging to local municipalities in non-metropolitan regions (but one of them located in the Chiba prefecture next to Tokyo). A paper questionnaire was given to each respondent by hospital administration staff, and filled-out questionnaires were returned by post (in pre-stamped envelopes) by the patient or relatives. The survey was anonymous, as was stressed to respondents.

3 Patient Attitudes to Staff Apology

3.1 Overall Attitudes of Japanese Patients

Respondents' answers to the question about the likelihood of their coming back to the same hospital when needed next time are summarised in Figure 1, which shows the proportion of respondents who accept or reject to each type of the doctor's apology. The bars represent percentages of both respondents who "definitely" or "probably" would return to the hospital to the right of the vertical dividing line ("accept") and those who "definitely" or "probably" would not return on the left side ("reject") for each of the specified apology actions. Statistical tests between the two cases (Mann-Whitney test) show that a significantly greater proportion of patients reject the doctor's apology when they suffered the severe outcome (Case B) than the mild outcome case (A), regardless types of apology taken by the doctor ($p < 0.001$).

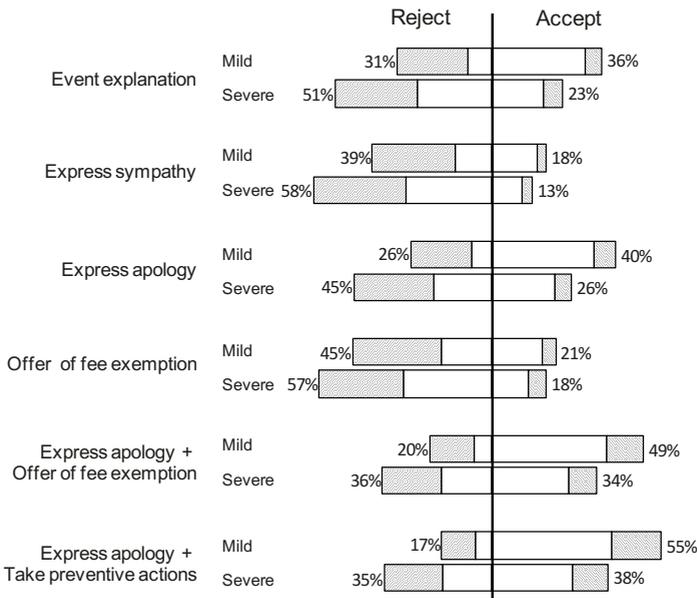


Fig. 1. Percentage of patient acceptance of each type of doctor apology

There was also a highly significant difference in patient acceptance or rejection of the staff apology between reaction types in each of different severity cases ($p < 0.001$). The most "effective" apology reaction in terms of patient forgiveness was to express apology including admittance of hospital responsibility for the event plus a promise of taking actions for preventing against similar events in the future. Further, 55% and 38% of respondents stated their willingness to definitely or probably have their next appointment at the same hospital for the mild and the severe case, respectively. In contrast, the least effective reaction was merely to express sympathy to the patient, i.e., giving a merely "partial apology" among the six kinds of apology reactions

offered to respondents – including no apology but explanation of the event: only 18% and 13% of respondents indicated they would return to the hospital for the minor and the severe outcome case, respectively. A large increase in percentage acceptance was obtained when expressing apology which includes admittance of the hospital responsibility to the adverse event, compared with expressing sympathy: a rise from 18% to 40% of acceptance for the mild ($p<0.001$), and 13% to 26% for the severe outcome case ($p<0.001$).

Similar to “expressing sympathy”, the offer of fee exemption produced a very modest proportion of acceptance and a high proportion of rejection. There were no significant differences in percentage acceptance or rejection between these two reactions (expressing sympathy and fee exemption) for the mild ($p=0.070$) and the severe case ($p=0.215$). However, when the hospital staff expressed apology, the offer of exemption of additional expenses became much more effective to get the patient to accept the apology reaction, increasing acceptance from 40% to 49% for the mild ($p<0.001$) and from 26% to 34% for the severe case ($p<0.001$). Compared with only offering the exemption of additional expenses, the percentage acceptance was approximately doubled, and rejection decreased greatly in both cases. However, comparing “expressing apology” with either fee exemption or a promise of preventive measures showed little difference for the severe case ($p=0.074$), although there was a statistically significant preference for the latter in the mild case ($p<0.001$).

3.2 Differences by Patient Attributes

The degree of acceptance of each kind of doctor apology is provided across patient attributes in Table 2, divided into: types of medical errors respondents have experienced (major, minor vs. no error), age groups (below 60 vs. 60 and above), gender, and hospitalisation history within the last two years. Regarding the error types experienced, merging major and minor errors into a single “error experienced” group, responses of this group were significant different with those of the “no error experienced” group for some types of apology. The “error experienced” group exhibited more negative or less favourable attitudes to apology acceptance than the “no error experienced” group. However, for each of the apology types, no significant difference was identified between the “major error” and the “no error experienced” group. In contrast, percentage acceptance of the “major error” group was higher to any type of apology than that of the “minor error” group, although we observed significant differences between these two groups for only a few apology types – possibly due to small sample size of the “error experienced” respondents. One possible reason for more negative attitudes of the “minor error” than that of the “major error” group might possibly – and as a matter of speculation – be sought along the following line: Based on the descriptions of the “minor error” patients themselves, about half of whom described the error they had experienced, the errors are mostly near-misses or incidents with no effect on the patient, and some might perhaps be regarded as causes of nuisance though still perceived as an “error” by the patient. One may therefore expect that these patients are less likely to have been informed about errors by the doctor than patients that have experienced “major error” – most of these respondents provided detailed descriptions about their incident cases. Therefore, one may conjecture that respondents of the “minor error” group might become more

sceptical against reactions of healthcare staff and organisation connecting after an adverse event.

Dividing respondents into two groups by their age (below 60 and 60 and above, which is the formal retirement age in Japan), it was seen that the younger group had slightly but significantly more negative attitudes to most types of the doctor apology than the older. This age trend was also seen for patient expectations of the doctor's disclosure actions [11] and those about the quality of care in healthcare [17]. This modest link between age and attitudes was also statistically significant for many types of apology, in particular for every type for the severe outcome case, when we did the rank-based Kruskal-Wallis test between seven age classes grouped in ten-year intervals.

Table 2. Percentage of patient acceptance to each kind of doctor reactions

Patient attributes	Case	Express sympathy		Offer of fee exemption		Express apology		Exp. apology+ Take prev. act.	
		A	B	A	B	A	B	A	B
Suffered major error		26%	9%	22%	22%	43%	27%	53%	43%
Suffered minor error		9%	5%	19%	8%	32%	14%	43%	21%
No error experienced		18%	14%	23%	20%	43%	28%	59%	42%
<i>p</i> [#] (Mann-Whitney)		**	*			*		*	*
< 60 years old		17%	10%	19%	14%	41%	21%	56%	32%
≥ 60 years old		19%	18%	23%	23%	39%	33%	54%	46%
<i>p</i> (Mann-Whitney)		**	***	**	***		***		***
Male		19%	15%	25%	20%	43%	30%	55%	43%
Female		16%	11%	18%	15%	37%	22%	54%	34%
<i>p</i> (Mann-Whitney)			**	***	***	**	***		***
Experience of hospitalisation last 2 yr.		18%	14%	22%	19%	42%	27%	57%	40%
No experience of hospitalisation last 2 yr.		16%	12%	17%	15%	36%	23%	51%	34%
<i>p</i> (Mann-Whitney)		*		*		**		**	*

#: between respondents suffering major or minor error and those having no error experience.

*: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$.

Regarding gender, significant differences were identified for most types of apology for the two cases of different severity. As a whole, female respondents were less liable to accept any of the apologies than male. This gender difference in patient attitude to medical staff reaction is directly opposite to the trend we have found in patient expectations to a doctor's disclosure actions: female patients exhibited more positive expectation of the doctor's error reporting actions and interaction with patients than male patients [11] – a finding that is matched in the present study, as will be described in the next section. For the other respondent attributes we obtained matching trends between patient expectation of the doctor's actions and their attitudes to receiving the doctor apology.

The questionnaire also asked respondents to state their hospitalisation experience within the last two years. The results shown in Table 2 suggest that recent experience of hospitalisation contributes to patient's positive attitudes to receiving doctor

apology, in particular when an outcome of an adverse event is not severe. For the severe outcome case, a significant difference in the patient attitudes was observed between these two hospitalisation groups only when the doctor expressed an apology with a promise of preventive organisational actions.

We found no significant difference between clinical specialties that patients had consulted for any apology type, in contrast to the survey about patient expectations of staff actions after the adverse event [11].

4 Changes in Patient Views over Four Years

4.1 Expectations of Healthcare Staff Actions

To ascertain possible changes in patient views of safety issues over the last four-year interval we performed comparative analyses, using a dataset collected for the previous survey [11], in which we applied a similar questionnaire that shared the following sections with the one used in the present study: expectations about doctor's actions after an adverse event; causes of medical errors; and patient-safety related issues. The previous survey was conducted in 2003, collecting approximately 900 responses (64% overall response rate) from inpatients and outpatients in a university hospital in Tokyo.

Table 3. Changes in patient views about doctor's action after adverse event (2003/2007)

Doctor's potential actions	Mild (A)			Severe (B)		
	2007	2003	<i>p</i>	2007	2003	<i>p</i>
Keep it to him/herself	27%	32%	*	27%	27%	
	46%	43%		51%	47%	
Write in patient case record	39%	33%	**	38%	34%	
	36%	42%		34%	37%	
Inform patient of event & risks	48%	44%	**	47%	44%	
	30%	37%		28%	31%	
Admit own error	39%	32%	***	43%	36%	
	38%	45%		33%	36%	
Apology to patient	43%	34%	***	48%	41%	*
	33%	43%		27%	29%	

Upper row: % agreement (% of respondents stating 'definitely yes' or 'yes, probably').

Lower row: % disagreement (% of respondents stating 'definitely not' or 'probably not').

*: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$.

Comparative results of patient expectations about the doctor's actions are summarised in Table 3 in terms of percentage agreement and disagreement of each action item in 2007 and 2003 as well as results of the Mann-Whitney test between these two survey samples. As can be seen from this table, patient expectations about a doctor's reactions have been significantly improved for the mild outcome case (A) within the last four years. Compared with the 2003 responses, a smaller percentage of patients, on the one hand, expected the doctor involved in the event to keep it to himself or herself, but a greater part, on the other, took more favourable views of the

staff actions such as writing the event into patient's case record, informing the patient about the event and its consequence, admitting one's own error for the event, and express one's apology to the patient in 2007.

For the severe outcome case, no significant difference was observed between the 2003 and the 2007 sample except for the doctor's apology to the patient. A greater percentage of patients agreed definitely or slightly that the doctor would apologise to the patient. Summarising the results mentioned so far, there is an overall trend that patient suspicion of healthcare staff action has been slightly reduced over the last four years.

The above results show that patient expectation to healthcare staff actions has become more favourable or trustful of staff during the last half decade.

4.2 Patient Safety Related Issues

The patient responses to eight safety-related questions at each of the two different survey periods, 2003 and 2007, are summarised in Table 4. Significant differences were observed in responses to many items on safety issues between 2003 and 2007. Among the items to which there was no significant change between the two surveys, two items were issues related to hospital reactions to a patient having suffered an adverse event, showing extremely high ("a right to be informed") and very high ("should receive compensation") percentage agreement. This might suggest that the Japanese population wish to have such requirements as a universal condition for healthcare systems independent of the present manner in which safety and quality are managed. In addition to these requirements about actions after adverse events, there was another requirement that was very high: the skills and competence of hospital staff should be tested regularly. However, the agreement with this statement has been highly significantly decreased from 2003. This may indicate that public trust in the competence of healthcare professionals has become stronger. As well as the extensive press coverage of patient safety problems and adverse events, there has been a marked increase of press reports about the lack of hospital professionals and their hard work in Japan, as mentioned in Section 1. These reports have particularly mentioned clinical specialties such as obstetricians, paediatricians, emergency doctors and anaesthesiologists, but also described the lack of staff in general. Such press reports as well as professional and organisational efforts in patient safety may possibly induce changes in patient views, changing them to a more positive perception of the competencies of healthcare professionals. But, as we now shall see, there has also been a change to more positive perceptions of other aspects.

Among the particularly salient patient responses to the safety-related issues is patients' high agreement with the statement "anyone can make a mistake". No significant difference was identified in this item between 2003 and 2007 – about 70% agreement and 10% disagreement. Referring to these responses, we suggest that majority of patients have realistic views of and recognition of human fallibility and (at least minor) errors that occur in the healthcare setting. This realistic patient recognition of human errors chimes in with the low agreement with the statement that "a ward/department that reports few errors can be expected as well to have few errors", although percentage agreement with this item increased slightly from 2003 to 2007.

Table 4. Changes in patient views about patient safety related issues (2003/2007)

Items	2007	2003	<i>p</i>
Staff skills & competence should be tested regularly	73% 11%	83% 6%	***
Patients have a right to be informed when an adverse event occurs	95% 2%	95% 3%	
Anyone can make mistake	71% 11%	72% 10%	
The press deals with medical errors in sensationalist way	55% 16%	44% 23%	***
Doctors cover up for each other	43% 15%	58% 8%	***
Few error reports can be expected as well making few errors	17% 36%	13% 37%	*
Individual staff committing error feels miserable about it	73% 7%	65% 9%	**
Patients suffering injury should automatically receive compensation	80% 4%	80% 4%	

Upper row: % agreement (% of 'definitely yes' or 'yes, probably').

Lower row: % disagreement (% of 'definitely not' or 'probably not').

*: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$.

Besides the above-mentioned items, there were a larger number of respondents who agreed than disagreed with the statement that the press generally deals with medical errors "in a sensationalist way". In addition, slightly less than three quarters of respondents (in 2007) showed their sympathy with healthcare staff involved in an adverse event, agreeing with the statement "the individual doctor or nurse who commits an error feels miserable about it". There were significantly large increases of percentage agreements for these issues from 2003 to 2007. In contrast, there was a significantly large drop in percentage agreement with the item that "doctors cover up for each other" during the four year period, which, again, suggests that patient views have become favourable to healthcare professionals. Based on these questionnaire results, we therefore suggest that Japanese patients seem to have a reasonable awareness of the human element involved in patient safety issues, and that this awareness has been somewhat strengthened during the last half decade.

4.3 Perceived Error Causes

Using the 2003 survey data, three causal factors on medical errors were elicited by the principal component analysis: staff workload, staff ability, and lack of management efforts [18]. Applying the same method to the 2007 data, we identified exactly the same construct of causal factors with 64% of cumulative variance accounted for. In this subsection, we mention comparative results of perceived causes of medical errors between 2003 and 2007 for nine individual items. Patient responses to each individual error causes are shown in Table 5 in terms of percentage agreement and disagreement as well as results of the Mann-Whitney test between 2003 and 2007. As can be seen in this table, there were significant differences in responses to all individual error causes between the two survey periods.

In terms of strength or weakness of each individual error cause, an overall trend has not been greatly changed. Individual items within the top five ranks as error causes were shared between the surveys in 2003 and 2007, i.e., “great workload”, “fewer nurses”, “fewer doctors”, “inexperienced staff left” and “managements do little for safety”. In addition, the top four items were forceful error causes – with which more than 50% of respondents agreed – in 2007, and the 2003 survey shared three items of these individual causes as forceful (cf. Table 5).

Table 5. Changes in causes of medical accidents perceived by patients (2003/2007)

Items	2007	2003	<i>p</i>
Working under great workload	76%	71%	**
	12%	14%	
Fewer nurses than really required	74%	65%	***
	11%	13%	
Fewer doctors than really required	71%	47%	***
	11%	19%	
Staff not sufficiently responsible for tasks	37%	44%	***
	34%	28%	
Staff is not sufficiently competent	28%	30%	*
	38%	33%	
Inexperienced staff is often left with insufficient back-up	61%	66%	***
	13%	10%	
Bad doctors are allowed to continue working	36%	41%	*
	27%	24%	
Hospital managements do little to prevent errors	37%	44%	**
	26%	23%	
Too few resources allocated to hospital	24%	16%	***
	39%	48%	

Upper row: % agreement (% of ‘definitely yes’ or ‘yes, probably’).

Lower row: % disagreement (% of ‘definitely not’ or ‘probably not’).

*, $p < 0.05$, **, $p < 0.01$, ***, $p < 0.001$.

In each survey, a percentage agreement with any individual error cause that fell into the factor on “staff workload” was higher than those with the other items. For instance, “working under great workload” was perceived as a dominant cause of medical errors in both surveys. Patients assigned high agreements – higher than 70% – with the other two statements related to staff workload as causes of medical errors in 2007: “there are fewer nurses” and “fewer doctors” work than actually required in a hospital. The percentage agreements with all three individual causes relevant to the staff workload increased significantly from 2003 to 2007. In particular, there was a large increase of “fewer doctors than required” as a perceived error cause in the four year interval.

Regarding error causes that fell into the factor on “staff ability”, i.e., “staff does not feel sufficiently responsible their tasks” and “staff is not sufficiently competent”, patient agreements with these items were much lower than the “staff workload” items. In addition, unlike the views about staff workload, percentage agreements with the “staff ability” items decreased during the four year period. This decrease (and

currently at a low level) in patient agreement with staff ability as well as the increased (and high) agreement with staff workload may reflect an impression of the Japanese public that hospital staff currently work under extremely high workload conditions and the public's acknowledgement of the staff's abilities, which indeed they now see less than before as a cause of medical accidents. So in general, these results suggest in general a positive shift of the Japanese public's views of healthcare professionals.

Similar to patient responses to the "staff ability" items, there was a significant decrease in patient agreement with each of statements related to the factor on "lack of management efforts" except for the item "too few resources allocated to hospitals" from 2003 to 2007. The reduction in agreements with the "management effort" items was moderate, i.e., between 3% and 8%. The largest drop in patient agreement with specific error causes was the item, "hospital managements do too little for prevent errors". The downward trend in patient agreement with "lack of management efforts" as an error cause suggests a small but positive change in patient views of healthcare organisation and management – similar to the above-mentioned small, positive change in views about healthcare staff.

5 Discussion

There is increasing recognition that reactions after a serious adverse event by healthcare staff are perceived as important by patients and their relatives [19], [20]. Patients want healthcare staff to acknowledge that an adverse event has taken place [21]. But it may not be entirely obvious when and if patients and their relatives want an apology – and if they do, in what sense of apology do they want this? In general terms, an apology recognises that a wrong has been made, admits fault, assumes responsibility and expresses a sense of regret or remorse [22]-[24]; and a complete apology will typically be expected to include a promise of avoiding similar faults in the future and, when appropriate, compensation for harm caused [23], [25]. In the list of reactions offered to respondents (Table 1), we therefore included, first, the weak and minimal reaction in terms of explanation of what has gone wrong, followed by a mere "partial" apology – an, expression of sympathy with the patient. Only the third option in our proposed options is a genuine apology (following Tavuchis' [22] minimum elements) – an acknowledgement that an error was made for which the fictitious doctor or nurse apologises and for which *responsibility* will be taken. To investigate the effects of compensation and explicit promise to undertake preventive measures these options were included in the final options.

Scher and Darley [23] reported that each of the elements mentioned – acknowledgment, expression of sympathy, taking responsibility – independently contribute to the effectiveness of the apology, and that any type of apology, even one that merely expresses sympathy may be better than nothing.

Similarly, positive effects have been reported for offering exemption of expenses incurred by the adverse event [26] – which have therefore suggested our choice of including in our options for respondents an offer of exemption with and without apology. While the "offer of fee exemption" in the questionnaire did not – for the sake of brevity – explicitly include an "explanation of the event", the automatic presumption among Japanese respondents will almost invariably be that offers of fee

exemption do not come out of the blue, so to speak, so the offer will have been accompanied by some explanation about what has happened, i.e., a description that makes the offer of fee exemption plausible or natural. Nevertheless, it is somewhat striking that respondents reject “no apology but fee exemption” to a greater extent than “no apology but explanation” (option a and d in Table 1 and Fig. 1).

Still, the chief result stands: patients want a full apology (regret and responsibility taken) and on top of that they tend to prefer a pledge of preventive actions above personal compensation.

6 Conclusion

The present paper has included dual themes in patient perceptions in Japan of healthcare risk management. For one of these themes, we aimed at uncovering patient attitudes to healthcare staff giving various types of apology after an adverse event. The other theme is related to the recent increase in public concern with patient safety as well as the intensified efforts by hospitals to manage patient safety and to be seen as making an effort to do so.

The major results related to the first theme of the present study are that the most effective reaction as seen by patients after an adverse event is a full apology that includes an explicit statement of apology and admittance of hospital responsibility for the event and a promise of future preventive actions. Nevertheless, this apology was not enough for more than a third (35%) of respondents, who still would not want to return to a clinic or hospital where they had suffered a severe outcome event (17% for the mild outcome).

The results also show that it has little effect on mollifying patients after an adverse event if they are offered exemption of additional expenses for treatment and hospitalisation, unless this is accompanied by an unreserved apology. These results may indicate that patients place the greatest importance on a full apology, followed by their receiving assurance that the hospital will seek to learn from the adverse event. At the same time, our results chime in well with those found by Robbenolt [25] who showed that a partial apology may be worse than no apology. Respondents in our study show that an offer of fee exemption is even less attractive than a simple explanation of what went wrong. Patients possibly view an offer of expense exemption with no apology as a demonstration of arrogance by the hospital – as if the adverse event could be nullified simply by money with no admittance of responsibility.

Differences in strength or weakness of patient acceptance of staff apology were also found between respondents when grouped by age, gender, last 24-month experience of hospitalisation, and experience of having suffered medical errors. Patterns in differences in responses among patient groups were similar to those found when asking about patient expectations to a doctor’s disclosure after a medical error. For instance, inpatients and patients who had recent experience of hospitalisation exhibited more positive attitudes than patients having no recent hospitalisation in terms of both expectations to a doctor’s disclosure and acceptance of a doctor’s apology. An opposite trend was found when comparing responses between female and male respondents: on the one hand, female patients exhibited more positive

expectations to staff actions after the adverse event than male, whereas a smaller percentage of women accepted staff apology than men regardless of the kind of apology. This discrepancy may be influenced by national culture – for instance, Japan is characterised as strong masculinity in the femininity-masculinity dimension made known by Hofstede [27], including life style, gender roles, and gender difference in personality [28], [29].

In the present questionnaire, we did not use a question that directly asked patients about their acceptance of a given staff apology, for instance, whether they forgive the doctor or hospital or whether they would be satisfied. Instead, in order to acquire patient responses that reveal their level of acceptance or satisfaction reliably but indirectly, we asked them about the likelihood of their using the same clinic or hospital again. This type of question is natural in the context of the current healthcare system in Japan that includes free-access to any hospital or clinic and which has a 70% coverage of expenses by the national health insurance. In contrast, it would be less natural to use this question technique in countries that have different healthcare systems. For instance, in several countries in Europe where patients will often accept a public hospital to which they will typically be referred by their general practitioner or specialist.

With regard to the second theme of this study, we compared results from the present survey sample with those obtained in a previous survey conducted in 2003 in terms of not only patient expectations to a doctor's actions after an adverse event but also their views of other issues related to patient safety. The general trend of changes in the four-year interval can be summarised as follows: Japanese patients have gained more positive views of healthcare professionals and slightly more positive views of healthcare organisations in so far that their expectations of staff actions taken after an adverse event has become more positive and their awareness of staff workload has become greater, their wish to have staff ability checked less pronounced, and their view of management efforts as causal factors of medical errors has become less critical. Based on these findings, we conclude the hypothesis of a “positive change” in patient views mentioned in the Introduction was supported. However, compared with the levels of Danish respondents in 2003 [11], Japanese patients were still more suspicious about healthcare staff attitudes to error reporting and interaction with patient after the adverse event. Therefore, we would suggest that further efforts may possibly improve patient views and attitudes even further in a positive directions vis-à-vis hospitals and hospital professionals in Japan.

Finally, as mentioned above, the present levels in Japan of patient attitudes to healthcare professionals and organisations may not be regarded as entirely satisfactory. However, from the results obtained in this study, it is evident that many patients have “realistic” views and a well-informed recognition of patient safety issues. For instance, most of the patients agreed with the statement that anyone can make a mistake, and many disagreed that a ward or department that reports few errors can also be expected to have few errors. Also, inpatients and patients who had a recent experience of hospitalisation exhibited more positive views of healthcare staff and organisation. This respondent group makes more interactions and exchanges richer communications with healthcare professionals – so in fact, direct experience of how the healthcare system works makes for a more positive view than mere hearsay. Therefore, hospital leaders and managers might consider adopting a “visualisation

policy” for hospitals, making risk management and their activities more visible to patients, families and people outside of the organisation. Finally, we suggest that a mature healthcare risk management policy should include guidelines for the healthcare staff – and in serious cases, hospital managers – issuing a sincere apology to any patient who has suffered injury after an avoidable adverse event as soon as possible. The implications suggested in this study were derived from the survey results of Japanese respondents. But the relations between patient and healthcare staff do not seem to differ largely among most western countries, so we believe that the same recommendations would be applicable not only in Japan but also in many of other countries.

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References

1. Japan Nursing Association: White paper of nursing, pp. 143–157. Japan Nursing Association Press, Tokyo (2002) (in Japanese)
2. Deguchi, M.: The Present States of Medical Accidents Analysed from Press Reports in Japan. In: Annual Report 2005, pp. 191–197. Japan Medical Research Institute, Tokyo (2006) (in Japanese)
3. Taylor-Adams, S., Vincent, C., Stanhope, N.: Applying Human Factors Methods to the Investigation and Analysis of Clinical Adverse Events. *Safety Science* 31, 143–159 (1999)
4. Vincent, C., Stanhope, N., Crowley-Murphy, M.: Reasons for Not Reporting Adverse incidents: An Empirical Study. *Journal of Evaluation in Clinical Practice* 5(1), 13–21 (1999)
5. Gallagher, T.H., Waterman, A.D., Ebers, A.G., Fraser, V.J., Levinson, W.: Patients’ and Physicians’ Attitudes regarding the Disclosure of Medical Errors. *Journal of the American Medical Association* 289(8), 1001–1007 (2003)
6. Hingorani, M., Wong, T., Vafidis, G.: Patients’ and Doctors’ Attitudes to Amount of Information Given after Unintended Injury during Treatment: Cross Sectional, Questionnaire Survey. *British Medical Journal* 318, 640–641 (1999)
7. Hobgood, C., Peck, C.R., Gilbert, B., Chappell, K., Zou, B.: Medical Errors – What and When: What Do Patients Want to Know? *Academic Emergency Medicine* 9(11), 1156–1161 (2002)
8. Witman, A.B., Park, D.M., Hardin, S.B.: How Do Patients Want Physicians to Handle Mistakes? *Archives of Internal Medicine* 156, 2565–2569 (1996)
9. Tayeb, M.: Conducting Research across Cultures: Overcoming Drawbacks and Obstacles. *International Journal of Cross Cultural Management* 1(1), 91–108 (2001)
10. Helmreich, R.L.: Culture and Error in Space: Implications from Analog Environments. *Aviation, Space, and Environmental Medicine* 71(9-11), 133–139 (2000)
11. Itoh, K., Andersen, H.B., Madsen, M.D., Østergaard, D., Ikeno, M.: Patient Views of Adverse Events: Comparisons of Self-reported Healthcare Staff Attitudes with Disclosure of Accident Information. *Applied Ergonomics* 37, 513–523 (2006)
12. Andersen, H.B., Madsen, M.D., Ruhnau, B., Freil, M., Østergaard, D., Hermann, N.: Do Doctors and Nurses Know What Patients Want after Adverse Events? In: 9th European Forum on Quality Improvement in Health Care, Copenhagen, Denmark (May 2004)

13. Itoh, K., Abe, T., Andersen, H.B.: A Questionnaire-based Survey on Healthcare Safety Culture from Six Thousand Japanese Hospital Staff: Organisational, Professional and Department/Ward Differences. In: Tartaglia, R., Bagnara, S., Bellandi, T., Albolino, S. (eds.) *Healthcare Systems Ergonomics and Patient Safety: Human Factor, a Bridge between Care and Cure*, pp. 201–207. Taylor & Francis, London (2005); (Proceedings of the International Conference on Healthcare Systems Ergonomics and Patient Safety, HEPS 2005, Florence, Italy, March-April 2005)
14. Robbenolt, J.K.: Apologies and Medical Error. *Clinical Orthopaedics and Related Research* 467(2), 376–382 (2009)
15. Kraman, S.S., Hamm, G.: Risk management: Extreme honesty be the best policy. *Annals of Internal Medicine* 131, 963–967 (1999)
16. Andersen, H.B., Madsen, M.D., Hermann, N., Schiøler, T., Østergaard, D.: Reporting Adverse Events in Hospitals: A Survey of the Views of Doctors and Nurses on Reporting Practices and Models of Reporting. In: Johnson, C. (ed.) *Proceedings of the Workshop on the Investigation and Reporting of Incidents and Accidents*, Glasgow, UK, July 2002, pp. 127–136 (2002)
17. Campbell, J.L., Ramsay, J., Green, J.: Age, Gender, Socioeconomic, and Ethnic Differences in Patients' Assessments of Primary Health Care. *Quality in Health Care* 10, 90–95 (2001)
18. Itoh, K., Andersen, H.B.: Causes of Medical Errors as Perceived by Patients and Healthcare Staff. In: Aven, T., Vinnem, J.E. (eds.) *Risk, Reliability and Societal Safety. Specialisation Topics*, vol. 1, pp. 179–185. Taylor & Francis, London (2007); (Proceedings of the European Safety and Reliability Conference 2007 — ESREL 2007, Stavanger, Norway (June 2007))
19. Leape, L.L.: Understanding the power of apology: How saying “I’m sorry” helps heal patients and caregivers. *Focus on Patient Safety: A Newsletter from the National Patient Foundation* 8(4), 1–3 (2005)
20. Madsen, M.D.: *Improving Patient Safety: Safety Culture and Patient Safety Ethics*. DTU Risoe, Roskilde, Denmark (2006), <http://www.risoe.dk/rispubl/SYS/syspdf/ris-phd-25.pdf>
21. Manser, T., Staender, S.: Aftermath of an adverse event: supporting health care professionals to meet patient expectations through open disclosure. *Acta Anaesthesiologica Scandinavica* 49, 728–734 (2005)
22. Tavuchis, N.: *Meta Culpa: A Sociology of Apology and Reconciliation*, pp. 15–41. Stanford University Press, Stanford (1991)
23. Scher, S.J., Darley, J.M.: How Effective Are the Things People Say to Apologize? Effects of the Realization of the Apology Speech Act. *Journal of Psycholinguistic Research* 26, 127–140 (1997)
24. Gill, K.: The moral functions of an apology. *Philosophical Forum* 31, 11–27 (2000)
25. Robbenolt, J.K.: Apologies and Legal Settlement: An Empirical Examination. *Michigan Law Review* 102(3), 460–516 (2003)
26. Cohen, J.R.: Advising Clients to Apologize. *Southern California Law Review* 72, 1009–1069 (1998)
27. Hofstede, G.: *Cultures and Organizations: Software of the Mind*. McGraw-Hill, New York (1991)
28. Feingold, A.: Gender Differences in Personality: A Meta-Analysis. *Psychological Bulletin* 116, 429–456 (1994)
29. Hyde, J.S.: The Gender Similarity Hypothesis. *American Psychologist* 60(6), 581–592 (2005)