Comparative Results of Cross-National Surveys on Hospital Safety Culture: The Views and Attitudes of Healthcare Staff towards Safety-Related Issues and Reporting of Adverse Events and Errors

Kenji Itoh[(1)], Henning Boje Andersen[(2)],
Marlene Dyrløv Madsen[(2)] and Toshiko Abe[(3)]

Technical Report
No. 2005-1

(1): *Department of Industrial Engineering and Management*,
Tokyo Institute of Technology, Tokyo, Japan
(2): *Systems Analysis Department,*
Risø National Laboratory, Roskilde, Denmark
(3): *Graduate School of Health Sciences*,
Tokyo Medical and Dental University, Tokyo, Japan

August 1, 2005

Department of Industrial Engineering and Management
Tokyo Institute of Technology

For further information about these surveys, please contact the first author. E-mail: itoh.k.aa@m.titech.ac.jp.

Results from each of the surveys will be published in journal articles in English (as well as in Japanese and in Danish), and publications are planned that report results of analysing in greater detail the similarities and differences between all national samples, i.e., Japan, Denmark, Iceland, Nigeria and New Zealand, including differences relating to, e.g., age, position, specialty and gender.

Comparative Results of Cross-National Surveys on Hospital Safety Culture: The views and attitudes of healthcare staff towards safety-related issues and reporting of adverse events and errors

Abstract: This report contains data and analysis results from cross-cultural questionnaire surveys conducted in Japan, Denmark, Iceland, Nigeria and New Zealand between 2002-2004, eliciting the views and attitudes of healthcare providers, i.e., doctors, nurses and pharmacists, relating to patient safety. We make reports on analysis results and data that relate to the shared part of the surveys. The questionnaire parts mentioned in this report consist of (1) question items regarding staff perceptions of and attitudes to hospital management (not applied to the Danish survey), (2) question items on staff attitudes to reporting adverse events and interactions with the patient who suffered injury for three fictitious cases – Case A: a near miss incident, Case B: an incident leading to a minor injury, and Case C: an incident leading to a major injury; and (3) question items relating to potential reasons for not reporting errors/adverse events plus a single item about subject's experience of reluctance to report errors.

Keywords: Cross-national comparison; Safety culture; Adverse events; Incident reporting; Patient safety; and Questionnaire-based survey

Survey Outline: Data Contained in This Report

This report contains data and analysis results from *cross-cultural questionnaire surveys* conducted in Japan, Denmark, Iceland, Nigeria and New Zealand between 2002-2004, eliciting the views and attitudes of healthcare providers, i.e., doctors, nurses and pharmacists, relating to patient safety.

We used two types of questionnaire, one for the Danish survey and the other for the rest of countries, and the two questionnaires differed in certain parts but shared exactly the same parts regarding reasons for not reporting adverse events/errors as well as their regarding attitudes to reporting errors and to interaction with patients who suffered an adverse event. We report the survey results based on items appearing in the questionnaire using for four countries except for Denmark. The surveys in these four countries were coordinated so that parts of the questionnaire items were adapted from Robert L. Helmreich's famous questionnaire, "Operating Room Management Attitudes Questionnaire" (Helmreich & Merritt, 1998) as well as reproduced from the Danish Patient Safety Questionnaire (Andersen et al., 2002) in translation in the Japanese questionnaire. The English version (translation) of questionnaire, which was applied to the three surveys conducted in Nigeria, Iceland and New Zealand, using exactly the same form, will be presented in Section 1.2 (the Japanese survey was conducted using the Japanese version of the questionnaire.). Please refer to Andersen et al. (2002) regarding the questionnaire used for the Danish survey.

The Japanese sample, collected in September-December of 2002, contains data from 5996 responses – 391 doctors, 5175 nurses and 200 pharmacists as well as 230 responses from other

professional employees and missing description of professional information (descriptions of response data from pharmacists are not included in this document due to the small number except for the Japanese sample). The survey was carried out in February 2002 in Denmark, and the collected sample contained 2,008 responses, 703 from doctors and 1,305 from nurses. In the Nigerian survey, a total of 252 responses were collected from 164 doctors, 59 nurses and 26 pharmacists between November 2002 and February 2003. The Icelandic sample – which included 83 responses from 29 doctors and 54 nurses – was started to collect at the same time as in the Nigerian survey, i.e., November 2002 but took longer to complete collecting the planned number of responses, i.e., in March 2004. The New Zealand survey was carried out about a year after the other surveys in January 2004, and completed with collecting 220 responses – 57 doctors, 142 nurse and 21 pharmacists – in April 2004.

In this document, we make reports on analysis results and data that relate to the shared part of the surveys – only Japanese survey included an additional part on self-reported number of incident and accident cases and safety-related activities. The questionnaire parts mentioned in this document consist of (1) question items regarding staff perceptions of and attitudes to hospital management (not applied to the Danish survey), (2) question items on staff attitudes to reporting adverse events and interactions with the patient who suffered injury for three fictitious cases – Case A: a near miss incident, Case B: an incident leading to a minor injury, and Case C: an incident leading to a major injury; and (3) question items relating to potential reasons for not reporting errors/adverse events plus a single item about subject's experience of reluctance to report errors.

Part I in the questionnaire contains 57 question items about perceptions of hospital management as well as general questions that may be relating to safety performance in healthcare. Respondents were asked to rate each item in terms of agreement level on a five-point Likert scale between 1 and 5 (from 'strongly disagree' to 'strongly agree'). These question items can be largely classified into several groups in terms of organisational and human aspects that form safety culture. In this report, with reference to the original classification by Helmreich and Merritt (1998), we arranged items appearing in this part into nine categories of distinct "safety culture aspects" – we call them "safety culture factors"[1]: (1) power distance, (2) communication, (3) individualism-collectivism, (4) recognition of stress effects on own performance, (5) recognition of stress management, (6) morale and motivation, (7) recognition of human error, (8) satisfaction with management, and (9) awareness of own competence.

Each safety culture factor includes several items. For example, the factor, power distance comprises seven items among which the following examples illustrate the format and style of the questions: "Team members should not question the decisions or actions of senior staff except

[1] We had tried to apply both principal component analysis and factor analysis to response data of each sample. However, these analyses did not yield good results with each country's data, i.e., small cumulative variance accounted for with many factors, probably because of wide range of and a great number of question items and the large sample number. In addition, it was very difficult or almost impossible to satisfactorily interpret each of factors or principal components derived by the analyses, and therefore we were unable to provide appropriate factor labels. For example, applying the principal component analysis to the Japanese data, 13 principal components – it was of great difficulty to give appropriate labels for them – were obtained whose eigenvalues were higher than 1.0, with accounting for only 45% of the cumulative variance.

when they threaten the safety of the medical or nursing activity"; "Junior team members should not question the decisions made by senior staff"; and "Doctors who encourage suggestions from team members are weak leaders." Question items composing each safety culture factor will be described in Section 2.

In Section 2, we mention results of multi-national comparisons of hospital *safety culture*, analysing the Part 1 responses. First, we show a tabulation of percentage of responses to each of the question items for any combination of the professional groups – doctor and nurse – and four countries except for Denmark – Japan, Iceland, New Zealand and Nigeria – including information about the number of responses received from each group to each question. The table also includes results of statistical analyses to test differences between doctors and nurses in each country, and is followed by a table that represents results of Mann-Whitney test to examine differences in doctors' and nurses' responses between countries in terms of the significance levels. Then, we depict charts that reproduce the same response data relating to hospital safety culture in a format that allows for a quick way of identifying differences among groups. Factor-based comparisons for safety culture aspects will be also shown among the countries in the same way.

In the second part of the questionnaire, respondents were asked about their behaviour and actions in terms of reporting own errors and in terms of interaction with patients that have been victims of such errors, assuming they involved in three fictitious adverse events. The three fictitious cases were described as follows:

- Case A (Near-miss Case): A patient in the internal medical ward has an I.V. in his left arm providing an infusion of isotonic glucose. When you are about to give antibiotics you realise that the I.V. has become blocked. You now want to rinse the I.V. as the infusion is not running and you want to flush the I.V. using saline which you draw from a capped vial into a 20 ml. syringe, placing it on the tip of the venflon. You are just about to rinse it when you look once more at the label on the vial and realise that it contains potassium chloride and not saline.

  You are aware that this dose of potassium chloride would probably have killed the patient.

- Case B (Mild-outcome Case): [doctor's version; a slightly modified version was made for nurses adapting to differences in their professional tasks] A 53-year old male (married, 2 adult daughters, self-employed truck driver) is hospitalised for elective surgery (cholecystectomy). Before his operation the patient will receive a prophylactic anti-coagulant injection as a matter of routine. There are an excess number of patients in the ward, so it is a busy on call. When you are dictating the case notes, you are interrupted several times due to emergency situations. You forget to dictate the anti-coagulant for the 53-year old patient.

  The patient develops a deep thrombosis in his left leg. He therefore has to remain hospitalised an additional week and will be on sick leave from work longer than planned. It is very unlikely that he will have permanent impairment from the thrombosis.

- Case C (Severe-outcome Case): A 42-year old woman (married, one child, school teacher) 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 you have to prepare it yourself. While you are preparing the infusion,

you are distracted. By mistake you prepare an infusion with a concentration 10 times greater than the prescribed level.

You do not discover the error until you administer the same drug to another patient later that day. By this time the 42-year old patient has already received all of the high concentration infusion. You are aware that in the long term the drug may impair cardiac functioning. You realise 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.

After reading description of each case, the respondent was asked to rate his or her certainty likelihood of engaging in various actions suggested in the questionnaire. The likelihood rating was made on a five point Likert-type scale, ranging from 'definitely yes' to 'definitely no'. For each case, respondents received five questions about their attitudes to error reporting. They were asked to state the likelihood of the following actions:

- Keep it to myself that I had a mistake,
- Talk in confidence with a close colleague to get support,
- Enter this event into patient's case record,
- Inform my leader about the incident, and
- Report the event to the local reporting system.

There were six additional questions about their possible actions with respect to patients:

- Inform the patient about the adverse event,
- Explain to the patient about the future risk,
- Explain to the patient that the event was caused by your mistake,
- Encourage the patient to apply for compensation from hospital's insurance,
- Explain event to the patient's family, and
- Express regrets about the event to the patient.

In Section 3, we describe doctors' and nurses' responses to each question items concerning *reporting errors* and *interaction with the patient* for the above-mentioned three adverse event cases in the same manner of representation as in Section 2. We show a tabulation of the percentage of responses to each item and results of statistical analysis to test significant differences between doctors and nurses for the three cases. Then, we show the comparison results applying Mann-Whitney test between any two of five countries – Japan, Denmark, Iceland, New Zealand and Nigeria –, and between severity levels of outcome, i.e., the three cases. These tables are followed by charts of doctors' and nurses' responses to each question item so that differences among countries can be easily identified for each professional group.

In the last part of the questionnaire, Part 3, respondents were asked to indicate their agreement or disagreement on a five-point Likert scale (from 'strongly disagree' to 'strongly agree') with each of 13 statements describing potential reasons for not reporting errors or incidents. In addition to these potential reasons, respondents were also asked to indicate their experience of unwilling to bring up adverse events in the same way, i.e., on a five-point Likert scale (from 'strongly agree' to 'strongly disagree') to the question, "There have been situations where I have been reluctant to bring up adverse events/errors?" Potential reasons for not reporting suggested in this questionnaire were as follows:

a. We have no tradition in my department for bringing up adverse events/errors.

b. When I am busy I forget to bring up adverse events/errors.
c. The patient may file a complaint.
d. I don't know who is responsible for bringing up adverse events/errors.
e. I might get a reprimand.
f. It might have consequences for my future employment or career.
g. It wouldn't help the patients that I bring up my own events/errors.
h. It might get out and the press might start writing about it.
i. The adverse event/error may become reported to the medical licensing board.
j. It is too cumbersome to bring up adverse events/errors.
k. One does not feel confident about bringing up adverse events/errors in our department.
l. I do not wish to appear as an incompetent doctor [nurse].
m. Bringing up adverse events/errors will not lead to any improvement in our ward.

Finally, in Section 4, we reproduce the data from healthcare staff responses to *reasons for not reporting errors/incidents.* A table showing response percentages is provided for each potential reason. This is followed by a table indicating significance levels of differences between the groups of professions and countries. We also show the same data in charts in which, in each chart, we show data comparing responses from the groups.

Acknowledgements

We would like to acknowledge Leifur Bardarson, Landspitali University Hospital, Reykjavik, Iceland, Raphael S. Oruamabo, University of Port Harcourt, Port Harcourt, Nigeria, and Mary A. Miles and Beverley Burrell, Christchurch School of Medicine and Health Sciences, New Zealand. We would like to express special thanks to Robert L. Helmreich, the University of Texas at Austin who provided the original "Flight Management Attitudes Questionnaire" and "Operating Team Resource Management Questionnaire". We are also grateful to the Danish patient safety survey project group, particularly Niels Hermann, Doris Østergaard and Marlene Dyrlov Madsen, not only for giving permission to use their cases and question items but also for insightful discussion about the surveys. We also express our thanks to Takako Aoki, Tomioka Municipal Hospital, Naomi Kitazawa, Tokyo Medical and Dental University as well as Hirotaka Aoki and Masaaki Ikeno, Tokyo Institute of Technology for their cooperation in this project.

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1. Questionnaire and Samples

1.1 Samples

The surveys were carried out between September and December 2002 in Japan, in February 2002 in Denmark, between November 2002 and March 2004 in Iceland, between January and April 2004 in New Zealand, and between November 2002 and February 2003 in Nigeria. The number of responses and response rates collected in each country's sample are shown based on professional groups, i.e., doctors, nurses and pharmacists, in Table 1.1.

Table 1.1: Collected responses and response rates in each nation's sample

	Doctors		Nurses		Pharmacists		N/A	Total	
Japan	391	38%	5171	90%	199	93%	208	5969	84%
Denmark	703	46%	1305	53%				2008	50%
Iceland	29	29%	54	100%				83	55%
New Zealand	57	42%	142	71%	21	100%		220	63%
Nigeria	164	96%	59	95%	26	100%	3	252	98%
Total	1344	46%	6731	79%	246	97%	211	8532	73%

1.2 Questionnaire

As mentioned in "Survey Outline" previously, the first part of the questionnaire which was used in Japan, Iceland, New Zealand and Nigeria has been adapted from the one for Helmreich's "Operating Team Resource Management Survey" (Helmreich & Merritt, 1998). We have transformed terms and statements from the original "Operating Team Resource Management Questionnaire" to fit the working situation of doctors, nurses and pharmacists working not only in the operating room but also in other types of departments and wards, keeping the same meaning and intention for each question item. In the other two parts of the questionnaire, we have used the same question items and the adverse event cases as the ones in the Danish survey of doctors' and nurses' attitudes (Andersen et al., 2002).

The English version of the questionnaire – which is exactly the same as one used in Iceland, New Zealand and Nigeria – appears in the succeeding pages (until Page 15).

Hospital Safety Culture Questionnaire

Safety culture in hospitals and the views and attitudes of medical staff towards the reporting of adverse events and errors

Preface
The purpose of this survey is to assess "*safety culture*" in hospitals as well as doctors' and nurses' views of and attitudes to the reporting of adverse events and errors under current conditions.

Safety culture is defined as the product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that determine the commitment to and the style and proficiency of an organisation's health and safety management. In other words, safety culture is coupled not only to management's commitment to safety, its communication style and the overt rules for reporting errors but also to employees' motivation, morale, perception of errors and attitudes towards management and factors that impact on safety, e.g., fatigue, risk taking and violations of procedures A health care *reporting system* may be defined as a system designed to improve patient safety by gathering, analysing and disseminating lessons learned from adverse events, including human and organisational errors. A reporting system is targeted at preventable adverse events, and does not serve to allocate responsibility and blame.

The success of this survey depends on *your contribution*, and it is therefore important that you answer the questions as accurately as you can. There are no right or wrong answers, and often the first answer that comes to mind is best. Responses to this questionnaire are entirely anonymous and data are thus confidential and will be analysed and presented at the level of groups only. Moreover, it will not be possible to identify individual departments or units. So, feel free to express your opinion. *Your participation in the study is valued and appreciated!*

After completing the questionnaire, please, put it into the envelope, seal it and return it to the department from which you received the questionnaire *no later than two weeks* after you have received the questionnaire. Tests have shown that it takes around 30 minutes to fill out the questionnaire. Please do not copy the questionnaire or discuss any of the questionnaire items with your colleagues before you have completed and returned your response.

If you have any questions, please call or write to:

Kenji Itoh, Ph.D.
Professor, Department of Industrial Engineering and Management,
Tokyo Institute of Technology
2-12-1 Oh-okayama Meguro-ku Tokyo 152-8552 Japan
Phone: +81-3-5734-2362
Fax: +81-3-5734-2947
E-mail: ken@ie.me.titech.ac.jp

Yours sincerely

The hospital safety culture project group: **Kenji Itoh**, Ph.D., Professor, Department of Industrial Engineering and Management, Tokyo Institute of Technology, Japan; **Toshiko Abe**, RN, Ph.D., Associate Professor, Health Allied Graduate School, Tokyo Medical and Dental University, Japan; and **Henning Boje Andersen**, Senior Scientist, Safety, Reliability and Human Factors Programme, Risø National Laboratory, Denmark.

Glossary:
A health care reporting system is a system designed to receive, for the purpose of learning from past mistakes, accounts by health care staff of both "adverse events" and "human and organisational errors" that have or might have caused patient injury.

An "adverse event" is an event that actually or potentially involves or leads to a patient injury and that is caused by actions of the health care system or staff and not the underlying disease of the patient. Adverse events include complications as well as error.

Within work contexts *human* or *organisational* error refers to actions or omissions that lead to undesired and unintended outcomes. Human errors are traditionally divided into actions that are not carried out as the actor intends and actions whose intentions do not meet the actors' goals.

Part 1: Hospital Management Attitudes

Please answer each item below (insert one tick for each item).

		Disagree strongly	Disagree slightly	Neutral	Agree slightly	Agree strongly
1.	The senior person, if available, should take over and make all decisions in life-threatening emergencies.	☐	☐	☐	☐	☐
2.	The department provides adequate, timely information about events in the hospital that might affect my work.	☐	☐	☐	☐	☐
3.	Senior staff should encourage questions from junior medical and nursing staff during medical and nursing activities if appropriate.	☐	☐	☐	☐	☐
4.	Even when fatigued, I perform effectively during critical phases of activities.	☐	☐	☐	☐	☐
5.	We should be aware of and sensitive to the personal problems of other team members.	☐	☐	☐	☐	☐
6.	Senior staff deserves extra benefits and privileges.	☐	☐	☐	☐	☐
7.	I do my best work when people leave me alone.	☐	☐	☐	☐	☐
8.	I let other team members know when my workload is becoming (or about to become) excessive.	☐	☐	☐	☐	☐
9.	It bothers me when others do not respect my professional capabilities.	☐	☐	☐	☐	☐
10.	Doctors who encourage suggestions from team members are weak leaders.	☐	☐	☐	☐	☐
11.	My decision-making ability is as good in emergencies as in routine situations.	☐	☐	☐	☐	☐
12.	A regular debriefing of procedures and decisions after a critical medical/nursing activity or shift is an important part of developing and maintaining effective health care team coordination.	☐	☐	☐	☐	☐
13.	Team members in charge should verbalise plans for procedures or actions and should be sure that the information is understood and acknowledged by the others. .	☐	☐	☐	☐	☐
14.	Junior team members should not question the decisions made by senior staff.	☐	☐	☐	☐	☐
15.	I try to be a person that others will enjoy working with.	☐	☐	☐	☐	☐
16.	I am encouraged by my leaders and co-workers to report any incidents I may observe.	☐	☐	☐	☐	☐
17.	The only people qualified to give me feedback are others of my own profession.	☐	☐	☐	☐	☐
18.	It is better to agree with other team members than to voice a different opinion.	☐	☐	☐	☐	☐

	Disagree strongly	Disagree slightly	Neutral	Agree slightly	Agree strongly
19. The pre-session team briefing is important for patient safety and for effective team management.	☐	☐	☐	☐	☐
20. It is important that my competence be acknowledged by others.	☐	☐	☐	☐	☐
21. I am more likely to make errors or mistakes in tense or hostile situations.....	☐	☐	☐	☐	☐
22. The doctor's responsibilities include coordination between his or her work team and other support areas.	☐	☐	☐	☐	☐
23. I value compliments about my work.	☐	☐	☐	☐	☐
24. Working for this hospital is like being part of a large family.....	☐	☐	☐	☐	☐
25. Team members share responsibility for prioritising activities in high workload situations.	☐	☐	☐	☐	☐
26. As long as the work gets done, I don't care what others think of me.	☐	☐	☐	☐	☐
27. Successful hospital management is primarily a function of the doctor's medical and technical proficiency.	☐	☐	☐	☐	☐
28. A good reputation of medical, nursing or professional activities in the hospital is important to me.	☐	☐	☐	☐	☐
29. Errors are a sign of incompetence.	☐	☐	☐	☐	☐
30. Department leadership listens to staff and cares about our concerns.....	☐	☐	☐	☐	☐
31. I enjoy working as part of a team.	☐	☐	☐	☐	☐
32. If I perceive a problem with the management of a patient, I will speak up, regardless of who might be affected.	☐	☐	☐	☐	☐
33. I am ashamed when I make a mistake in front of other team members.	☐	☐	☐	☐	☐
34. In critical situations, I rely on my superiors to tell me what to do.	☐	☐	☐	☐	☐
35. I value the goodwill of my fellow workers – I care that others see me as friendly and cooperative.	☐	☐	☐	☐	☐
36. I sometimes feel uncomfortable telling members from other disciplines that they need to take some action.	☐	☐	☐	☐	☐
37. Team members should not question the decisions or actions of senior staff except when they threaten the safety of the medical or nursing activity.....	☐	☐	☐	☐	☐
38. I am less effective when stressed or fatigued.	☐	☐	☐	☐	☐

	Disagree strongly	Disagree slightly	Neutral	Agree slightly	Agree strongly
39. It is an insult to be forced to wait unnecessarily for other members of the team.	☐	☐	☐	☐	☐
40. Mistakes are handled appropriately in the hospital where I work.	☐	☐	☐	☐	☐
41. Leadership of the team should rest with the medical or nursing staff.	☐	☐	☐	☐	☐
42. My performance is not adversely affected by working with an inexperienced or less capable team member.	☐	☐	☐	☐	☐
43. To resolve conflicts, team members should openly discuss their differences with each other.	☐	☐	☐	☐	☐
44. Team members should monitor each other for signs of stress or fatigue.	☐	☐	☐	☐	☐
45. I become irritated when I have to work with inexperienced staff.	☐	☐	☐	☐	☐
46. I am proud to work for this hospital.	☐	☐	☐	☐	☐
47. All members of the team are qualified to give me feedback.	☐	☐	☐	☐	☐
48. A truly professional team member can leave personal problems behind when performing a medical or nursing activity.	☐	☐	☐	☐	☐
49. There are no circumstances where a junior team member should assume control of patient management.	☐	☐	☐	☐	☐
50. Team members should feel obligated to mention their own psychological stress or physical problems to other personnel before or during a shift or assignment.	☐	☐	☐	☐	☐
51. I get the respect that a person of my profession deserves.	☐	☐	☐	☐	☐
52. Human error is inevitable.	☐	☐	☐	☐	☐
53. The concept of all personnel working as a team does not work in our hospital.	☐	☐	☐	☐	☐
54. Personal problems can adversely affect my performance.	☐	☐	☐	☐	☐
55. Effective team coordination requires members to take into account the personalities of other team members.	☐	☐	☐	☐	☐
56. I like my job.	☐	☐	☐	☐	☐
57. I always ask questions when I feel there is something I don't understand.	☐	☐	☐	☐	☐

Part 2: Attitude to reporting adverse events

Please read the following fictitious cases and please imagine that you were the doctor or nurse treating the patient, and what you think you should be done. A doctor respondent will answer Cases A, B1 and C. For a nurse respondent, please answer Cases A, B2 and C. A pharmacist need not respond this part of questionnaire.

Case A (doctors & nurses): A patient in the internal medical ward has an I.V. in his left arm providing an infusion of isotonic glucose. When you are about to give antibiotics you realise that the I.V. has become blocked. You now want to rinse the I.V. as the infusion is not running and you want to flush the I.V. using saline which you draw from a capped vial into a 20-ml. syringe, placing it on the tip of the venflon. You are just about to rinse it when you look once more at the label on the vial and realise that it contains potassium chloride and not saline.

You are aware that this dose of potassium chloride would probably have killed the patient.

1. Each of the following statements describes a possible action. Please indicate for each item whether you will carry out the action (Insert one tick for each item).

	Yes, definitely	**Yes, probably**	**Neutral**	**Probably not**	**Definitely not**
a. Keep it to myself that I took the wrong capped vial.	☐	☐	☐	☐	☐
b. Talk in confidence with a colleague about the incident.	☐	☐	☐	☐	☐
c. Talk to several colleagues about the incident.	☐	☐	☐	☐	☐
d. Inform my superior about the incident.	☐	☐	☐	☐	☐
e. Bring up the incident at the doctors' conference. . ..	☐	☐	☐	☐	☐
f. Inform the patient about the incident.	☐	☐	☐	☐	☐
g. Report the event to the local reporting system [do not mark this item unless you do have such a system].	☐	☐	☐	☐	☐
h. Others (please indicate): _____					

Case B1 (doctors): A 53-year old male (married, 2 adult daughters, self-employed truck driver) is hospitalised for elective surgery (cholecystectomy). Before his operation the patient will receive a prophylactic anti-coagulant injection as a matter of routine. There are an excess number of patients in the ward, so it is a busy on call. When you are dictating the case notes, you are interrupted several times due to emergency situations. You forget to dictate the anti-coagulant for the 53-year old patient.

The patient develops a deep thrombosis in his left leg. He therefore has to remain hospitalised an additional week and will be on sick leave from work longer than planned. It is very unlikely that he will have permanent impairment from the thrombosis.

Case B2 (nurses): A 53-year old male (married, 2 adult daughters, self-employed truck driver) is hospitalised for elective surgery (cholecystectomy). Before his operation the patient will receive a prophylactic anti-coagulant injection as a matter of routine. There are an excess number of patients in the ward, so it is a busy on call. When you are on your drug round, you are interrupted several times due to emergency situations. You forget to include the anti-coagulant for the 53-year old patient.

The patient develops a deep thrombosis in his left leg. He therefore has to remain hospitalised an additional week and will be on sick leave from work longer than planned. It is very unlikely that he will have permanent impairment from the thrombosis.

1. Each of the following statements describes a possible action. Please indicate for each item whether you will carry out the action (Insert one tick for each item).

	Yes, definitely	Yes, probably	Neutral	Probably not	Definitely not
a. Keep it to myself that the patient has not received anti-coagulant.	☐	☐	☐	☐	☐
b. Talk in confidence with a colleague about the incident.	☐	☐	☐	☐	☐
c. Talk to several colleagues about the incident.	☐	☐	☐	☐	☐
d. Write in patient's case record that the patient has not received injection.	☐	☐	☐	☐	☐
e. Inform my leader or doctor in charge of this patient for the sake of the treatment of the patient.	☐	☐	☐	☐	☐
f. Report the event to the local reporting system [do not mark this item *unless* you do have such a system].	☐	☐	☐	☐	☐

g. Others (please indicate): _____

2. Each of the following items describes a possible action with respect to the patient. Please mark for each item whether you will ensure that the action be carried out by yourself and/or by your leader or the doctor in charge of the patient.

	Yes, definitely	Yes, probably	Neutral	Probably not	Definitely not
a. Inform the patient that he has developed a thrombosis and explain the consequences.	☐	☐	☐	☐	☐
b. Explain to the patient that by mistake he has not received an anticoagulant injection which probably would have prevented the thrombosis.	☐	☐	☐	☐	☐
c. Explain to the patient that I am responsible for this mistake	☐	☐	☐	☐	☐
d. Express my regrets to the patient.	☐	☐	☐	☐	☐
e. Inform the patient that he may initiate complaint procedures.	☐	☐	☐	☐	☐

f. Others (please indicate): _____

Case C (doctors & nurses): A 42-year old woman (married, one child, school teacher) 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 you have to prepare it yourself. While you are preparing the infusion, you are distracted. By mistake you prepare an infusion with a concentration 10 times greater than the prescribed level.

You do not discover the error until you administer the same drug to another patient later that day. By this time the 42-year old patient has already received all of the high concentration infusion. You are aware that in the long term the drug may impair cardiac functioning. You realise 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.

1. Each of the following statements describes a possible action. Please indicate for each item whether you will carry out the action (Insert one tick for each item).

	Yes, definitely	Yes, probably	Neutral	Probably not	Definitely not
a. Keep it to myself that the patient has received 10 times the prescribed level.	☐	☐	☐	☐	☐
b. Talk in confidence with a colleague about the incident.	☐	☐	☐	☐	☐
c. Talk to several colleagues about the incident.	☐	☐	☐	☐	☐
d. Write in patient's case record that the patient has received 10 times the prescribed level.	☐	☐	☐	☐	☐
e. Inform my leader or the doctor in charge of the patient in order that the patient may receive treatment	☐	☐	☐	☐	☐
f. Report the event to the local reporting system [do not mark this item *unless* you do have such a system].	☐	☐	☐	☐	☐
g. Others (please indicate): _____					

2. Each of the following items describes a possible action with respect to the patient. Please mark for each item whether you will ensure that the action be carried out by yourself and/or by your leader or the doctor in charge of the patient.

	Yes, definitely	Yes, probably	Neutral	Probably not	Definitely not
a. Inform the patient about the medication error and explain the risk of heart problems in the future.	☐	☐	☐	☐	☐
b. Explain to the patient that it was I who made the mistake.	☐	☐	☐	☐	☐
c. Express my regrets about the event to the patient.	☐	☐	☐	☐	☐
d. Inform the patient that she may initiate complaint procedures.	☐	☐	☐	☐	☐
e. Inform the patient about the possibility of applying for compensation from the hospital's insurance scheme.	☐	☐	☐	☐	☐
f. Others (please indicate): _____					

Part3: Reasons for not bringing up the events/errors

	Disagree strongly	Disagree slightly	Neutral	Agree slightly	Agree strongly
1. There have been situations where I have been reluctant to bring up adverse events/errors? (Insert one tick)	☐	☐	☐	☐	☐

2. Suppose that you were involved in an adverse event/error. Which of the following statements would provide a reason for you to hold back on bringing up adverse events/errors? (Insert one tick for each item below)

	Disagree strongly	**Disagree slightly**	**Neutral**	**Agree slightly**	**Agree strongly**
a. We have no tradition in my department for bringing up adverse events/errors.	☐	☐	☐	☐	☐
b. When I am busy I forget to bring up adverse events/errors.	☐	☐	☐	☐	☐
c. The patient may file a complaint.	☐	☐	☐	☐	☐
d. I don't know who is responsible for bringing up adverse events/errors.	☐	☐	☐	☐	☐
e. I might get a reprimand.	☐	☐	☐	☐	☐
f. It might have consequences for my future employ-ment or career.	☐	☐	☐	☐	☐
g. It wouldn't help the patients that I bring up my own events/errors.	☐	☐	☐	☐	☐
h. It might get out and the press might start writing about it.	☐	☐	☐	☐	☐
i. The adverse event/error may become reported to the medical licensing board.	☐	☐	☐	☐	☐
j. It is too cumbersome to bring up adverse events/errors.	☐	☐	☐	☐	☐
k. One does not feel confident about bringing up adverse events/errors in our department.	☐	☐	☐	☐	☐
l. I do not wish to appear as an incompetent doctor [nurse].	☐	☐	☐	☐	☐
m. Bringing up adverse events/errors will not lead to any improvement in our ward.	☐	☐	☐	☐	☐
n. Others (please indicate): _____					

Background information

Gender: ☐ Male ☐ Female

Age group: ☐ <25 ☐ 25-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ >59

Working ☐ Regularly ☐ Part time

Occupation: ☐ Doctor (go to A) ☐ Nurse (got to B) ☐ Pharmacist (go to C)

A (for doctors):

Profession: ☐ Physician ☐ Surgeon ☐ Orthopaedist ☐ Urologist ☐ Paediatrician
☐ Obstetrics & genecology ☐ ☐ Oculist ☐ Emergency doctor
☐ Nose, ear and throat doctor ☐ Others (Please indicate:_____)

Position: ☐ Resident ☐ Consultant (after Resident) ☐ Head /leader in Department
☐ Others (Please indicate:_____)

Duration of employment in your current department:

☐ 2 months ☐ 2-12 ☐ 1-3 years ☐ 4-9 years ☐ >10 years

B (for nurses):

Profession: ☐ Associate ☐ Nurse ☐ Midwife ☐ Health nurse

Position: ☐ Staff ☐ Semi-chief ☐ Chief ☐ Associate ☐ Matron

☐ Head/leader of Nursing ☐ Others (Please indicate:_____)

Place of ☐ In-patients ☐ Out-patients ward/unit: ☐ Operating ☐ ICU

☐ Others (please indicate:_____)

Duration of employment in your current department:

☐ 2 months ☐ 2-12 months ☐ 1-3 years ☐ 4-9 years ☐ >10 years

C (for pharmacists):

Position: ☐ Staff ☐ Semi-chief or Chief ☐ Section

☐ Department Leader ☐ Others (Please indicate;_____)

Duration of employment in your current department:

☐ 2 months ☐ 2-12 months ☐ 1-3 years ☐ 4-9 years ☐ >10 years

Thank you for completing the questionnaire—your participation is appreciated.

2. Hospital Management Attitudes

2.1 Item-based responses

(1) Doctors vs. nurses in each country

Percentage agreement and disagreement for each question item relating to the hospital safety culture are shown in Table 2.1 based on professional groups in four countries except Denmark. The percentage [dis]agreement is defined as the following rate: the nominator represents 5 and 4 responses, i.e., "strongly agree" and "slightly agree" [the 1 and 2 responses, i.e., "strongly disagree" and "slightly disagree"]; and the denominator represents the total number of responses for the item, excluded responses with missing values. This table also includes information on significance levels – obtained by Mann-Whitney test – of differences between the professional groups, i.e., doctors and nurses.

Table 2.1: Staff responses to each "safety culture" item and significance level between doctors and nurses

Items		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagree	N	Agree	Disagree	
1. The senior person, if available, should take over and make all decisions in life-threatening emergencies.	JP	389	83%	8%	5139	65%	17%	0.000
	IS	29	86%	7%	53	57%	38%	0.000
	NZ	56	82%	11%	139	58%	34%	0.003
	NG	164	78%	18%	58	60%	38%	0.003
2. The department provides adequate, timely information about events in the hospital that might affect my work.	JP	388	55%	9%	5145	62%	20%	0.002
	IS	29	52%	24%	54	50%	28%	0.652
	NZ	57	51%	26%	139	66%	25%	0.047
	NG	161	60%	30%	58	57%	40%	0.653
3. Senior staff should encourage questions from junior medical and nursing staff during medical and nursing activities if appropriate.	JP	388	76%	9%	5138	69%	12%	0.000
	IS	29	89%	0%	52	94%	0%	0.754
	NZ	57	98%	2%	140	98%	1%	0.007
	NG	162	97%	1%	59	95%	5%	0.104
4. Even when fatigued, I perform effectively during critical phases of activities.	JP	389	66%	16%	5146	58%	18%	0.001
	IS	29	59%	21%	53	62%	28%	0.275
	NZ	56	41%	36%	140	58%	31%	0.082
	NG	163	49%	42%	59	54%	42%	0.419
5. We should be aware of and sensitive to the personal problems of other team members.	JP	329	84%	4%	5153	85%	4%	0.699
	IS	29	83%	3%	54	82%	6%	0.542
	NZ	56	88%	4%	141	77%	12%	0.056
	NG	163	92%	1%	59	93%	5%	0.009
6. Senior staff deserves extra benefits and privileges.	JP	390	82%	6%	5141	46%	24%	0.000
	IS	29	76%	7%	54	44%	24%	0.009
	NZ	5	56%	18%	141	43%	36%	0.022
	NG	160	80%	4%	59	68%	19%	0.159
7. I do my best work when people leave me alone.	JP	389	95%	1%	5088	87%	3%	0.000
	IS	29	45%	31%	54	41%	37%	0.656
	NZ	56	54%	23%	140	41%	40%	0.074
	NG	162	69%	14%	57	75%	21%	0.049

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

Items		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagree	N	Agree	Disagree	
8. I let other team members know when my workload is becoming (or about to become) excessive.	JP	391	72%	13%	5148	76%	9%	0.418
	IS	29	52%	31%	54	85%	13%	0.008
	NZ	56	59%	25%	141	81%	11%	0.000
	NG	163	78%	9%	59	83%	14%	0.034
9. It bothers me when others do not respect my professional capabilities.	JP	390	47%	26%	5068	38%	31%	0.000
	IS	29	76%	7%	53	89%	6%	0.002
	NZ	57	81%	5%	141	82%	4%	0.074
	NG	159	77%	6%	58	88%	7%	0.000
10. Doctors who encourage suggestions from team members are weak leaders.	JP	388	4%	87%	5013	7%	74%	0.000
	IS	29	0%	97%	54	2%	96%	0.881
	NZ	57	2%	97%	141	1%	98%	0.589
	NG	162	15%	82%	59	0%	100%	0.001
11. My decision-making ability is as good in emergencies as in routine situations.	JP	388	41%	25%	5113	19%	45%	0.000
	IS	29	69%	14%	53	81%	11%	0.077
	NZ	57	39%	39%	141	67%	21%	0.000
	NG	163	71%	20%	59	75%	22%	0.116
12. A regular debriefing of procedures and decisions after a critical medical/nursing activity or shift is an important part of developing and maintaining effective health care team coordination.	JP	388	88%	3%	5081	83%	3%	0.000
	IS	29	83%	7%	54	98%	0%	0.076
	NZ	56	86%	2%	141	95%	1%	0.002
	NG	164	85%	3%	58	83%	14%	0.555
13. Team members in charge should verbalise plans for procedures or actions and should be sure that the information is understood and acknowledged by the others.	JP	391	97%	0%	5136	94%	1%	0.001
	IS	29	93%	0%	53	100%	0%	0.058
	NZ	57	98%	0%	141	97%	1%	0.012
	NG	164	88%	7%	59	90%	10%	0.202
14. Junior team members should not question the decisions made by senior staff. .	JP	391	2%	92%	5146	2%	92%	0.158
	IS	29	0%	93%	54	0%	96%	0.048
	NZ	57	5%	90%	140	3%	94%	0.015
	NG	64	16%	77%	59	2%	97%	0.001
15. I try to be a person that others will enjoy working with.	JP	391	74%	6%	5148	76%	7%	0.267
	IS	29	93%	0%	54	89%	4%	0.128
	NZ	57	97%	0%	140	94%	2%	0.967
	NG	163	90%	4%	58	93%	2%	0.033
16. I am encouraged by my leaders and co-workers to report any incidents I may observe.	JP	386	60%	20%	5133	82%	6%	0.000
	IS	29	52%	10%	53	70%	9%	0.031
	NZ	57	63%	12%	141	82%	11%	0.000
	NG	161	73%	10%	59	81%	17%	0.007
17. The only people qualified to give me feedback are others of my own profession.	JP	390	21%	63%	5135	15%	67%	0.141
	IS	29	3%	90%	54	12%	81%	0.512
	NZ	57	4%	88%	140	12%	81%	0.508
	NG	161	17%	78%	59	5%	93%	0.004
18. It is better to agree with other team members than to voice a different opinion.	JP	389	6%	76%	5136	7%	72%	0.004
	IS	28	7%	82%	54	7%	87%	0.601
	NZ	57	5%	84%	140	7%	89%	0.064
	NG	164	20%	73%	59	27%	64%	0.097

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

Items		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagree	N	Agree	Disagree	
19. The pre-session team briefing is important for patient safety and for effective team management.	JP	387	93%	2%	5134	94%	2%	0.015
	IS	28	75%	4%	53	86%	2%	0.032
	NZ	54	63%	4%	139	86%	5%	0.000
	NG	164	89%	4%	58	85%	10%	0.435
20. It is important that my competence be acknowledged by others.	JP	391	85%	4%	5141	80%	6%	0.006
	IS	29	90%	0%	54	87%	4%	0.298
	NZ	57	65%	2%	140	71%	7%	0.774
	NG	164	76%	3%	59	83%	9%	0.004
21. I am more likely to make errors or mistakes in tense or hostile situations.	JP	389	26%	38%	5136	45%	21%	0.000
	IS	29	72%	10%	54	72%	15%	0.663
	NZ	57	72%	9%	141	72%	18%	0.773
	NG	164	85%	9%	58	78%	21%	0.910
22. The doctor's responsibilities include coordination between his or her work team and other support areas.	JP	391	90%	2%	5050	81%	5%	0.000
	IS	29	97%	0%	53	76%	8%	0.012
	NZ	57	93%	0%	140	82%	7%	0.427
	NG	162	91%	4%	59	78%	15%	0.045
23. I value compliments about my work.	JP	391	45%	21%	5112	39%	25%	0.006
	IS	29	100%	0%	53	98%	0%	0.502
	NZ	56	91%	2%	140	96%	0%	0.038
	NG	160	71%	3%	58	85%	9%	0.001
24. Working for this hospital is like being part of a large family.	JP	388	44%	33%	5060	38%	36%	0.023
	IS	29	52%	24%	53	60%	19%	0.361
	NZ	57	58%	18%	142	44%	34%	0.020
	NG	159	64%	23%	59	93%	5%	0.000
25. Team members share responsibility for prioritising activities in high workload situations.	JP	385	57%	17%	5014	72%	9%	0.000
	IS	29	76%	10%	53	91%	2%	0.048
	NZ	57	70%	16%	141	80%	16%	0.070
	NG	162	83%	10%	56	79%	16%	0.311
26. As long as the work gets done, I don't care what others think of me.	JP	391	12%	70%	5141	6%	79%	0.000
	IS	29	14%	76%	54	13%	72%	0.912
	NZ	57	14%	70%	139	15%	76%	0.081
	NG	162	43%	40%	59	59%	34%	0.028
27. Successful hospital management is primarily a function of the doctor's medical and technical proficiency.	JP	390	23%	50%	5133	19%	60%	0.000
	IS	29	45%	41%	53	15%	70%	0.002
	NZ	57	18%	67%	142	7%	79%	0.001
	NG	161	47%	44%	59	24%	76%	0.000
28. A good reputation of medical, nursing or professional activities in the hospital is important to me.	JP	389	61%	12%	5109	52%	17%	0.003
	IS	29	97%	0%	54	91%	6%	0.272
	NZ	56	93%	0%	141	94%	1%	0.313
	NG	161	95%	2%	59	97%	3%	0.008
29. Errors are a sign of incompetence.	JP	389	10%	70%	5095	7%	71%	0.795
	IS	29	17%	62%	54	17%	67%	0.721
	NZ	57	11%	72%	141	12%	77%	0.510
	NG	161	28%	64%	58	36%	57%	0.215

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

Items		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagree	N	Agree	Disagree	
30. Department leadership listens to staff and cares about our concerns.	JP	383	54%	17%	5125	58%	22%	0.424
	IS	29	79%	3%	53	72%	15%	0.821
	NZ	56	52%	23%	141	72%	18%	0.085
	NG	161	64%	22%	58	78%	16%	0.031
31. I enjoy working as part of a team.	JP	390	66%	10%	5151	55%	17%	0.000
	IS	29	100%	0%	54	94%	2%	0.334
	NZ	57	97%	2%	141	99%	0%	0.003
	NG	161	91%	1%	59	92%	5%	0.129
32. If I perceive a problem with the management of a patient, I will speak up, regardless of who might be affected.	JP	389	68%	11%	5104	53%	13%	0.000
	IS	29	76%	7%	52	81%	8%	0.371
	NZ	57	77%	12%	141	90%	5%	0.186
	NG	163	77%	10%	59	86%	9%	0.001
33. I am shamed when I make a mistake in front of other team members.	JP	390	61%	21%	5140	60%	20%	0.819
	IS	29	52%	31%	54	50%	32%	0.976
	NZ	57	58%	23%	141	61%	29%	0.607
	NG	163	49%	35%	56	50%	43%	0.969
34. In critical situations, I rely on my superiors to tell me what to do.	JP	384	30%	48%	5132	36%	37%	0.000
	IS	29	17%	66%	52	31%	58%	0.290
	NZ	57	39%	44%	141	31%	62%	0.022
	NG	160	63%	27%	58	47%	48%	0.007
35. I value the goodwill of my fellow workers-I care that others see me as friendly and cooperative.	JP	390	61%	15%	5151	58%	16%	0.406
	IS	29	93%	0%	54	91%	2%	0.510
	NZ	57	100%	0%	141	94%	0%	0.717
	NG	164	88%	2%	59	92%	5%	0.007
36. I sometimes feel uncomfortable telling members from other disciplines that they need to take some action.	JP	388	39%	37%	5051	40%	33%	0.345
	IS	29	48%	35%	52	50%	27%	0.742
	NZ	57	61%	21%	142	51%	40%	0.129
	NG	160	44%	39%	58	28%	52%	0.023
37. Team members should not question the decisions or actions of senior staff except when they threaten the safety of the medical or nursing activity.	JP	390	3%	86%	5142	3%	85%	0.659
	IS	29	21%	66%	53	25%	62%	0.586
	NZ	56	14%	82%	141	6%	87%	0.040
	NG	163	26%	64%	59	44%	54%	0.159
38. I am less effective when stressed or fatigued.	JP	390	82%	10%	5145	76%	10%	0.007
	IS	29	66%	7%	54	72%	17%	0.791
	NZ	57	88%	5%	141	81%	10%	0.358
	NG	163	82%	10%	57	77%	21%	0.544
39. It is an insult to be forced to wait unnecessarily for other members of the team.	JP	387	49%	25%	5009	31%	34%	0.000
	IS	29	69%	7%	54	57%	26%	0.684
	NZ	56	39%	30%	142	34%	40%	0.266
	NG	161	41%	40%	59	34%	59%	0.081
40. Mistakes are handled appropriately in the hospital where I work.	JP	383	54%	13%	5055	64%	11%	0.000
	IS	29	52%	17%	54	57%	22%	0.678
	NZ	57	51%	26%	142	67%	17%	0.022
	NG	162	36%	46%	59	44%	53%	0.871

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

Items		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagree	N	Agree	Disagree	
41. Leadership of the team should rest with the medical or nursing staff.	JP	379	21%	44%	4926	34%	27%	0.000
	IS	29	90%	7%	51	73%	2%	0.252
	NZ	56	68%	5%	140	61%	20%	0.427
	NG	160	61%	31%	59	64%	20%	0.165
42. My performance is not adversely affected by working with an inexperienced or less capable team member.	JP	386	22%	49%	5141	22%	40%	0.007
	IS	29	48%	35%	52	46%	29%	0.907
	NZ	57	33%	39%	141	57%	33%	0.067
	NG	164	44%	52%	58	55%	43%	0.086
43. To resolve conflicts, team members should openly discuss their differences with each other.	JP	387	92%	3%	5119	91%	2%	0.001
	IS	29	86%	3%	53	98%	2%	0.021
	NZ	57	84%	9%	142	80%	8%	0.934
	NG	163	88%	10%	59	86%	9%	0.126
44. Team members should monitor each other for sighs of stress or fatigue.	JP	389	94%	1%	5129	89%	2%	0.001
	IS	28	68%	4%	53	81%	4%	0.029
	NZ	57	86%	0%	142	82%	9%	0.374
	NG	160	83%	7%	58	85%	9%	0.331
45. I become irritated when I have to work with inexperienced staff.	JP	387	39%	36%	5060	31%	38%	0.014
	IS	29	48%	41%	52	33%	50%	0.331
	NZ	57	28%	42%	141	23%	60%	0.006
	NG	163	42%	41%	59	31%	58%	0.182
46. I am proud to word for this hospital.	JP	390	51%	15%	5134	48%	19%	0.054
	IS	29	69%	10%	53	74%	8%	0.758
	NZ	57	67%	4%	139	72%	9%	0.531
	NG	162	68%	12%	59	83%	10%	0.002
47. All members of the team are qualified to give me feedback.	JP	386	35%	21%	5075	21%	32%	0.000
	IS	29	62%	17%	53	77%	15%	0.286
	NZ	57	90%	5%	142	87%	9%	0.637
	NG	162	88%	6%	59	81%	12%	0.818
48. A truly professional tem member can leave personal problems behind when performing a medical or nursing activity.	JP	389	49%	29%	5088	50%	24%	0.225
	IS	29	72%	17%	53	83%	8%	0.215
	NZ	57	79%	18%	142	77%	16%	0.928
	NG	163	82%	12%	59	81%	12%	0.119
49. There are no circumstances where a junior team member should assume control of patient management.	JP	387	20%	56%	5063	16%	58%	0.288
	IS	29	17%	72%	52	19%	62%	0.665
	NZ	56	14%	79%	142	25%	58%	0.001
	NG	163	27%	64%	58	29%	64%	0.813
50. Team members should feel obligated to mention their own psychological stress or physical problems to other personnel before or during a shift or assignment.	JP	390	27%	43%	5108	29%	41%	0.415
	IS	29	24%	52%	52	42%	39%	0.419
	NZ	57	12%	54%	140	25%	56%	0.807
	NG	162	63%	15%	59	73%	14%	0.068
51. I get the respect that a person of my profession deserves.	JP	385	39%	22%	5088	21%	39%	0.000
	IS	29	79%	3%	53	77%	11%	0.259
	NZ	57	56%	19%	141	50%	29%	0.167
	NG	160	63%	19%	59	54%	42%	0.015

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

Items		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagree	N	Agree	Disagree	
52. Human error is inevitable.	JP	389	88%	5%	5017	67%	8%	0.000
	IS	29	90%	3%	53	77%	9%	0.083
	NZ	57	91%	4%	142	78%	11%	0.002
	NG	161	84%	9%	59	75%	19%	0.547
53. The concept of all personnel working a team does not work in our hospital.	JP	385	22%	54%	5099	17%	58%	0.005
	IS	29	28%	45%	53	23%	59%	0.620
	NZ	57	21%	67%	141	30%	58%	0.282
	NG	158	39%	44%	59	61%	31%	0.001
54. Personal problems can adversely affect my performance.	JP	388	51%	25%	5097	44%	28%	0.011
	IS	29	72%	14%	52	54%	31%	0.110
	NZ	57	68%	18%	142	57%	28%	0.131
	NG	158	74%	17%	58	66%	29%	0.761
55. Effective team coordination requires members to take into account the personalities of other team members.	JP	390	92%	2%	5118	87%	3%	0.015
	IS	29	69%	14%	52	73%	6%	0.343
	NZ	57	83%	7%	142	84%	8%	0.491
	NG	162	86%	4%	59	85%	9%	0.057
56. I like may job.	JP	390	85%	3%	5143	64%	12%	0.000
	IS	29	97%	3%	53	94%	4%	0.129
	NZ	57	91%	5%	141	94%	2%	0.014
	NG	161	87%	6%	59	95%	2%	0.000
57. I always ask questions when I feel there is something I don't understand.	JP	388	58%	14%	5146	72%	8%	0.000
	IS	29	72%	10%	53	94%	6%	0.000
	NZ	57	84%	9%	142	96%	2%	0.000
	NG	164	91%	2%	59	97%	2%	0.000

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(2) Multi-national comparisons

Table 2.2 indicates multi-national comparisons in terms of significant levels between any two of the four countries. These results were obtained by applying the Mann-Whitney test to each question item, separately using doctor's and nurse's samples.

Table 2.2: Mann-Whitney significance of staff responses to each "safety culture" item between any two countries

		Doctors			Nurses		
		IS	NZ	NG	IS	NZ	NG
1. The senior person, if available, should take over and make all decisions in life-threatening emergencies.	JP	0.016	0.644	0.233	0.147	0.310	0.964
	IS	–	0.022	0.110	–	0.450	0.646
	NZ	–	–	0.258	–	–	0.917
2. The department provides adequate, timely information about events in the hospital that might affect my work.	JP	0.843	0.988	0.027	0.098	0.019	0.904
	IS	–	0.879	0.475	–	0.020	0.508
	NZ	–	–	0.242	–	–	0.273
3. Senior staff should encourage questions from junior medical and nursing staff during medical and nursing activities if appropriate.	JP	0.002	0.000	0.000	0.000	0.000	0.000
	IS	–	0.000	0.047	–	0.006	0.004
	NZ	–	–	0.002	–	–	0.321
4. Even when fatigued, I perform effectively during critical phases of activities.	JP	0.155	0.000	0.000	0.272	0.591	0.332
	IS	–	0.164	0.217	–	0.253	0.183
	NZ	–	–	0.849	–	–	0.545
5. We should be aware of and sensitive to the personal problems of other team members.	JP	0.850	0.262	0.000	0.344	0.034	0.000
	IS	–	0.595	0.008	–	0.712	0.000
	NZ	–	–	0.080	–	–	0.000
6. Senior staff deserves extra benefits and privileges.	JP	0.100	0.000	0.070	0.930	0.023	0.000
	IS	–	0.182	0.020	–	0.250	0.005
	NZ	–	–	0.000	–	–	0.000
7. I do my best work when people leave me alone.	JP	0.000	0.000	0.000	0.000	0.000	0.730
	IS	–	0.370	0.003	–	0.977	0.000
	NZ	–	–	0.013	–	–	0.000
8. I let other team members know when my workload is becoming (or about to become) excessive.	JP	0.015	0.007	0.003	0.356	0.013	0.000
	IS	–	0.705	0.001	–	0.527	0.006
	NZ	–	–	0.000	–	–	0.012
9. It bothers me when others do not respect my professional capabilities.	JP	0.004	0.000	0.000	0.000	0.000	0.000
	IS	–	0.348	0.034	–	0.168	0.009
	NZ	–	–	0.111	–	–	0.000
10. Doctors who encourage suggestions from team members are weak leaders.	JP	0.002	0.000	0.000	0.000	0.000	0.000
	IS	–	0.441	0.284	–	0.050	0.024
	NZ	–	–	0.029	–	–	0.388
11. My decision-making ability is as good in emergencies as in routine situations.	JP	0.004	0.240	0.000	0.000	0.000	0.000
	IS	–	0.004	0.491	–	0.120	0.791
	NZ	–	–	0.000	–	–	0.142
12. A regular debriefing of procedures and decisions after a critical medical/nursing activity or shift is an important part of developing and maintaining effective health care team coordination.	JP	0.438	0.028	0.000	0.000	0.000	0.000
	IS	–	0.464	0.187	–	0.080	0.912
	NZ	–	–	0.551	–	–	0.144

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

		Doctors			Nurses		
		IS	NZ	NG	IS	NZ	NG
13. Team members in charge should verbalise plans for procedures or actions and should be sure that the information is understood and acknowledged by the others.	JP	0.925	0.904	0.535	0.000	0.000	0.002
	IS	–	0.878	0.741	–	0.916	0.643
	NZ	–	–	0.777	–	–	0.617
14. Junior team members should not question the decisions made by senior staff. .	JP	0.038	0.217	0.008	0.775	0.132	0.057
	IS	–	0.378	0.695	–	0.261	0.099
	NZ	–	–	0.580	–	–	0.410
15. I try to be a person that others will enjoy working with.	JP	0.077	0.000	0.000	0.000	0.000	0.000
	IS	–	0.002	0.000	–	0.048	0.001
	NZ	–	–	0.943	–	–	0.028
16. The only people qualified to give me feedback are others of my own profession.	JP	0.539	0.733	0.001	0.120	0.035	0.145
	IS	–	0.422	0.016	–	0.026	0.069
	NZ	–	–	0.050	–	–	0.935
17. It is better to agree with other team members than to voice a different opinion.	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.576	0.701	–	0.427	0.002
	NZ	–	–	0.822	–	–	0.011
18. The pre-session team briefing is important for patient safety and for effective team management.	JP	0.065	0.002	0.090	0.000	0.000	0.835
	IS	–	0.706	0.436	–	0.096	0.006
	NZ	–	–	0.139	–	–	0.000
19. The pre-session team briefing is important for patient safety and for effective team management.	JP	0.001	0.000	0.002	0.051	0.494	0.038
	IS	–	0.765	0.000	–	0.265	0.010
	NZ	–	–	0.000	–	–	0.059
20. It is important that my competence be acknowledged by others.	JP	0.380	0.011	0.644	0.139	0.071	0.000
	IS	–	0.243	0.360	–	0.033	0.006
	NZ	–	–	0.024	–	–	0.000
21. I am more likely to make errors or mistakes in tense or hostile situations.	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.711	0.012	–	0.695	0.095
	NZ	–	–	0.012	–	–	0.016
22. The doctor's responsibilities include coordination between his or her work team and other support areas.	JP	0.600	0.770	0.000	0.395	0.026	0.002
	IS	–	0.505	0.029	–	0.072	0.013
	NZ	–	–	0.000	–	–	0.149
23. I value compliments about my work.	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.774	0.013	–	0.409	0.758
	NZ	–	–	0.009	–	–	0.693
24. Working for this hospital is like being part of a large family.	JP	0.350	0.067	0.000	0.000	0.988	0.000
	IS	–	0.768	0.145	–	0.003	0.000
	NZ	–	–	0.057	–	–	0.000
25. Team members share responsibility for prioritising activities in high workload situations.	JP	0.007	0.011	0.000	0.000	0.000	0.000
	IS	–	0.605	0.229	–	0.172	0.995
	NZ	–	–	0.027	–	–	0.260

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

		Doctors			Nurses		
		IS	NZ	NG	IS	NZ	NG
26. As long as the work gets done, I don't care what others think of me.	JP	0.234	0.853	0.000	0.989	0.344	0.000
	IS	–	0.403	0.001	–	0.675	0.000
	NZ	–	–	0.000	–	–	0.000
27. Successful hospital management is primarily a function of the doctor's medical and technical proficiency.	JP	0.149	0.004	0.010	0.001	0.000	0.000
	IS	–	0.013	0.959	–	0.097	0.319
	NZ	–	–	0.001	–	–	0.840
28. A good reputation of medical, nursing or professional activities in the hospital is important to me.	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.674	0.008	–	0.969	0.001
	NZ	–	–	0.011	–	–	0.000
29. Errors are a sign of incompetence.	JP	0.258	0.278	0.214	0.387	0.000	0.028
	IS	–	0.131	0.776	–	0.016	0.328
	NZ	–	–	0.114	–	–	0.002
30. Department leadership listens to staff and cares about our concerns.	JP	0.000	0.368	0.003	0.001	0.000	0.000
	IS	–	0.059	0.140	–	0.906	0.512
	NZ	–	–	0.502	–	–	0.360
31. I enjoy working as part of a team.	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.443	0.275	–	0.010	0.182
	NZ	–	–	0.752	–	–	0.461
32. If I perceive a problem with the management of a patient, I will speak up, regardless of who might be affected.	JP	0.357	0.006	0.000	0.000	0.000	0.000
	IS	–	0.276	0.256	–	0.065	0.001
	NZ	–	–	0.909	–	–	0.016
33. I am shamed when I make a mistake in front of other team members.	JP	0.319	0.874	0.010	0.110	0.539	0.136
	IS	–	0.511	0.737	–	0.182	0.717
	NZ	–	–	0.201	–	–	0.190
34. In critical situations, I rely on my superiors to tell me what to do.	JP	0.030	0.313	0.000	0.006	0.000	0.585
	IS	–	0.031	0.000	–	0.491	0.372
	NZ	–		0.003	–	–	0.131
35. I value the goodwill of my fellow workers-I care that others see me as friendly and cooperative.	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.066	0.064	–	0.078	0.000
	NZ	–	–	0.983	–	–	0.011
36. I sometimes feel uncomfortable telling members from other disciplines that they need to take some action.	JP	0.410	0.013	0.783	0.103	0.903	0.000
	IS	–	0.564	0.394	–	0.209	0.002
	NZ	–	–	0.047	–	–	0.019
37. Team members should not question the decisions or actions of senior staff except when they threaten the safety of the medical or nursing activity.	JP	0.064	0.834	0.001	0.001	0.000	0.001
	IS	–	0.272	0.971	–	0.000	0.534
	NZ	–	–	0.170	–	–	0.000
38. I am less effective when stressed or fatigued.	JP	0.222	0.003	0.004	0.948	0.000	0.001
	IS	–	0.009	0.032	–	0.041	0.042
	NZ	–	–	0.450	–	–	0.452

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

(to be continued)

		Doctors			Nurses		
		IS	NZ	NG	IS	NZ	NG
39. It is an insult to be forced to wait unnecessarily for other members of the team.	JP	0.067	0.106	0.029	0.001	0.245	0.015
	IS	–	0.012	0.033	–	0.002	0.006
	NZ	–	–	0.987	–	–	0.266
40. Mistakes are handled appropriately in the hospital where I work.	JP	0.885	0.722	0.000	0.402	0.032	0.000
	IS	–	0.860	0.014	–	0.109	0.012
	NZ	–	–	0.010	–	–	0.000
41. Leadership of the team should rest with the medical or nursing staff.	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.047	0.038	–	0.061	0.707
	NZ	–	–	0.476	–	–	0.235
42. My performance is not adversely affected by working with an inexperienced or less capable team member.	JP	0.009	0.043	0.232	0.002	0.000	0.013
	IS	–	0.374	0.146		0.434	0.770
	NZ	–	–	0.437	–	–	0.810
43. To resolve conflicts, team members should openly discuss their differences with each other.	JP	0.621	0.120	0.009	0.000	0.304	0.000
	IS	–	0.594	0.107		0.000	0.585
	NZ	–	–	0.005	–	–	0.000
44. Team members should monitor each other for sighs of stress or fatigue.	JP	0.000	0.124	0.179	0.430	0.030	0.131
	IS	–	0.007	0.003	–	0.637	0.168
	NZ	–	–	0.688	–	–	0.031
45. I become irritated when I have to work with inexperienced staff.	JP	0.850	0.183	0.324	0.365	0.000	0.043
	IS	–	0.392	0.509	–	0.016	0.411
	NZ	–	–	0.594	–	–	0.165
46. I am proud to word for this hospital.	JP	0.028	0.003	0.000	0.000	0.000	0.000
	IS	–	0.972	0.847	–	0.910	0.007
	NZ	–	–	0.751	–	–	0.003
47. All members of the team are qualified to give me feedback.	JP	0.001	0.000	0.000	0.000	0.000	0.000
	IS	–	0.016	0.001	–	0.155	0.071
	NZ	–	–	0.409	–	–	0.339
48. A truly professional tem member can leave personal problems behind when performing a medical or nursing activity.	JP	0.001	0.000	0.000	0.000	0.000	0.000
	IS	–	0.681	0.196	–	0.291	0.212
	NZ	–	–	0.294	–	–	0.018
49. There are no circumstances where a junior team member should assume control of patient management.	JP	0.229	0.000	0.118	0.642	0.655	0.290
	IS	–	0.061	0.934	–	0.571	0.639
	NZ	–	–	0.015	–	–	0.318
50. Team members should feel obligated to mention their own psychological stress or physical problems to other personnel before or during a shift or assignment.	JP	0.515	0.007	0.000	0.466	0.000	0.000
	IS	–	0.330	0.000	–	0.023	0.000
	NZ	–	–	0.000	–	–	0.000
51. I get the respect that a person of my profession deserves.	JP	0.000	0.009	0.000	0.000	0.000	0.053
	IS	–	0.029	0.067	–	0.003	0.009
	NZ	–	–	0.534	–	–	0.451

JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

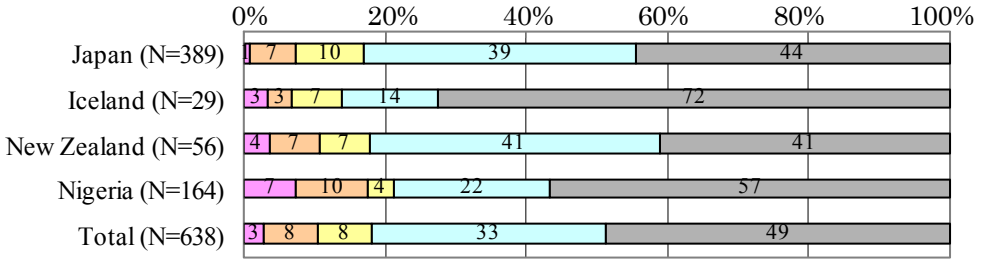
(to be continued)

		Doctors			Nurses		
		IS	NZ	NG	IS	NZ	NG
52. Human error is inevitable.	JP	0.988	0.381	0.807	0.052	0.001	0.001
	IS	–	0.578	0.897	–	0.929	0.249
	NZ	–	–	0.359	–	–	0.202
53. The concept of all personnel working a team does not work in our hospital.	JP	0.854	0.004	0.131	0.667	0.493	0.000
	IS	–	0.212	0.304	–	0.996	0.000
	NZ	–	–	0.005	–	–	0.000
54. Personal problems can adversely affect my performance.	JP	0.075	0.024	0.000	0.581	0.043	0.001
	IS	–	0.974	0.130	–	0.566	0.033
	NZ	–	–	0.075	–	–	0.032
55. Effective team coordination requires members to take into account the personalities of other team members.	JP	0.001	0.478	0.007	0.036	0.112	0.000
	IS	–	0.033	0.000	–	0.027	0.000
	NZ	–	–	0.044	–	–	0.003
56. I like my job.	JP	0.007	0.190	0.000	0.000	0.000	0.000
	IS	–	0.128	0.790	–	0.081	0.039
	NZ	–	–	0.016	–	–	0.000
57. I always ask questions when I feel there is something I don't understand.	JP	0.170	0.000	0.000	0.000	0.000	0.000
	IS	–	0.112	0.000	–	0.380	0.002
	NZ	–	–	0.000	–	–	0.006

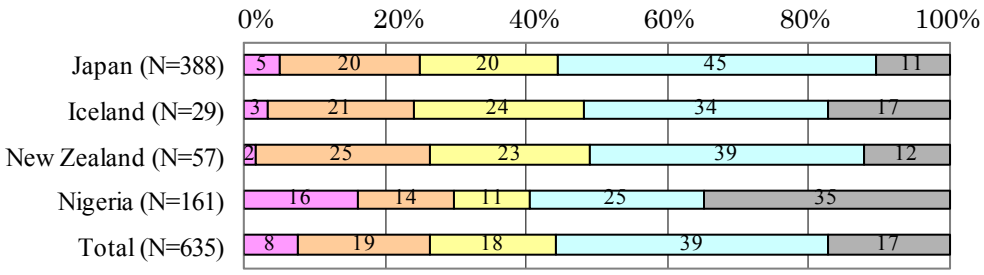
JP: Japan, IS: Iceland, NZ: New Zealand, NG: Nigeria

The following figures (until Page 40) indicate the nation-based doctor's response for each "safety culture" item.

Doctor's responses: The senior person, if available, should take over and make all decisions in life-threatening emergencies.

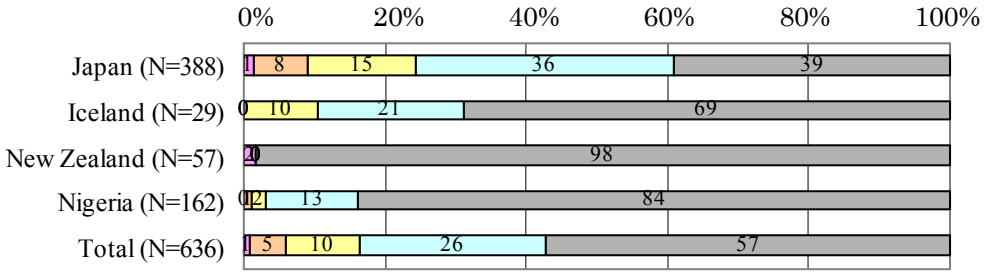


Doctor's responses: The department provides adequate, timely information about events in the hospital that might affect my work.

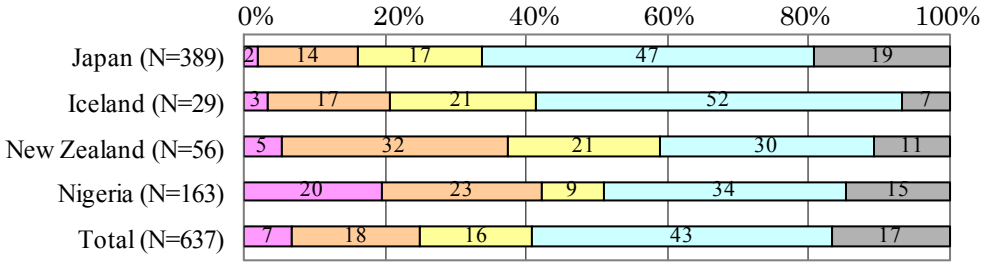


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

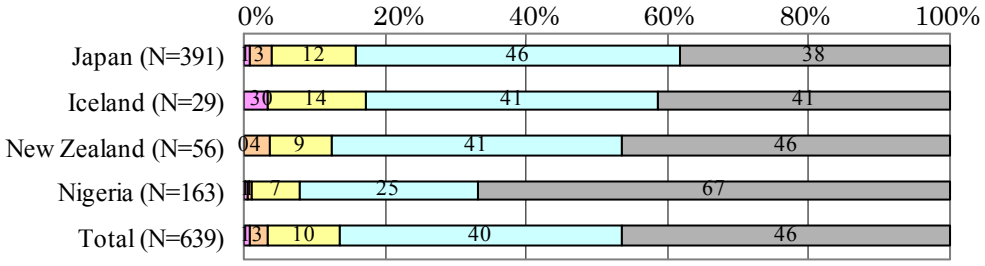
Doctor's responses: Senior staff should encourage questions from junior medical and nursing staff during medical and nursing activities.



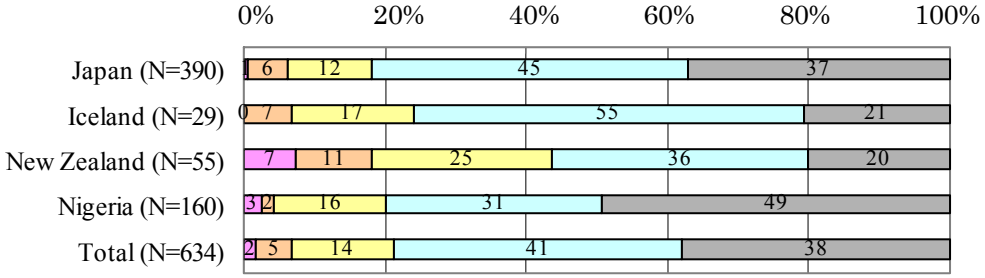
Doctor's responses: Even when fatigued, I perform effectively during critical phases of activities.

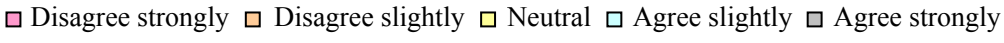


Doctor's responses: We should be aware of and sensitive to the personal problems of other team members.

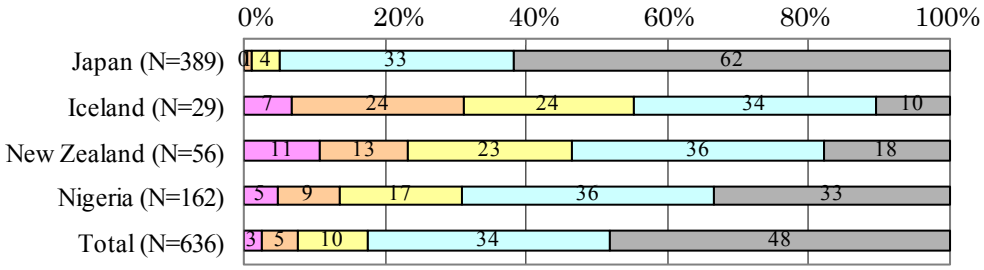


Doctor's responses: Senior staff deserves extra benefits and privileges.

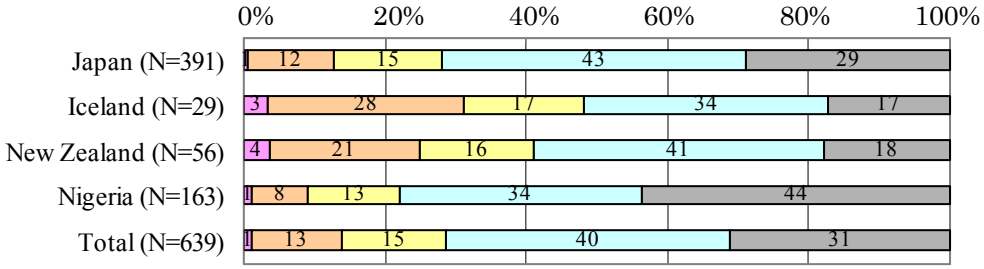




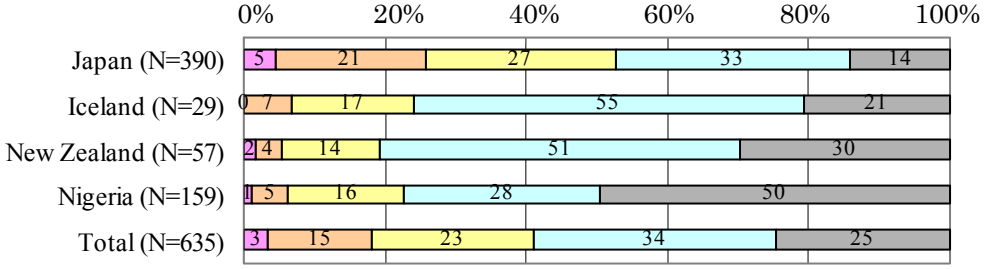
Doctor's responses: I do my best work when people leave me alone.



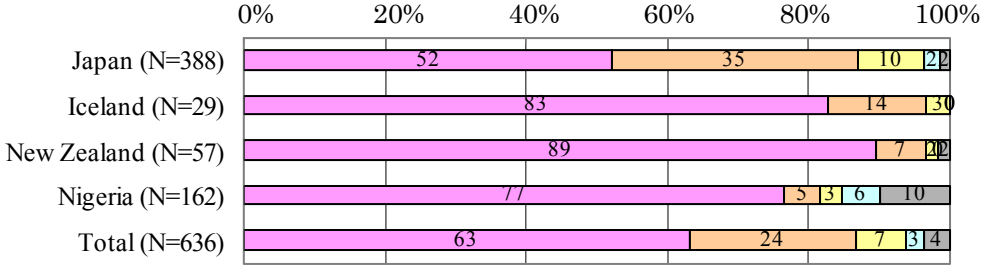
Doctor's responses: I let other team members know when my workload is becoming (or about to become) excessive.



Doctor's responses: It bothers me when others do not respect my professional capabilities.

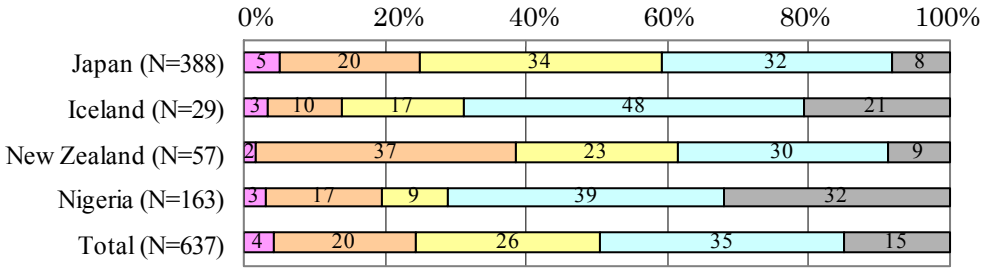


Doctor's responses: Doctors who encourage suggestions from team members are weak leaders.

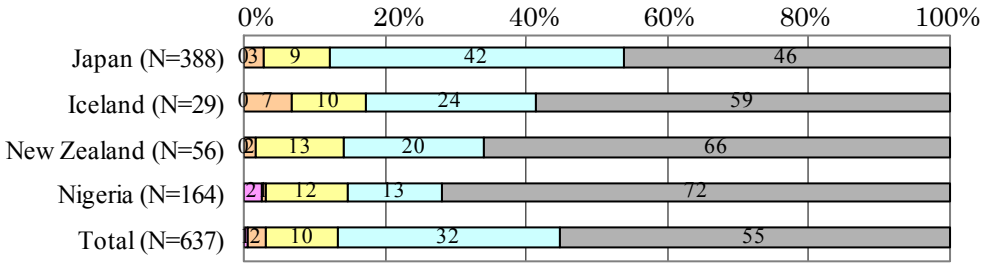


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

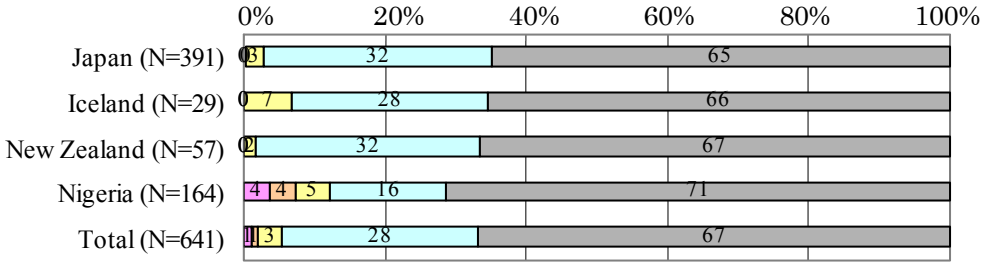
Doctor's responses: My decision-making ability is as good in emergencies as in routine situations.



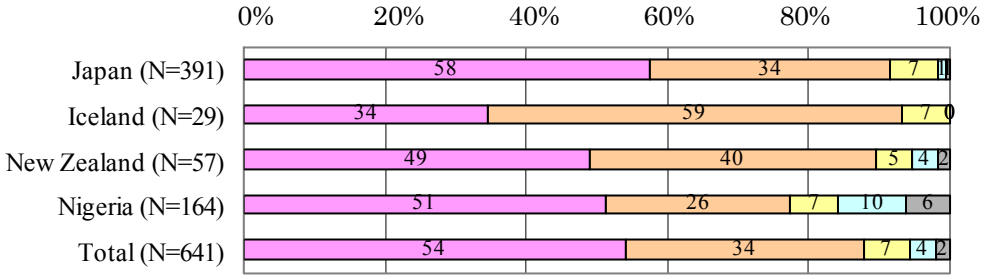
Doctor's responses: A regular debriefing of procedures and decisions after a critical medical/nursing activity or shift is an important part of developing and maintaining effective health care team coordination.



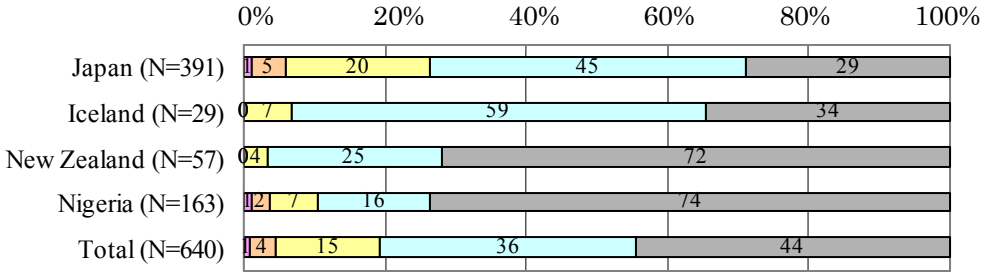
Doctor's responses: Team members in charge should verbalise plans for procedures or actions and should be sure that the information is understood and acknowledged by the others.



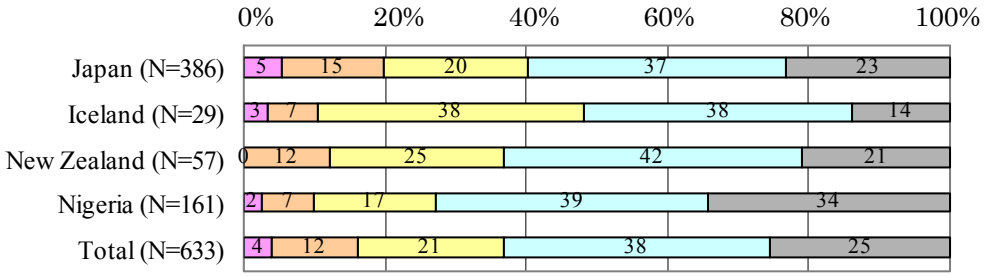
Doctor's responses: Junior team members should not question the decisions made by senior staff.



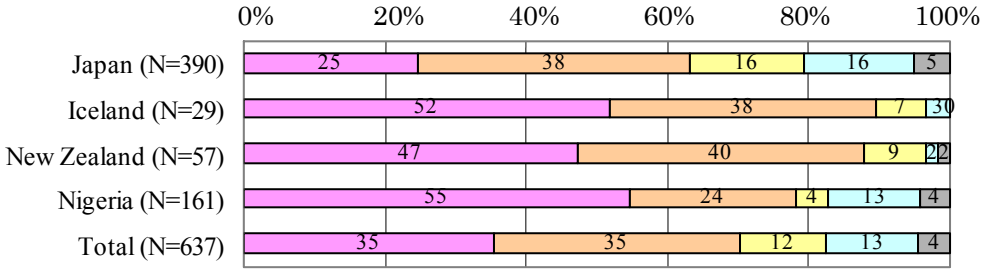
Doctor's responses: I try to be a person that others will enjoy working with.



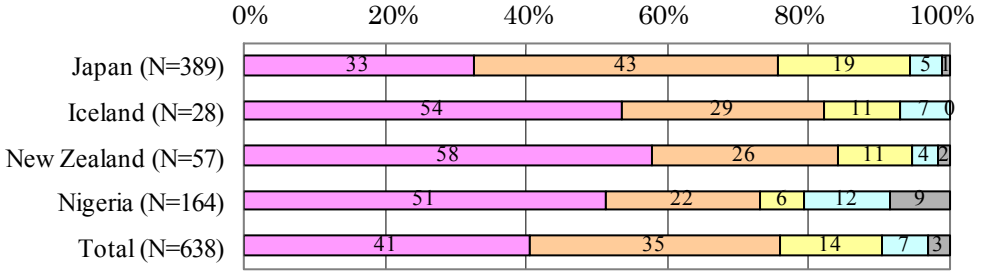
Doctor's responses: I am encouraged by my leaders and co-workers to report any incidents I may observe.



Doctor's responses: The only people qualified to give me feedback are others of my own profession.

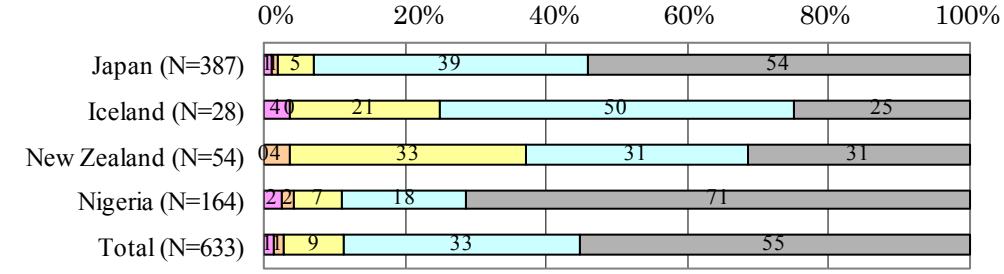


Doctor's responses: It is better to agree with other team members than to voice a different opinion.

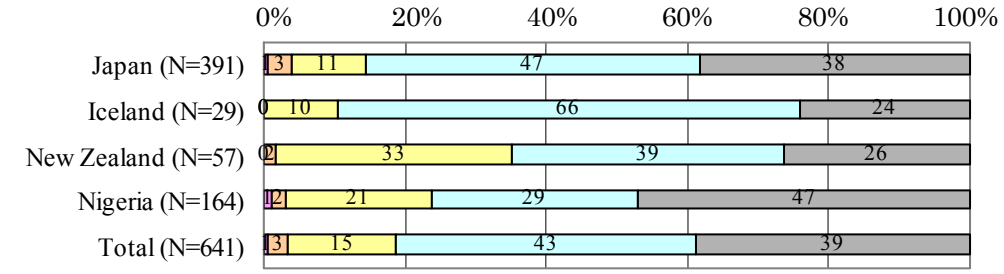


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

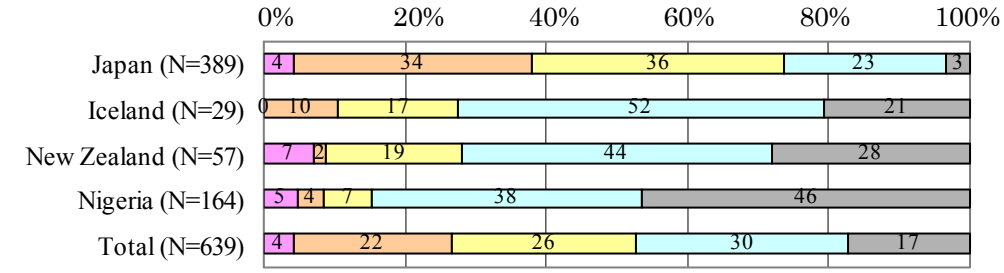
Doctor's responses: The pre-session team briefing is important for patient safety and for effective team management.



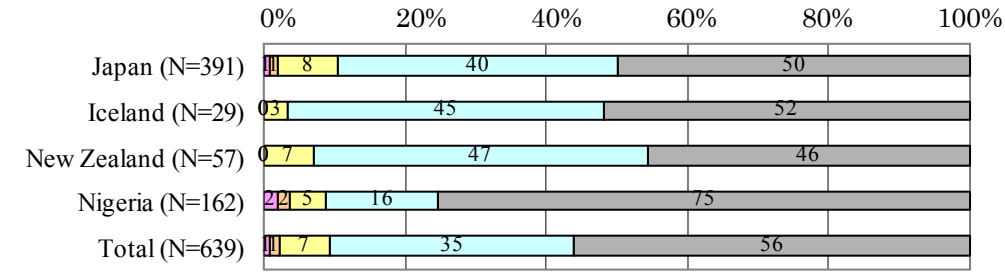
Doctor's responses: It is important that my competence be acknowledged by others.



Doctor's responses: I am more likely to make errors or mistakes in tense or hostile situations.

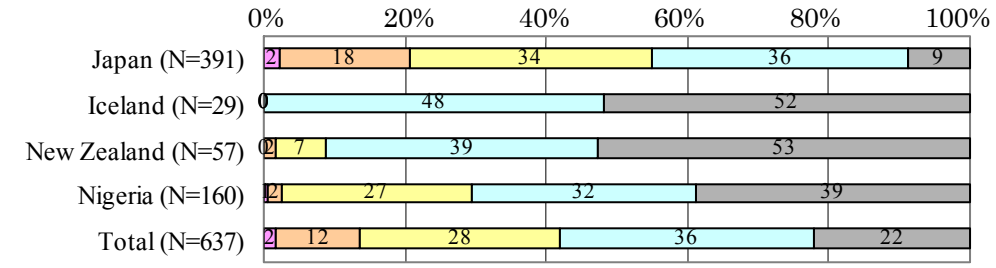


Doctor's responses: The doctor's responsibilities include coordination between his or her work team and other support areas.

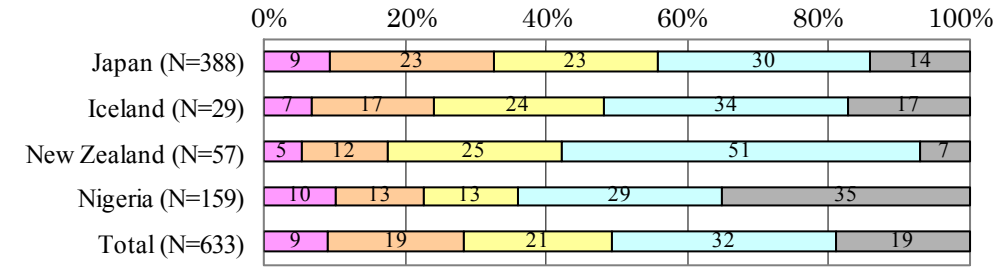


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

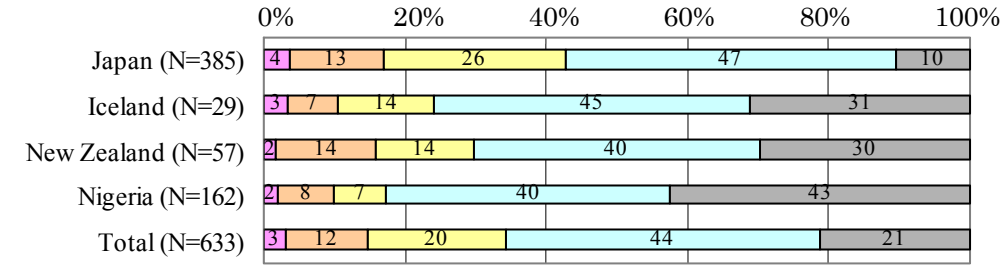
Doctor's responses: I value compliments about my work.



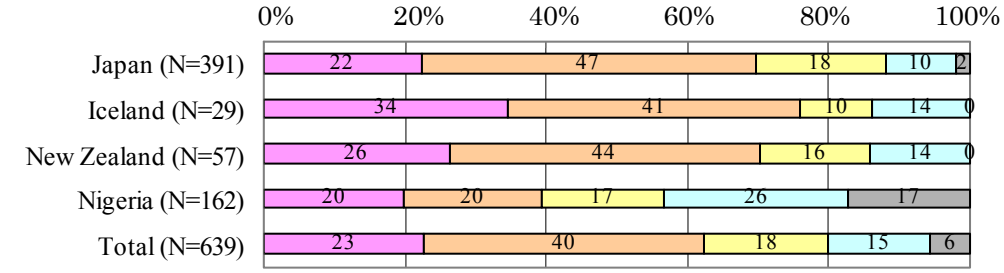
Doctor's responses: Working for this hospital is like being part of a large family.

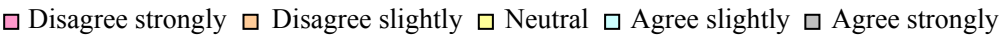


Doctor's responses: Team members share responsibility for prioritising activities in high workload situations.

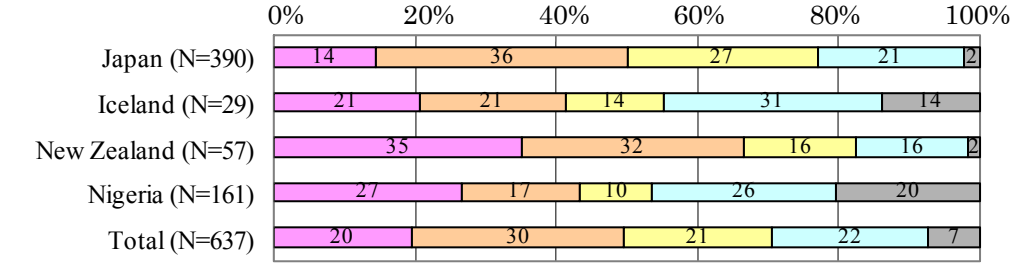


Doctor's responses: As long as the work gets done, I don't care what others think of me.

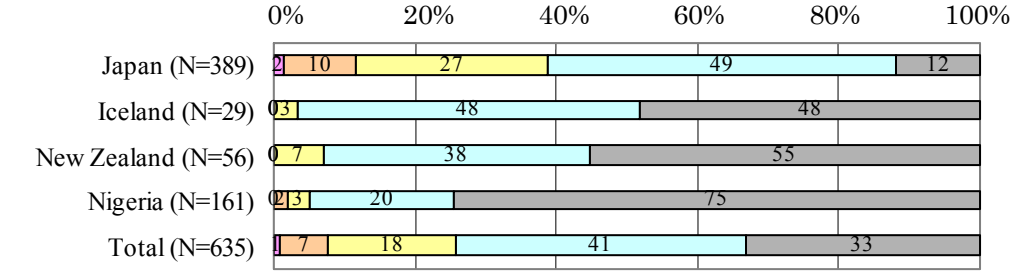




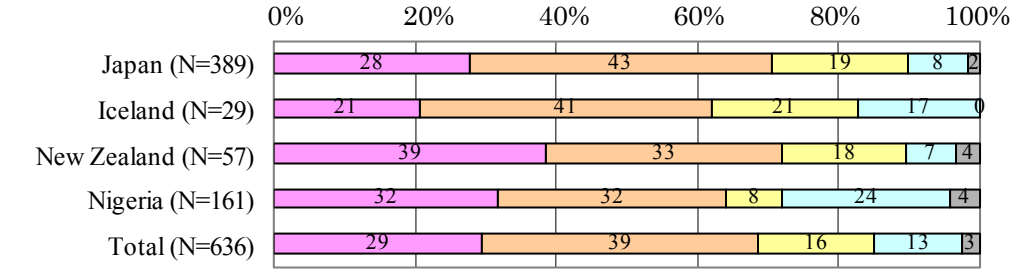
Doctor's responses: Successful hospital management is primarily a function of the doctor's medical and technical proficiency.



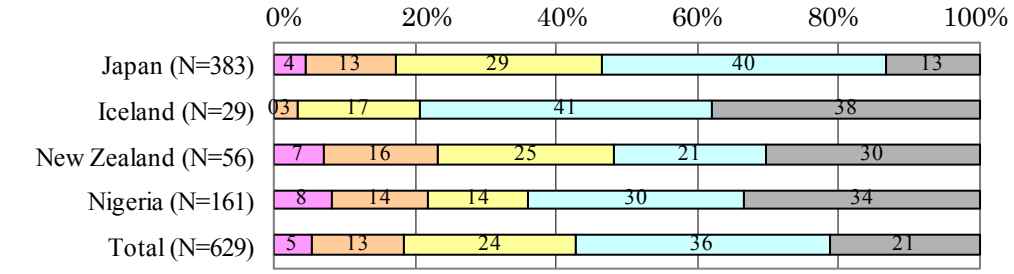
Doctor's responses: A good reputation of medical, nursing or professional activities in the hospital is important to me.



Doctor's responses: Errors are a sign of incompetence.

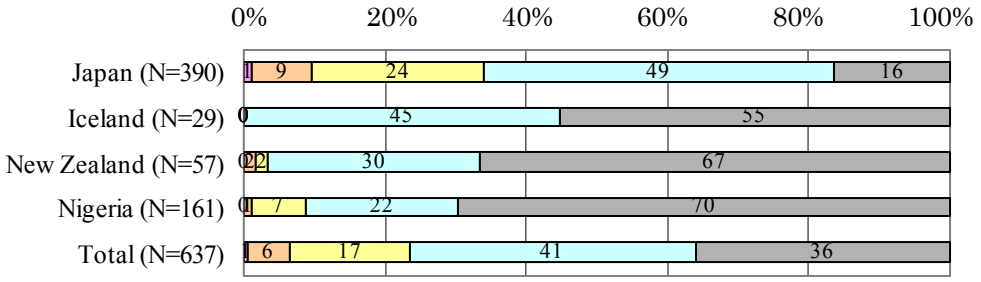


Doctor's responses: Department leadership listens to staff and cares about our concerns.

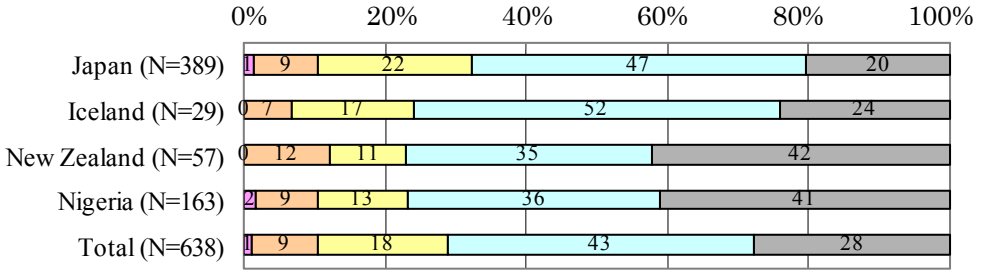


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

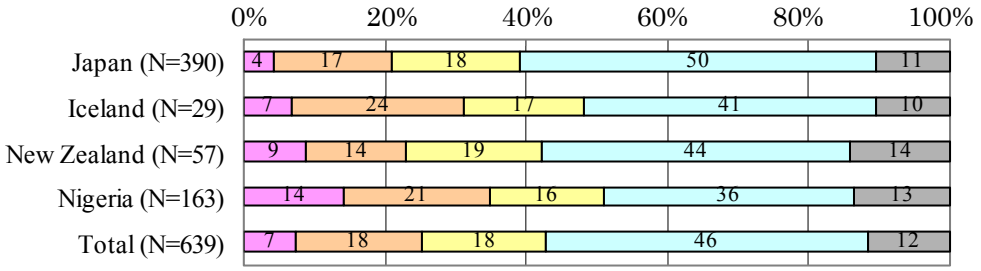
Doctor's responses: I enjoy working as part of a team.



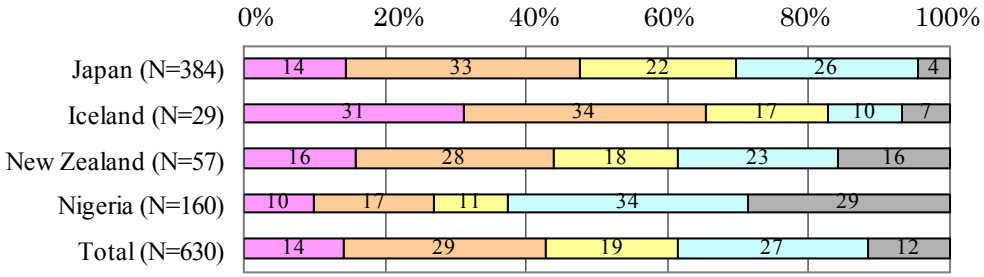
Doctor's responses: If I perceive a problem with the management of a patient, I will speak up, regardless of who might be affected.

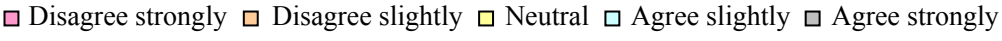


Doctor's responses: I am ashamed when I make a mistake in front of other team members.

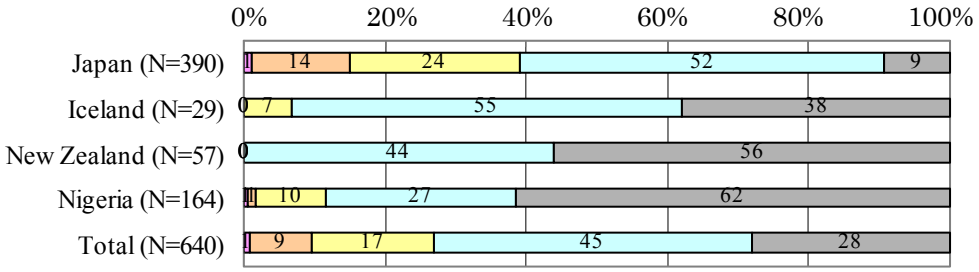


Doctor's responses: In critical situations, I rely on my superiors to tell me shat to do.

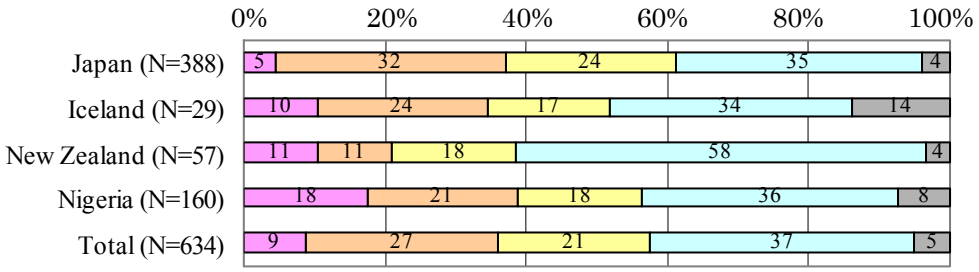




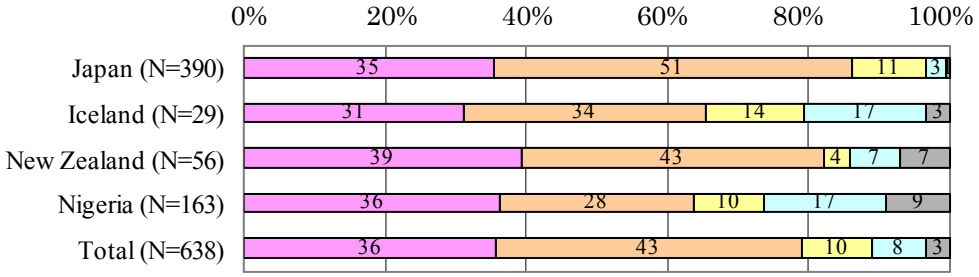
Doctor's responses: I value the goodwill of my fellow workers - I care that others see me as friendly and cooperative.



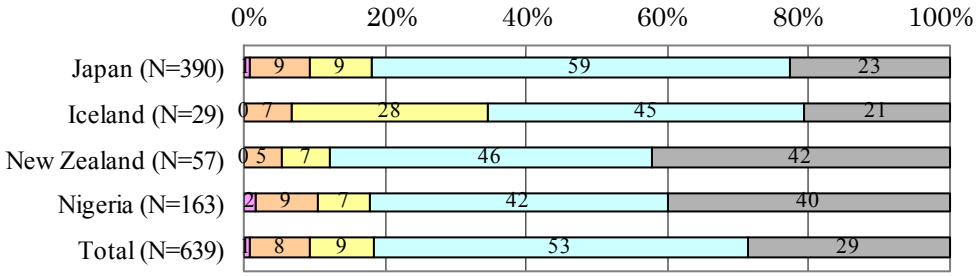
Doctor's responses: I sometimes feel uncomfortable telling members from other disciplines that they need to take some action.



Doctor's responses: Team members should not question the decisions or actions of senior staff except when they threaten the safety of the medical or nursing activity.

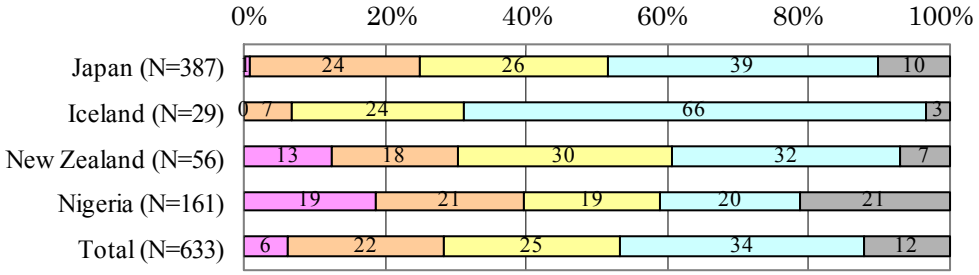


Doctor's responses: I am less effective when stressed or fatigued.

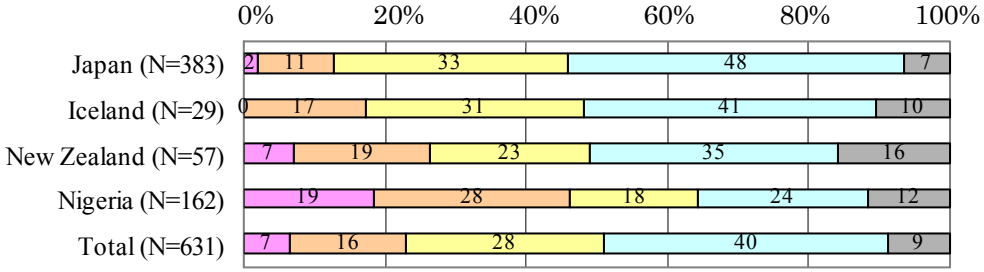


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

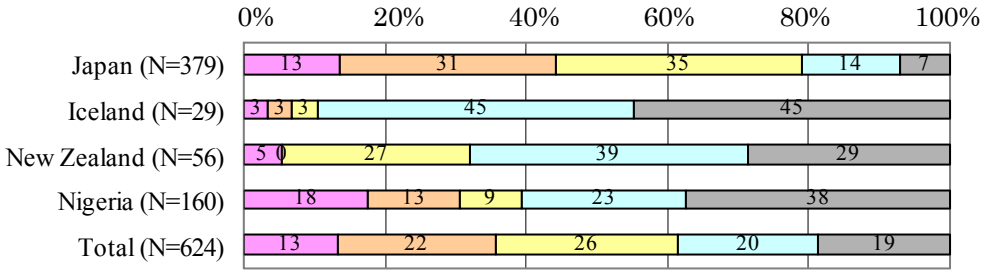
Doctor's responses: It is an insult to be forced to wait unnecessarily for other members of the team.



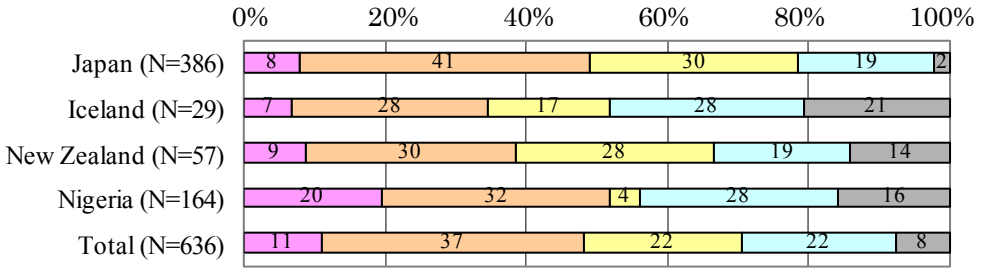
Doctor's responses: Mistakes are handled appropriately in the hospital where I work.



Doctor's responses: Leadership of the team should rest with the medical or nursing staff.

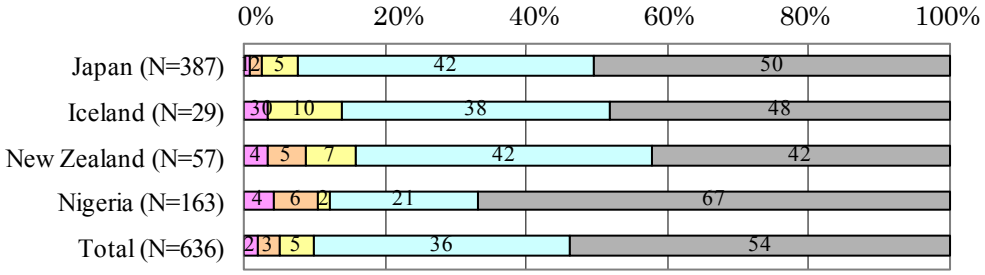


Doctor's responses: My performance is not adversely affected by working with an inexperienced or less capable team member.

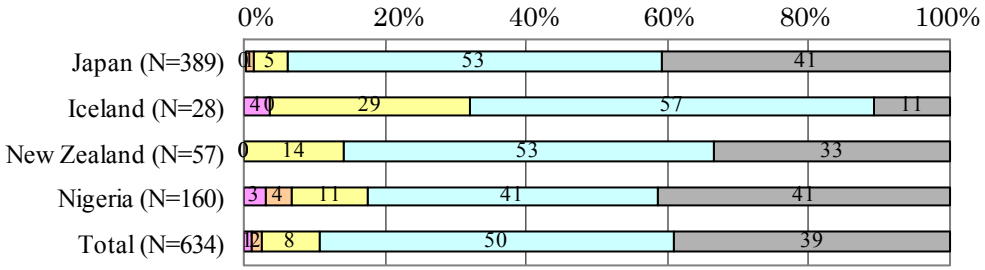


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

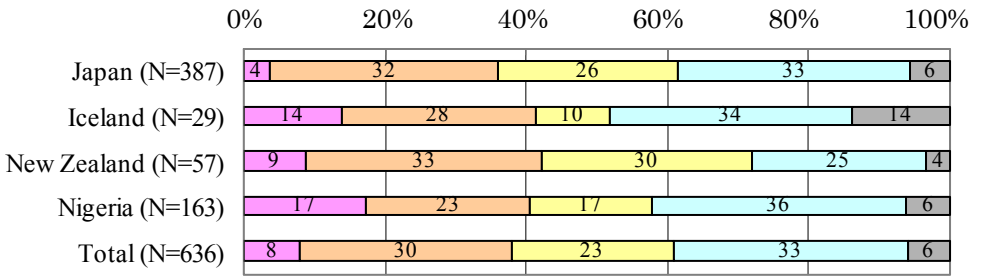
Doctor's responses: To resolve conflicts, team members should openly discuss their differences with each other.



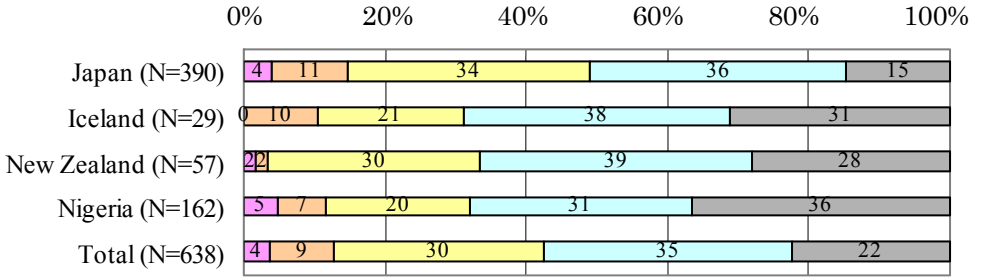
Doctor's responses: Team members should monitor each other for signs of stress or fatigue.



Doctor's responses: I become irritated when I have to work with inexperienced staff.

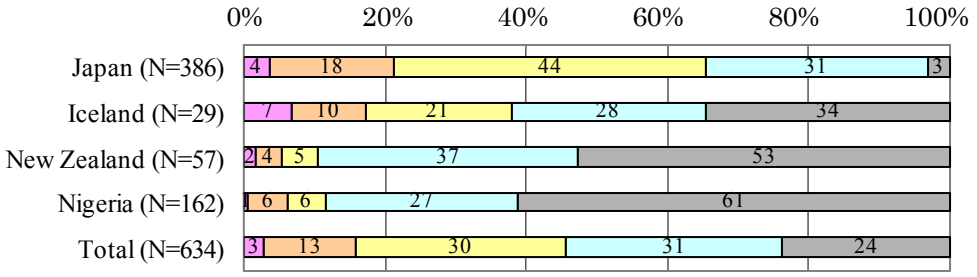


Doctor's responses: I am proud to work for this hospital.

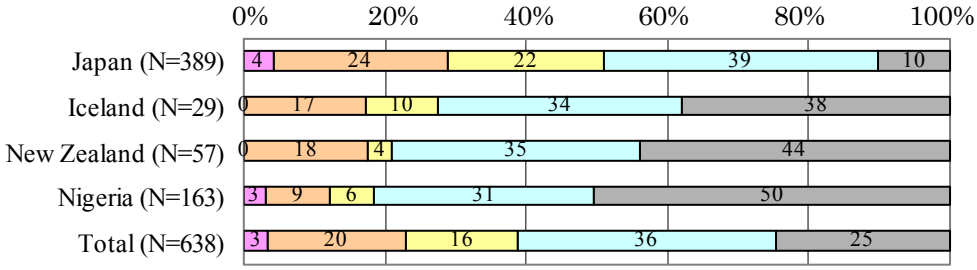


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

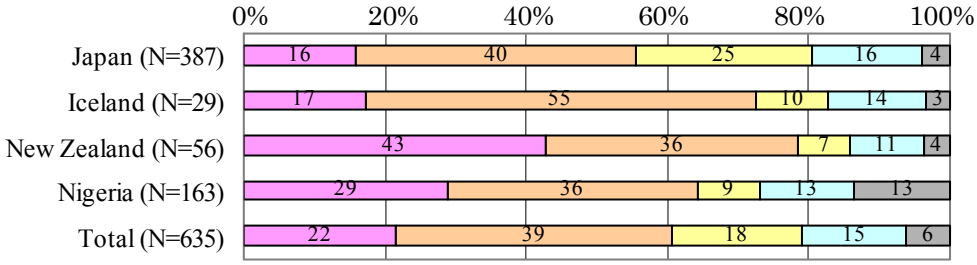
Doctor's responses: All members of the team area qualified to give me feedback.



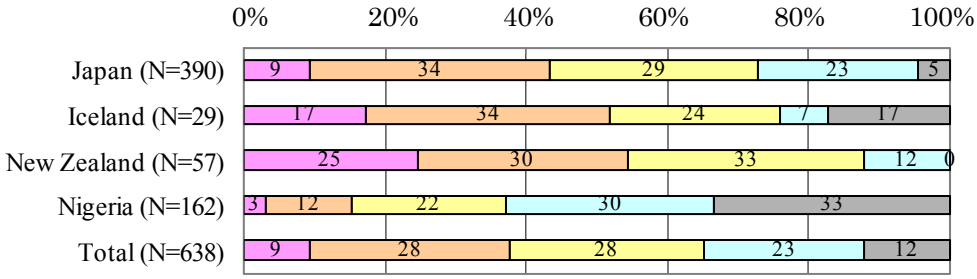
Doctor's responses: A truly professional team member can leave personal problems behind when performing a medical or nursing activity.

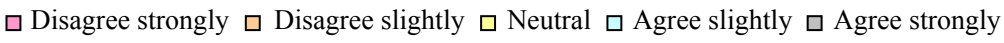


Doctor's responses: There are no circumstances where a junior team member should assume control of patient management.

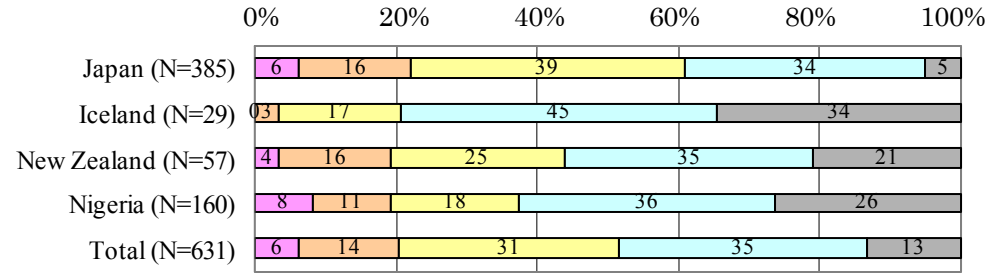


Doctor's responses: Team members should feel obligated to mention their own psychological stress or physical problems to other personnel before or during a shift or assignment.

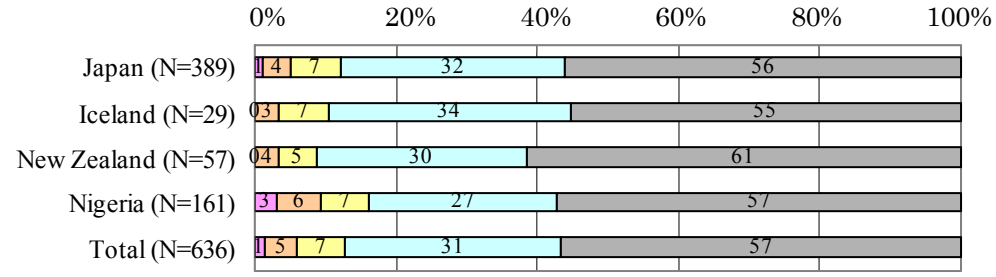




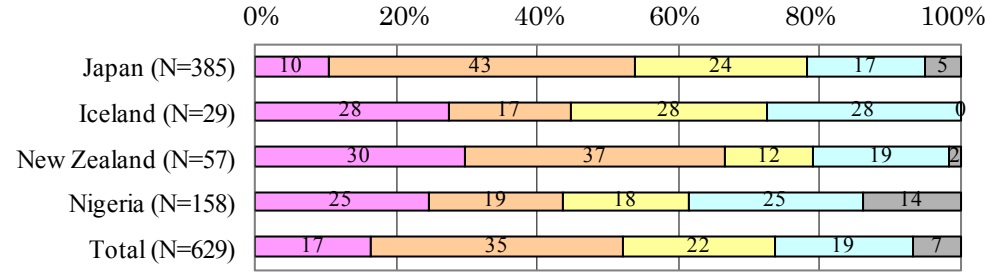
Doctor's responses: I get the respect that a person of my profession deserves.



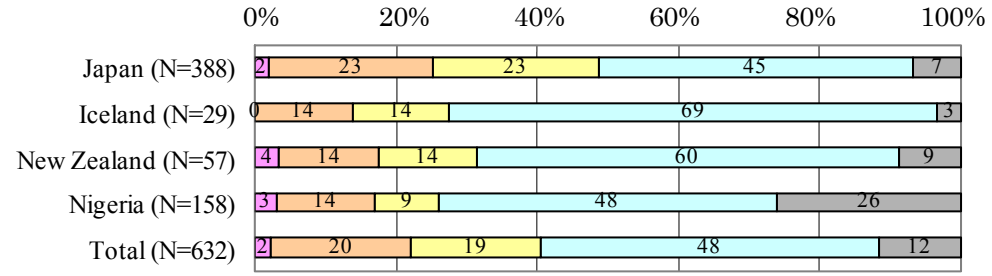
Doctor's responses: Human error is inevitable.



Doctor's responses: The concept of all personnel working as a team does not work in our hospital.

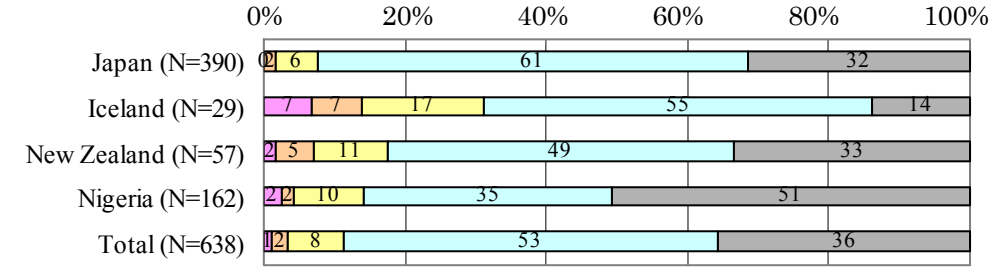


Doctor's responses: Personal problems can adversely affect my performance.

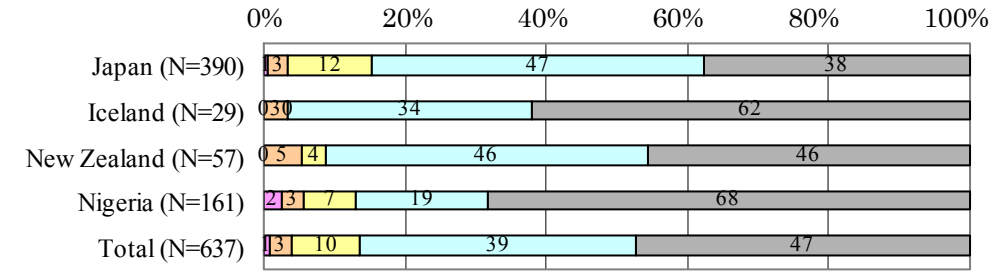


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

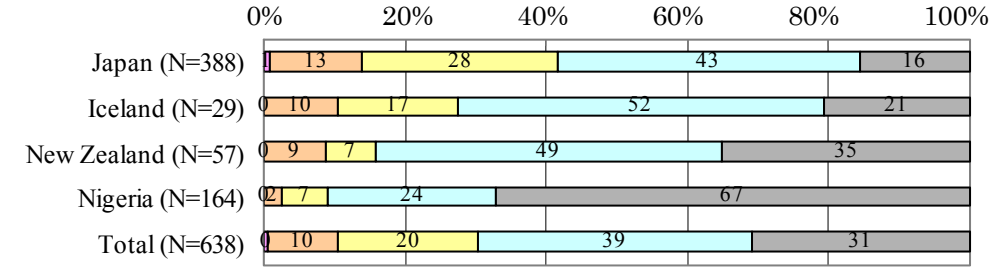
Doctor's responses: Effective team coordination requires members to take onto account the personalities of other team members.



Doctor's responses: I like my job.



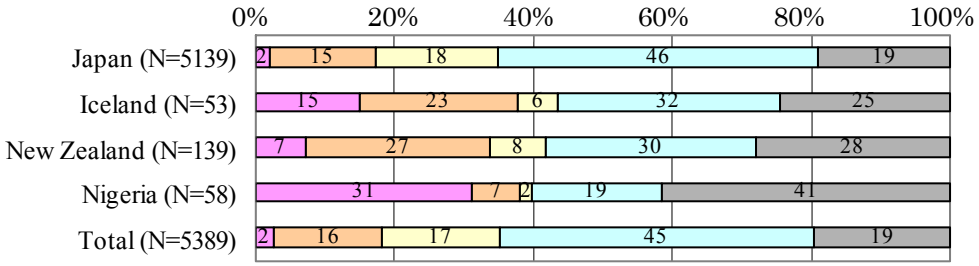
Doctor's responses: I always ask questions when I feel there is something I don't understand.



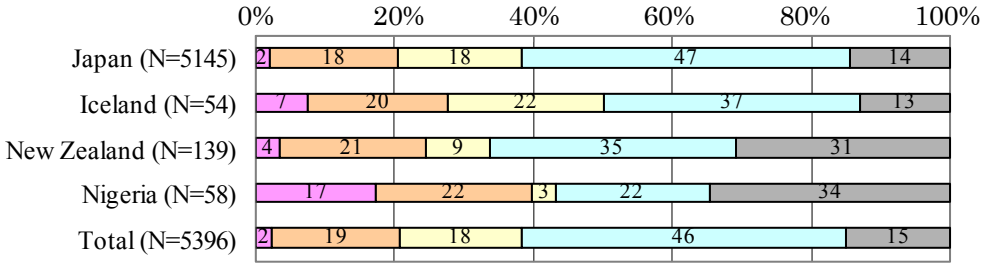
Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

Like the doctor's responses shown above, we present the nurse's response to each "safety culture" item in the order of item number (until Page 55).

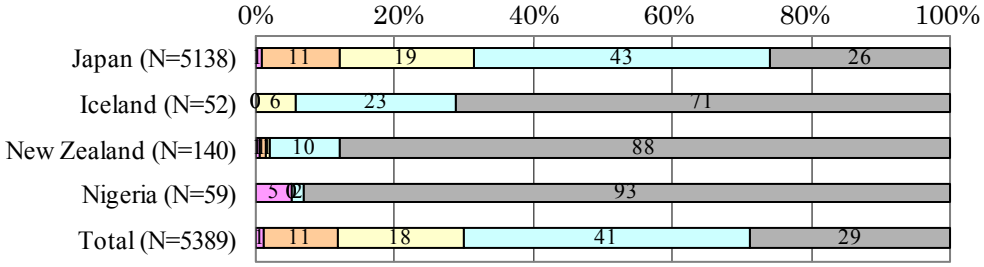
Nurse's responses: The senior person, if available, should take over and make all decisions in life-threatening emergencies.



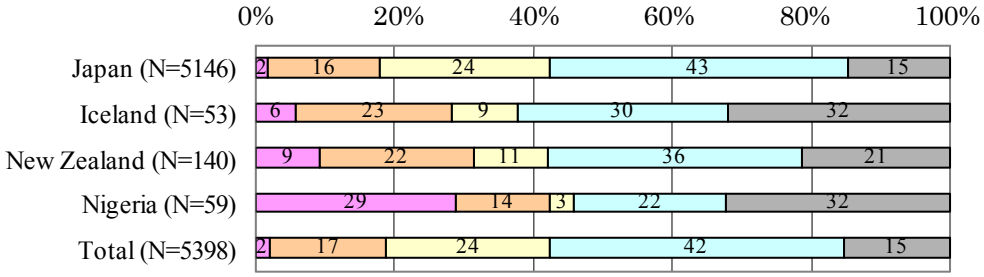
Nurse's responses: The department provides adequate, timely information about events in the hospital that might affect my work.



Nurse's responses: Senior staff should encourage questions from junior medical and nursing staff during medical and nursing activities.

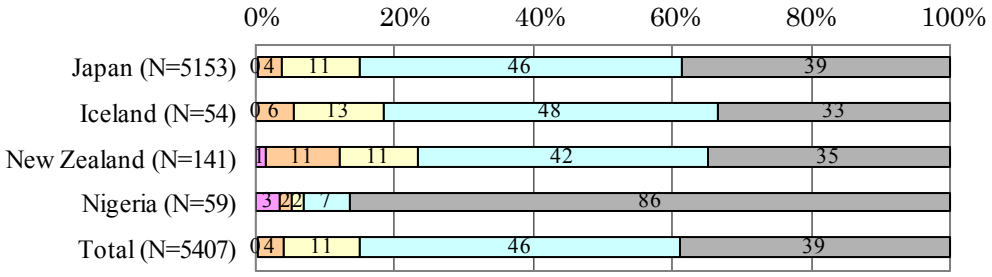


Nurse's responses: Even when fatigued, I perform effectively during critical phases of activities.

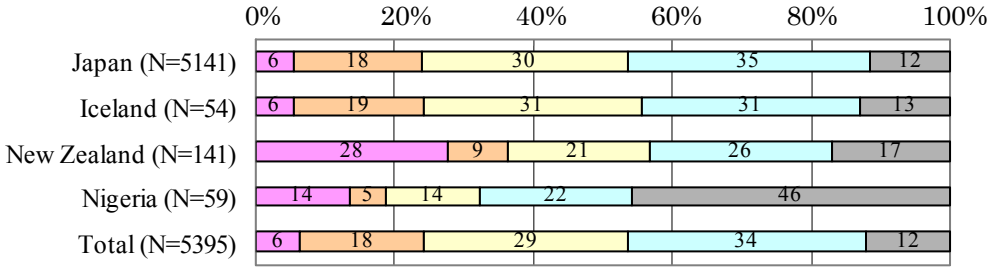


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

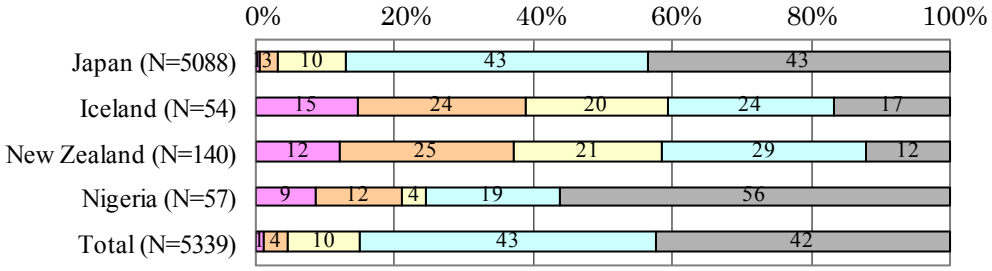
Nurse's responses: We should be aware of and sensitive to the personal problems of other team members.



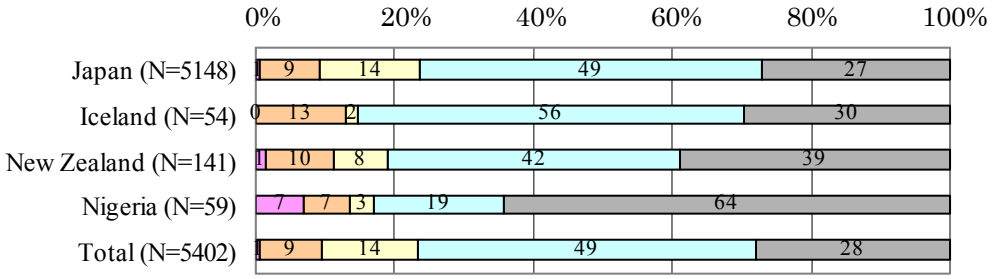
Nurse's responses: Senior staff deserves extra benefits and privileges.



Nurse's responses: I do my best work when people leave me alone.

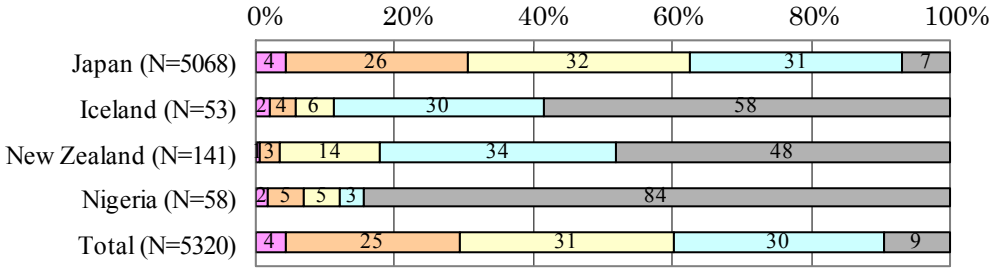


Nurse's responses: I let other team members know when my workload is becoming (or about to become) excessive.

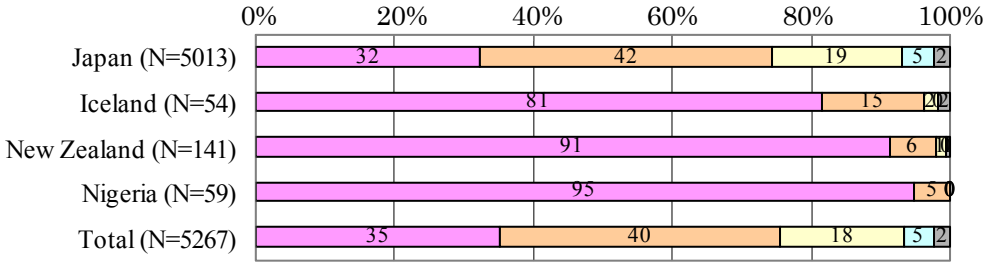


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

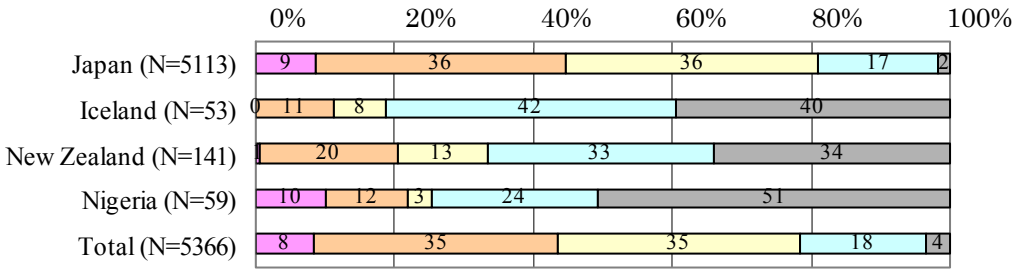
Nurse's responses: It bothers me when others do not respect my professional capabilities.



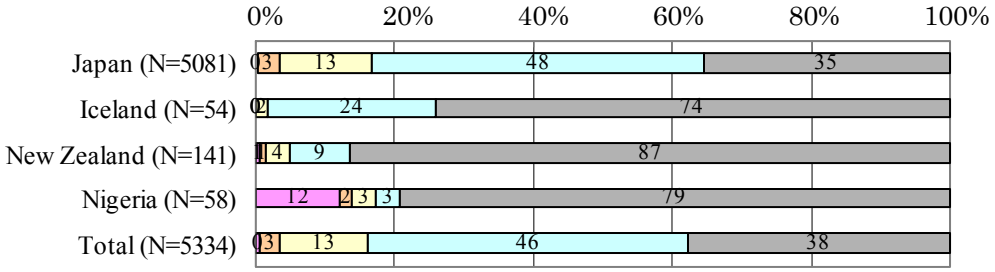
Nurse's responses: Doctors who encourage suggestions from team members are weak leaders.



Nurse's responses: My decision-making ability is as good in emergencies as in routine situations.

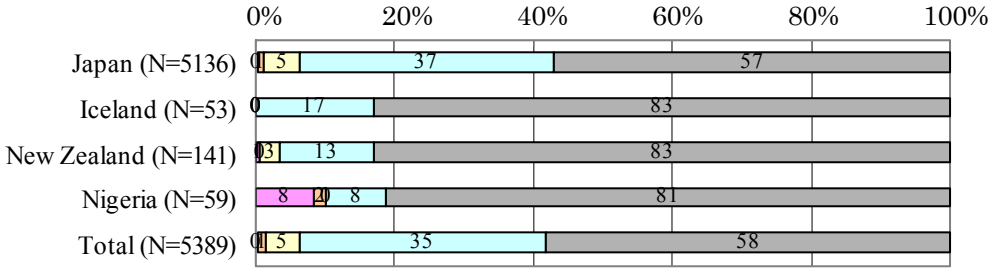


Nurse's responses: A regular debriefing of procedures and decisions after a critical medical/nursing activity or shift is an important part of developing and maintaining effective health care team coordination.

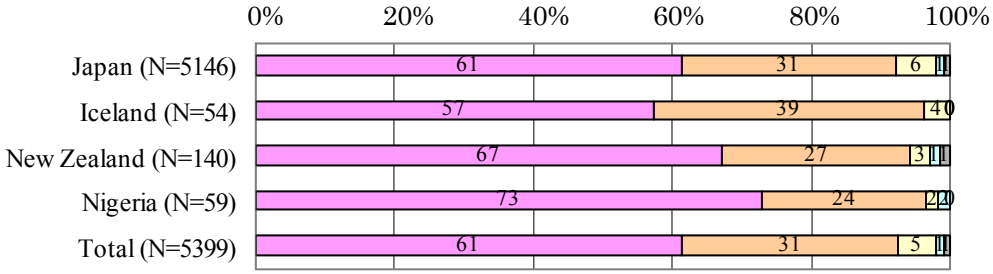


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

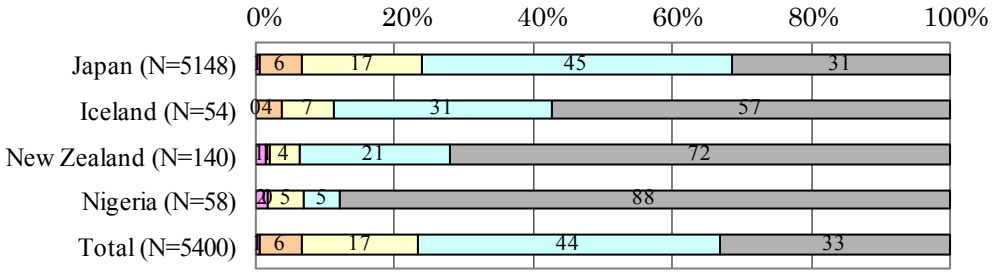
Nurse's responses: Team members in charge should verbalise plans for procedures or actions and should be sure that the information is understood and acknowledged by the others.



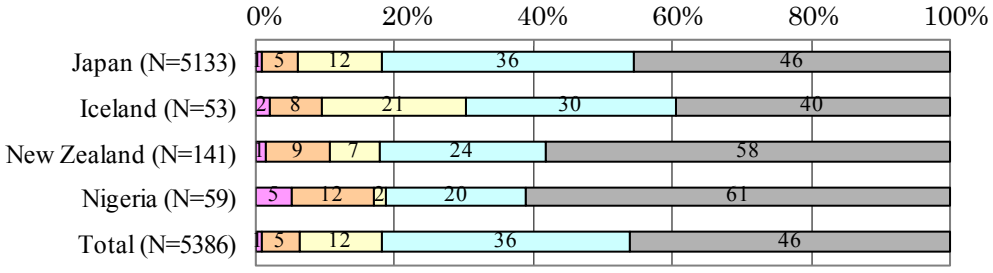
Nurse's responses: Junior team members should not question the decisions made by senior staff.



Nurse's responses: I try to be a person that others will enjoy working with.

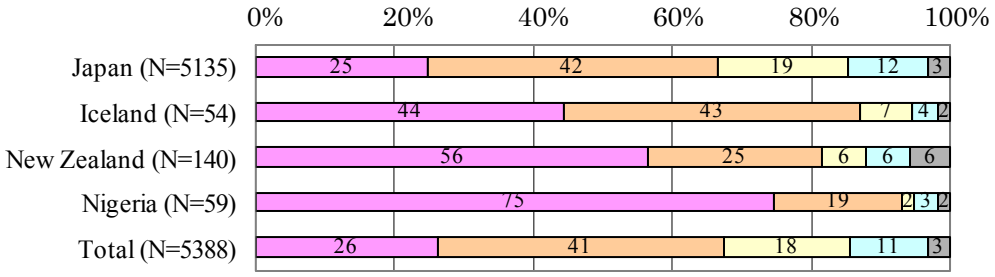


Nurse's responses: I am encouraged by my leaders and co-workers to report any incidents I may observe.

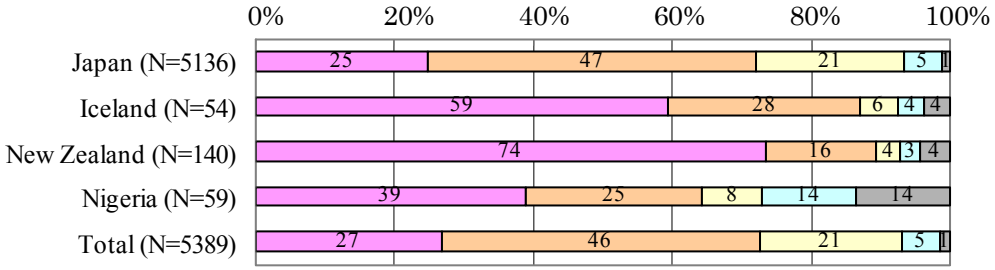


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

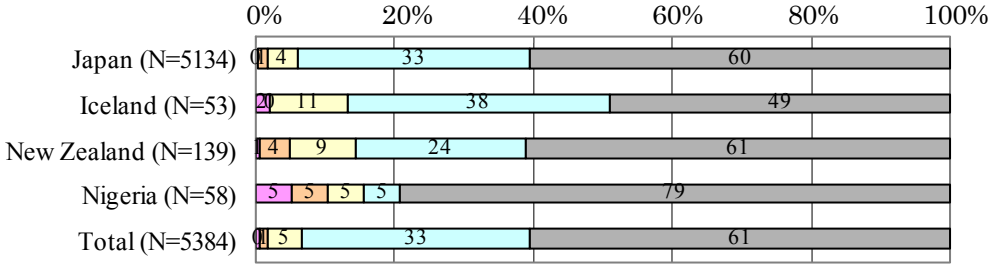
Nurse's responses: The only people qualified to give me feedback are others of my own profession.



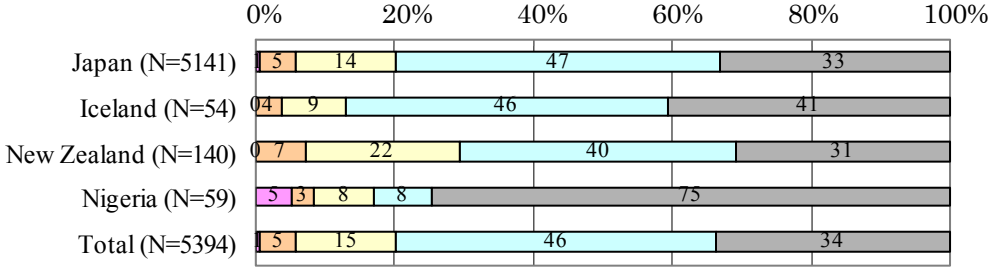
Nurse's responses: It is better to agree with other team members than to voice a different opinion.



Nurse's responses: The pre-session team briefing is important for patient safety and for effective team management.

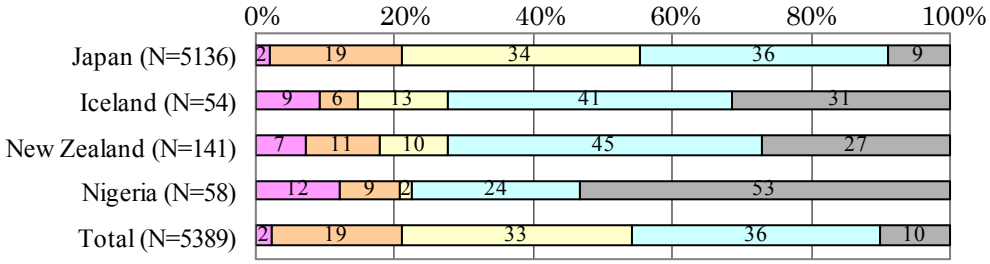


Nurse's responses: It is important that my competence be acknowledged by others.

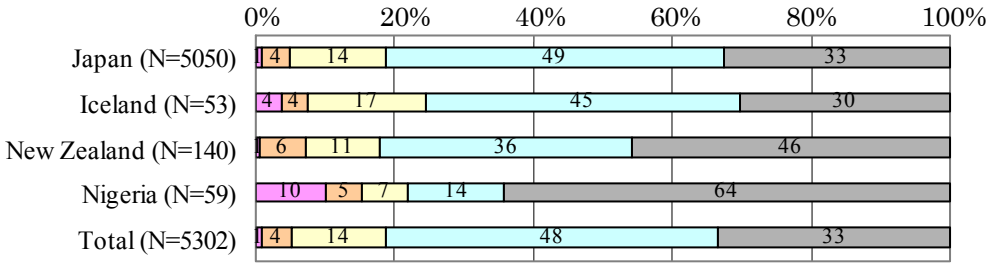


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

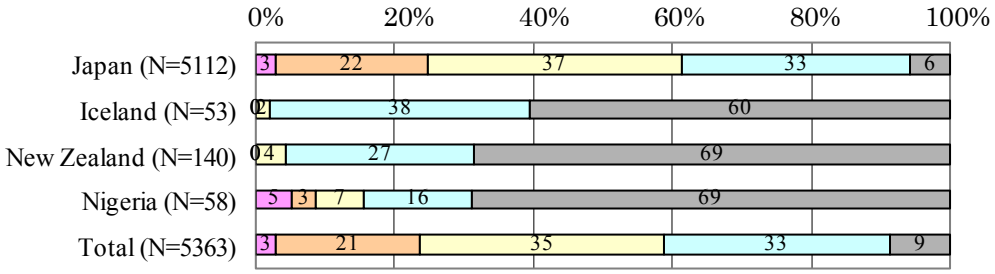
Nurse's responses: I am more likely to make errors or mistakes in tense or hostile situations.



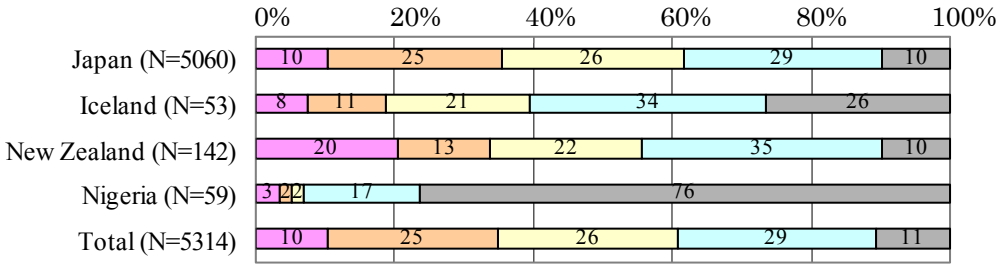
Nurse's responses: The doctor's responsibilities include coordination between his or her work team and other support areas.



Nurse's responses: I value compliments about my work.

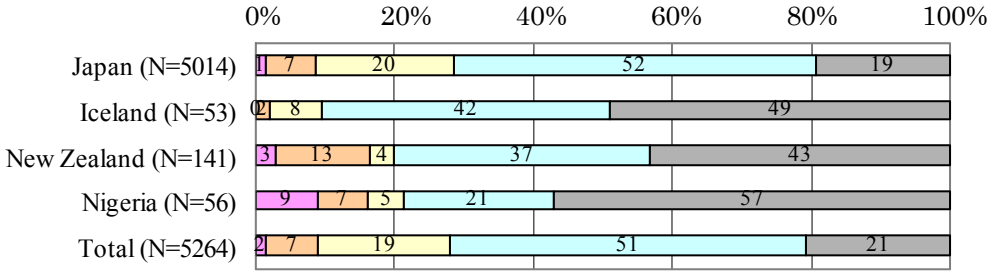


Nurse's responses: Working for this hospital is like being part of a large family.

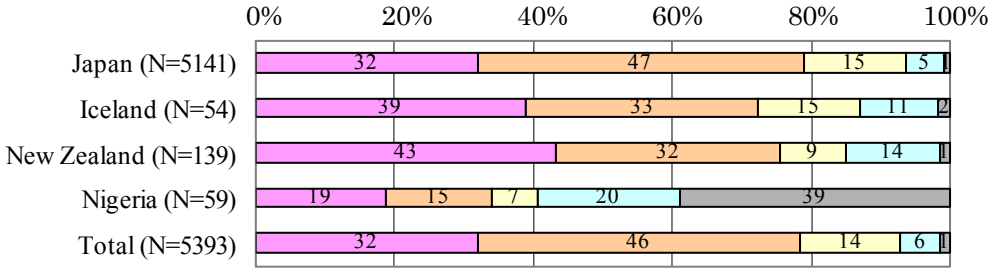


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

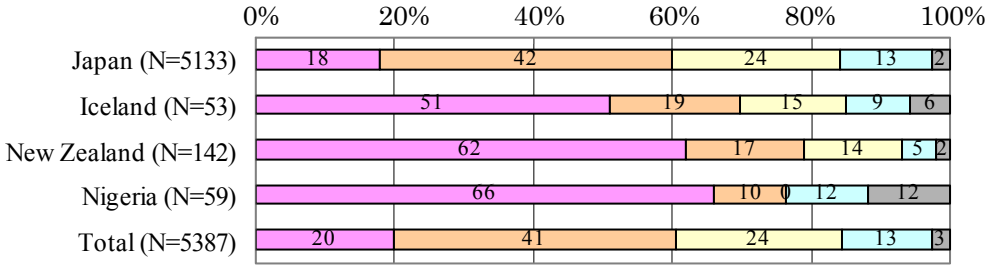
Nurse's responses: Team members share responsibility for prioritising activities in high workload situations.



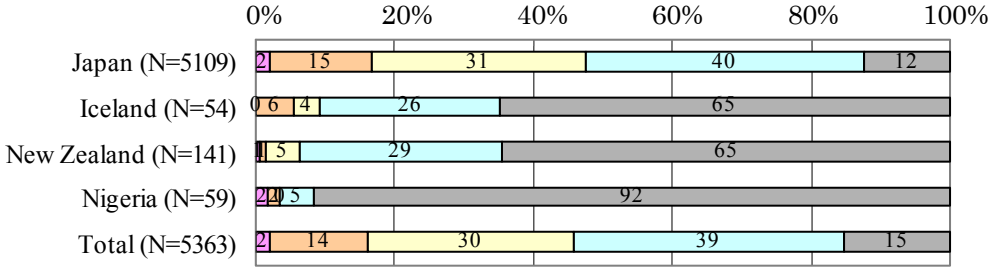
Nurse's responses: As long as the work gets done, I don't care what others think of me.



Nurse's responses: Successful hospital management is primarily a function of the Nurse's medical and technical proficiency.

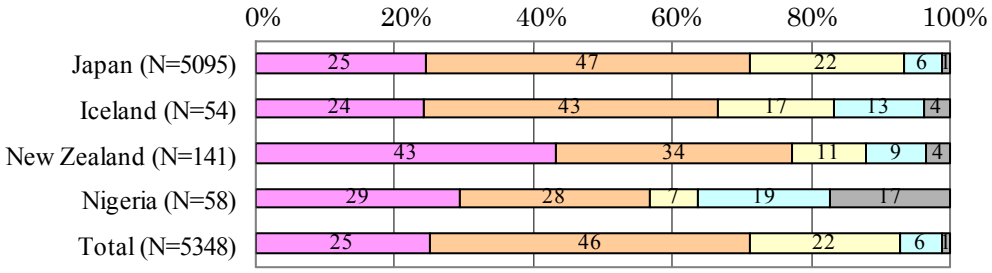


Nurse's responses: A good reputation of medical, nursing or professional activities in the hospital is important to me.

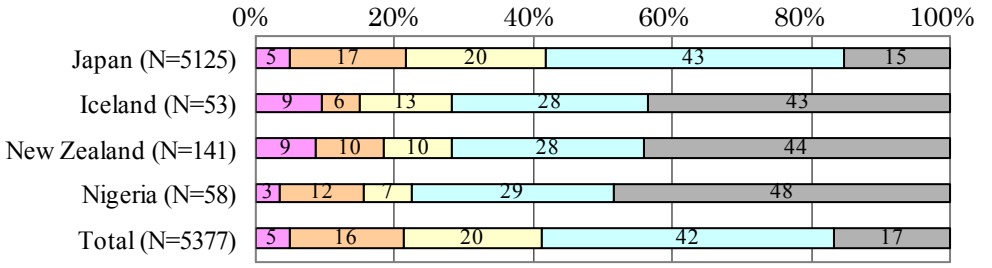


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

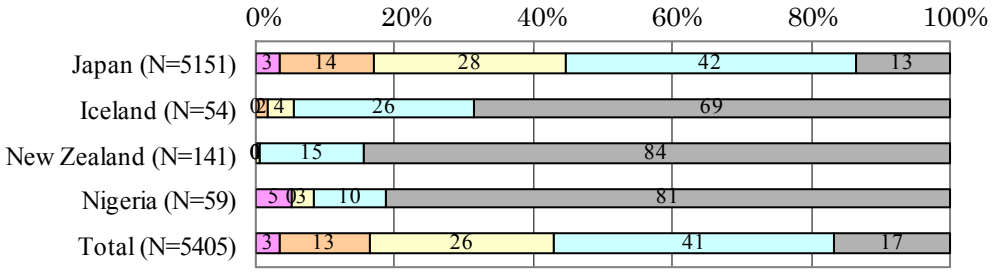
Nurse's responses: Errors are a sign of incompetence.



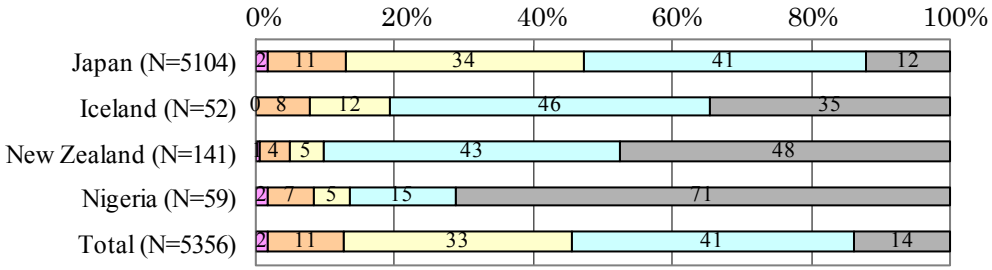
Nurse's responses: Department leadership listens to staff and cares about our concerns.



Nurse's responses: I enjoy working as part of a team.

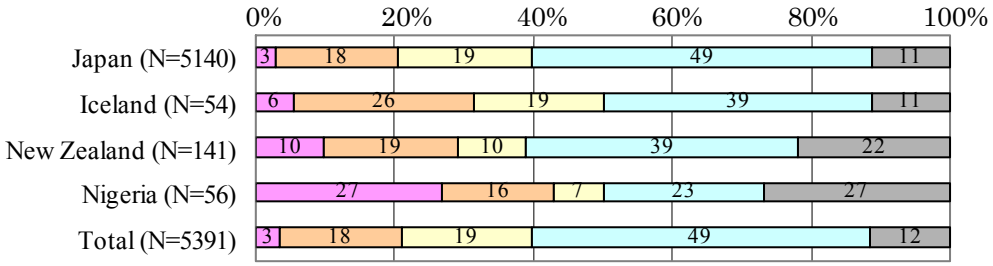


Nurse's responses: If I perceive a problem with the management of a patient, I will speak up, regardless of who might be affected.

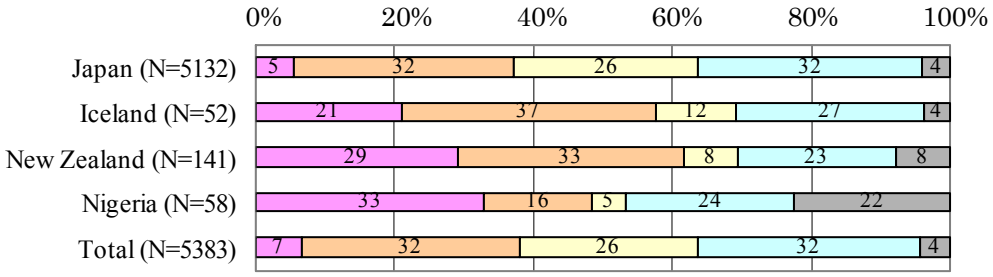


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

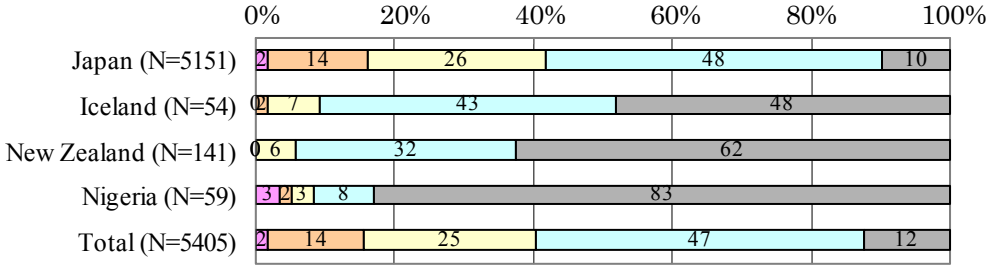
Nurse's responses: I am ashamed when I make a mistake in front of other team members.



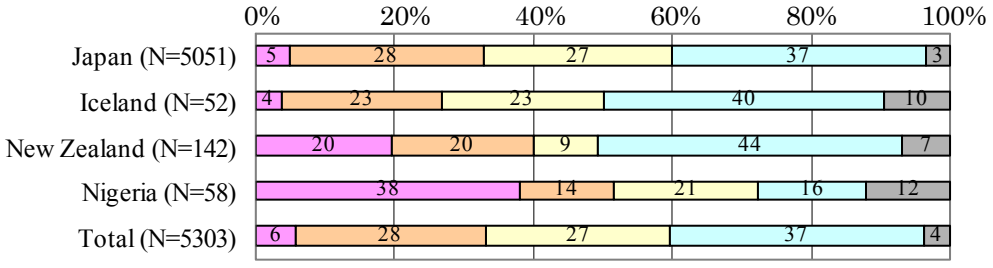
Nurse's responses: In critical situations, I rely on my superiors to tell me what to do.



Nurse's responses: I value the goodwill of my fellow workers - I care that others see me as friendly and cooperative.

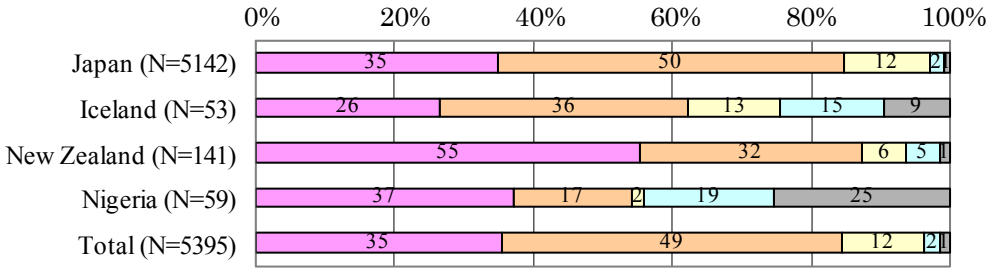


Nurse's responses: I sometimes feel uncomfortable telling members from other disciplines that they need to take some action.

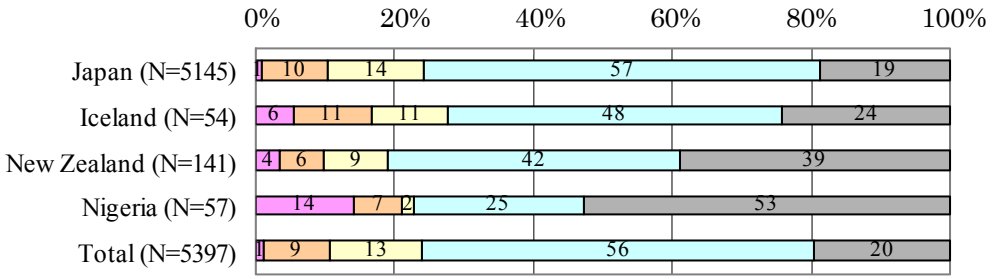


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

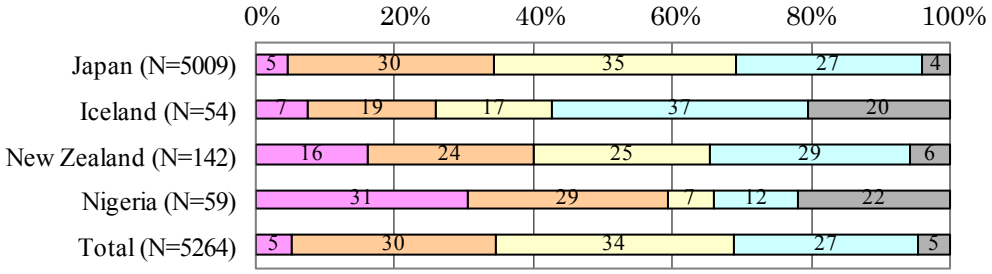
Nurse's responses: Team members should not question the decisions or actions of senior staff except when they threaten the safety of the medical or nursing activity.



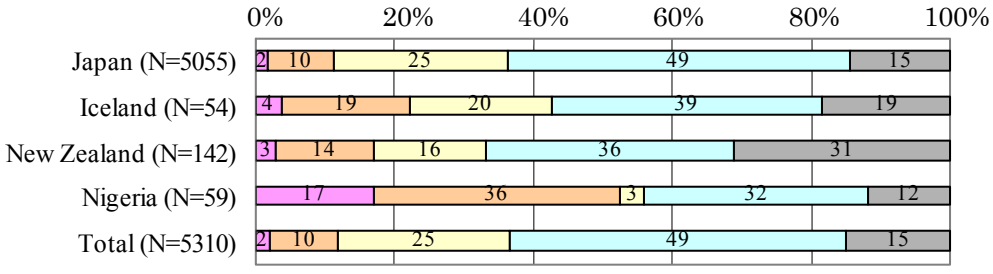
Nurse's responses: I am less effective when stressed or fatigued.

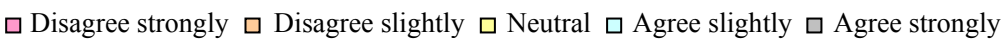


Nurse's responses: It is an insult to be forced to wait unnecessarily for other members of the team.

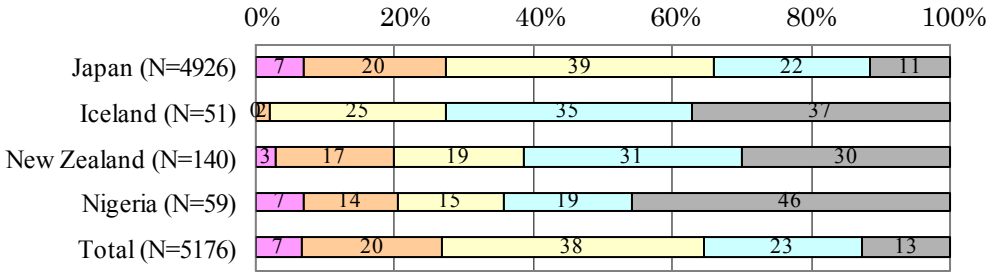


Nurse's responses: Mistakes are handled appropriately in the hospital where I work.

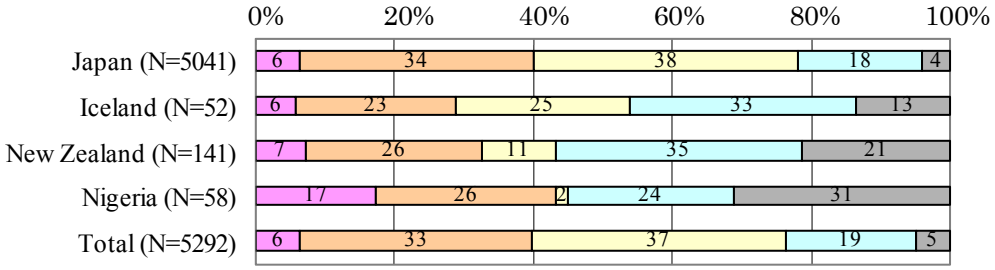




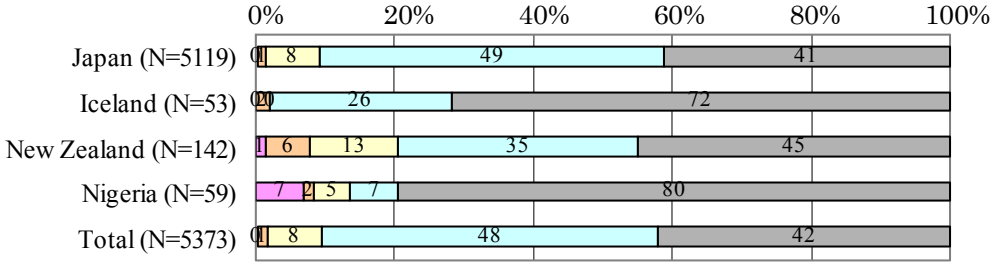
Nurse's responses: Leadership of the team should rest with the medical or nursing staff.



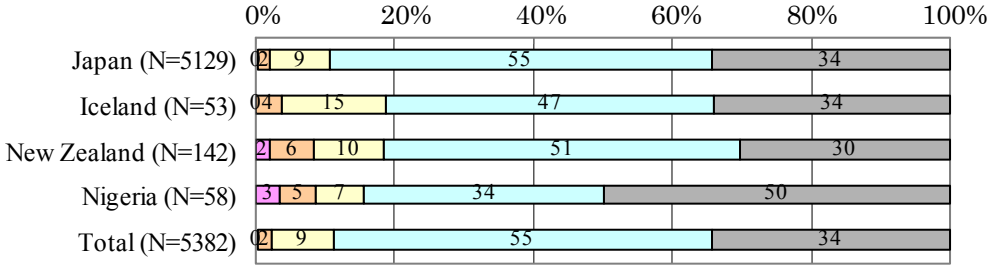
Nurse's responses: My performance is not adversely affected by working with an inexperienced or less capable team member.



Nurse's responses: To resolve conflicts, team members should openly discuss their differences with each other.

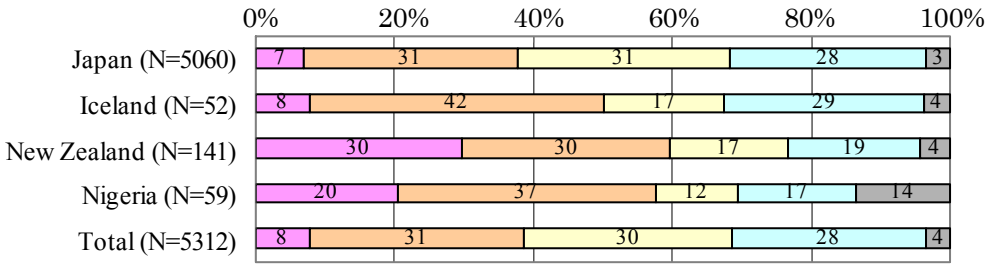


Nurse's responses: Team members should monitor each other for signs of stress or fatigue.

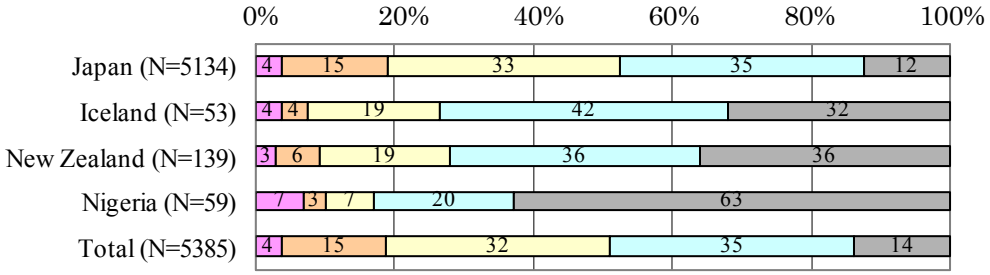


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

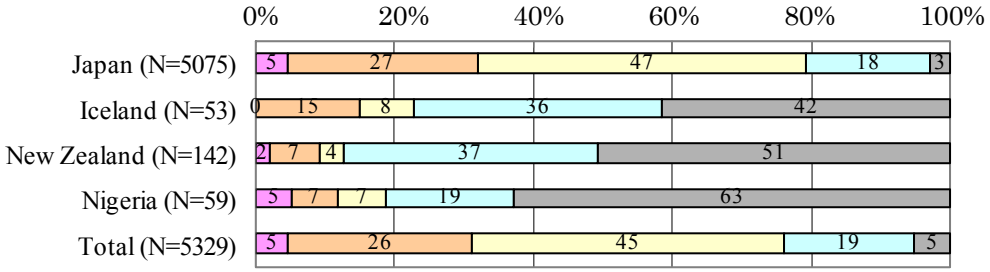
Nurse's responses: I become irritated when I have to work with inexperienced staff.



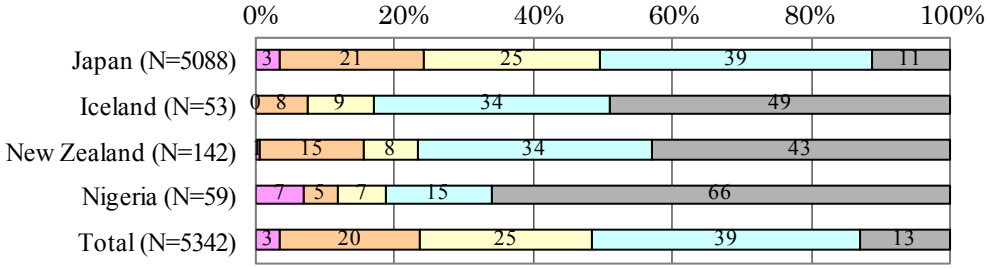
Nurse's responses: I am proud to work for this hospital.



Nurse's responses: All members of the team are qualified to give me feedback.

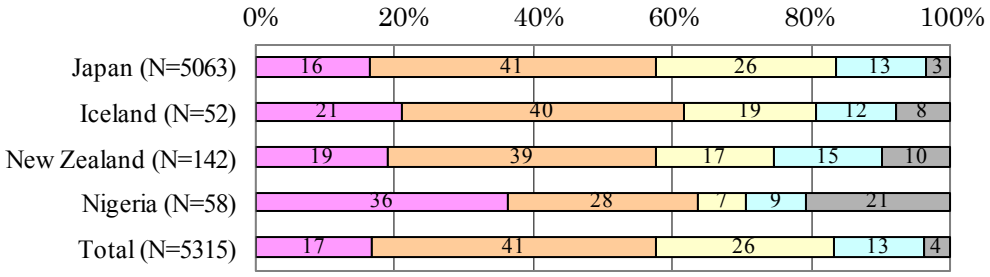


Nurse's responses: A truly professional team member can leave personal problems behind when performing a medical or nursing activity.

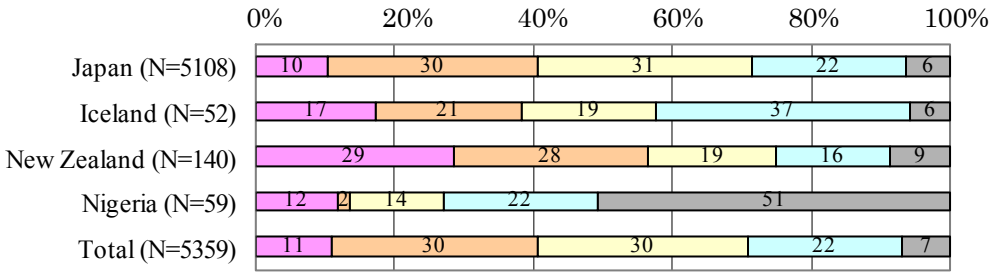


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

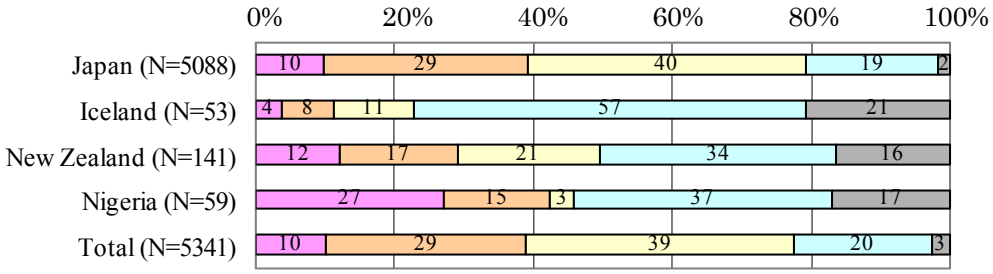
Nurse's responses: There are no circumstances where a junior team member should assume control of patient management.



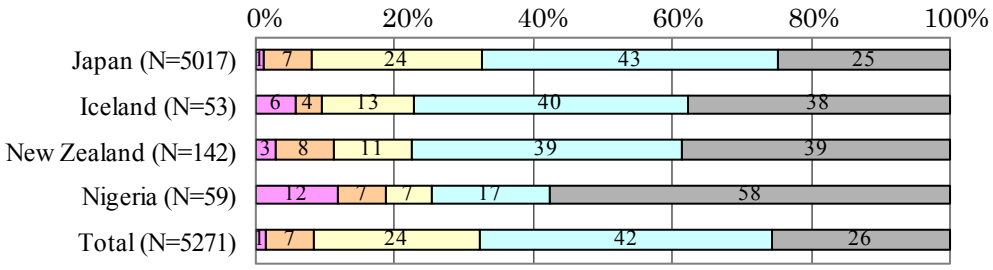
Nurse's responses: Team members should feel obligated to mention their own psychological stress or physical problems to other personnel before or during a shift or assignment.



Nurse's responses: I get the respect that a person of my profession deserves.

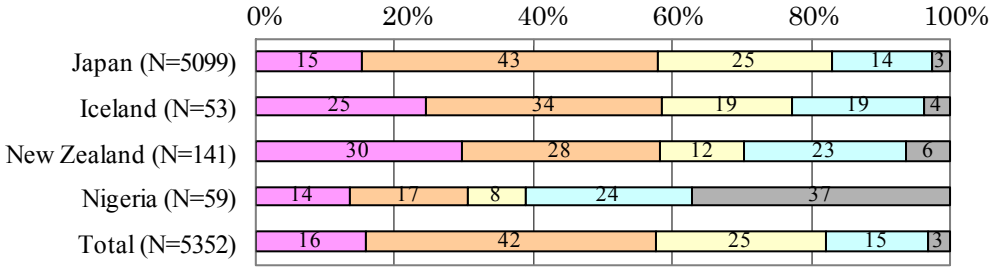


Nurse's responses: Human error is inevitable.

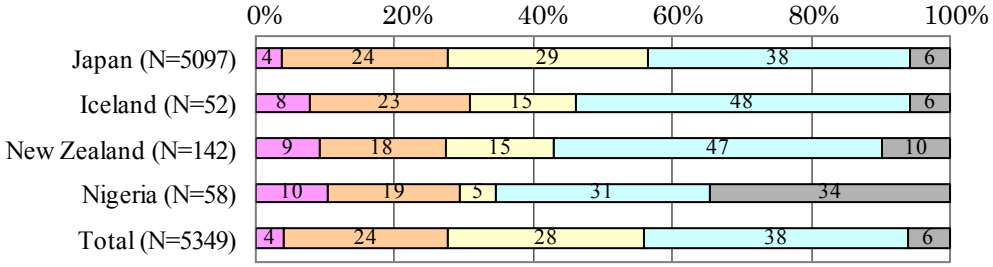


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

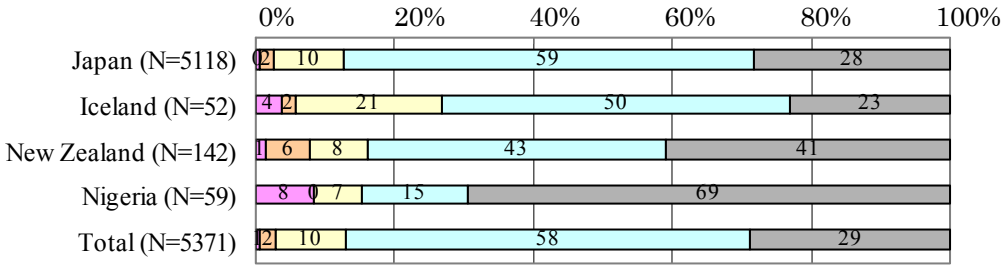
Nurse's responses: The concept of all personnel working as a team does not work in our hospital.



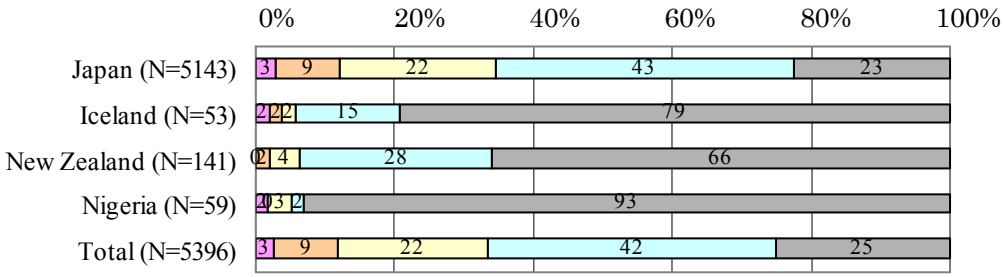
Nurse's responses: Personal problems can adversely affect my performance.



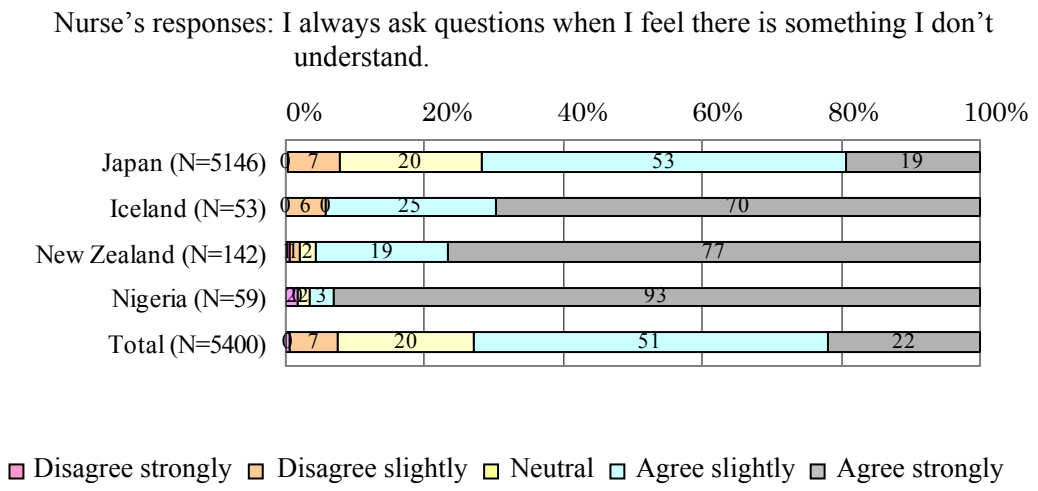
Nurse's responses: Effective team coordination requires members to take onto account the personalities of other team members.



Nurse's responses: I like my job.



Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly



2.2 Factor-based responses

As mentioned previously in the "Survey Outline", we arranged most of question items into nine safety culture factors so that characteristics of each national and professional culture can be easily identified by a smaller number of factors, instead of individual items presented above. Table 2.3 shows mapping of question items to each safety culture factor as well as its meanings when taking both a high value and a low value. This table also includes information on Cronbach's alpha for a set of the representative items of each factor. In this table, for a question item having a minus sign, e.g., 57(-) for power distance, agreement to the statement represents negative attitude to or perception of the factor label.

Table 2.3: Mapping of question items to safety culture factors

Safety culture factors	Comprised item no. (Cronbach's α)	Meaning of factor with high value	Meaning of factor with low value
I. Power distance	10, 14, 18, 27, 34,37, 57(-) (α=0.539)	Large psychological distance between leaders or superiors and subordinate members. There may exist bureaucratic, authoritative atmosphere within an organisation. There is limited or little open communication between leaders and their subordinates within a department or workplace as well as lack of communication between departments.	Small psychological distance between leaders or superiors and subordinate members. Leaders and their subordinates have open communication initiated not only from leaders but also from juniors.
II. Communication	12,13,19,43 (α=0.583)	Importance of communication is well acknowledged for performing a job within an organisation or team members.	Importance of communication is not well acknowledged for performing a job within an organisation or team members.
III. Individualism-collectivism	15,26(-),35 (α=0.478)	Many members take team-oriented or collectivistic behaviour in an organisation.	Many members tend to behave more in individualistic manner rather than taking team-oriented behaviour.

(to be continued)

Safety culture factors	Comprised item no. (Cronbach's α)	Meaning of factor with high value	Meaning of factor with low value
IV. Recognition of stress effects on own performance	4(-),11(-), 21, 38,48(-),54	Members understand well effects of stress, fatigue and other psychological factors on their own work performance. They also well recognise the need of work sharing and collaboration between members in a stressed condition.	Team members do not acknowledge appropriately effects of workload, fatigue, stress and other psychological factors which may contribute to reduction of their own task performance. They are overconfident of their own task performance – no degradation – even in a stressful, overloaded or emergent situation.
V. Recognition of stress management	5,8,25,44,50,55	Members are well aware of other team members' stress and fatigue levels while they are working by team. Also, they recognise the need of taking care of each other in such a high stress or overloaded situation.	Members are not aware enough, or rather little aware of other team members' stress and fatigue levels while they are working by team.
VI. Morale & Motivation	7, 24, 31, 32, 46, 56 (α=0.705)	There are many members who have high morale and motivation within an organisation.	There are many members who have low morale and motivation within an organisation.
VII. Recognition of human error	29(-), 33(-), 52 (α=0.197)	Human errors are well and realistically recognised within an organisation.	Many members do not acknowledge human errors realistically within an organisation.
VIII. Satisfaction with management	2, 30, 40, 53(-)	Staff members are satisfied with hospital management system. Their trust in senior managers, and leaders and superiors in department is high.	Staff members are not satisfied with hospital management system. Their trust in senior managers, and leaders and superiors in department is quite low.
IX. Awareness of own competence	9, 20, 23, 28, 47, 51	Staff members' awareness of their own competence and skills are very high. They are quite confident in their own competence and skills. They believe staff's competence and skills are the most important for working in a hospital.	For working in healthcare as doctors or nurses, members acknowledge there are other important issues or factors in addition to their own competence and skills.

(-): Agreement to this question item represents negative attitude to or perception of the factor label.

(1) Doctors vs. nurses in each country

Percentage agreement and disagreement for each safety culture factor are shown in Table 2.4 based on professional groups in four countries except Denmark. The percentage [dis]agreement is defined as the following rate: the nominator represents 5 and 4 responses, i.e., "strongly agree" and "slightly agree" [the 1 and 2 responses, i.e., "strongly disagree" and "slightly disagree"]; and the denominator represents the total number of responses for the items relevant to the factor. This table also includes information on significance levels – obtained by Mann-Whitney test – of differences between the professional groups, i.e., doctors and nurses. Before calculation of the factor-based percentage agreement and disagreement, items that represent negative meaning in terms of the factor label – as mentioned above, items having a minus sign in Table 2.3 – have their ratings of agreement reversed, i.e., 5 and 4 responses, reversed to 1 and 2, and vice versa.

Table 2.4: Staff responses to each "safety culture" factor and significance level between doctors and nurses

Safety culture factors		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagree	N	Agree	Disagree	
I. Power distance	JP	377	12%	71%	4898	11%	70%	0.145
	IS	28	14%	75%	50	12%	80%	0.107
	NZ	56	13%	78%	137	8%	87%	0.000
	NG	155	27%	66%	58	21%	77%	0.013
II. Communication	JP	377	93%	2%	4972	90%	2%	0.000
	IS	28	84%	4%	51	96%	1%	0.002
	NZ	53	82%	4%	137	89%	4%	0.006
	NG	158	88%	6%	57	86%	11%	0.588
III. Individualism-collectivism	JP	390	68%	11%	5114	71%	10%	0.005
	IS	29	87%	5%	54	84%	6%	0.371
	NZ	57	89%	5%	136	88%	5%	0.176
	NG	159	72%	16%	58	73%	22%	0.865
IV. Recognition of stress effects on own performance	JP	379	38%	38%	4864	42%	31%	0.001
	IS	29	44%	39%	51	41%	48%	0.113
	NZ	56	54%	32%	137	46%	43%	0.005
	NG	156	53%	40%	54	50%	46%	0.084
V. Recognition of stress management	JP	383	71%	13%	4903	73%	11%	0.091
	IS	28	61%	19%	51	76%	12%	0.008
	NZ	56	66%	18%	138	71%	19%	0.260
	NG	153	80%	8%	55	84%	10%	0.011
VI. Morale & Motivation	JP	384	68%	12%	4909	58%	17%	0.000
	IS	29	73%	13%	51	74%	12%	0.428
	NZ	56	74%	10%	134	73%	14%	0.818
	NG	150	76%	11%	57	88%	9%	0.000
VII. Recognition of human error	JP	387	60%	26%	4946	53%	25%	0.000
	IS	29	61%	24%	53	59%	26%	0.423
	NZ	57	62%	24%	140	61%	28%	0.258
	NG	158	61%	29%	55	58%	35%	0.221
VIII. Satisfaction with management	JP	372	54%	19%	4961	60%	18%	0.000
	IS	29	57%	18%	52	60%	22%	0.827
	NZ	56	55%	24%	138	66%	23%	0.077
	NG	151	51%	35%	57	53%	42%	0.396
IX. Awareness of own competence	JP	380	52%	17%	4845	42%	25%	0.000
	IS	29	84%	5%	51	86%	7%	0.290
	NZ	56	79%	5%	136	80%	9%	0.707
	NG	149	78%	7%	57	81%	14%	0.059

(2) Multi-national comparisons

Table 2.5 indicates multi-national comparisons in terms of significant levels between any two of the four countries. These results were obtained by applying the Mann-Whitney test to each safety culture factor, separately using doctor's and nurse's samples.

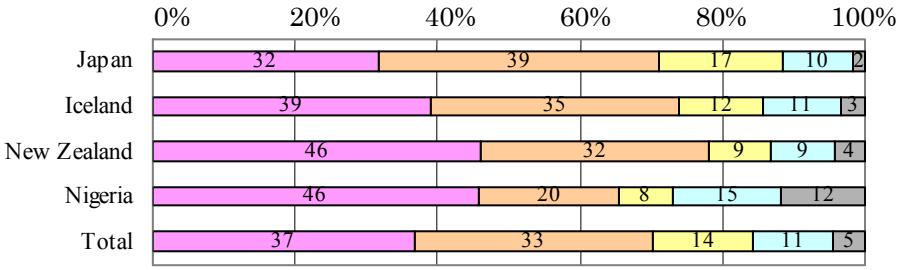
Table 2.5: Mann-Whitney significance of staff responses to each "safety culture" factor between any two countries

Safety culture factors		Doctors			Nurses		
		IS	NZ	NG	IS	NZ	NG
I. Power distance	JP	0.668	0.011	0.442	0.000	0.000	0.002
	IS	–	0.320	0.387	–	0.001	0.481
	NZ	–	–	0.010	–	–	0.000
II. Communication	JP	0.644	0.524	0.000	0.000	0.000	0.000
	IS	–	0.419	0.003	–	0.552	0.579
	NZ	–	–	0.004	–	–	0.272
III. Individualism-collectivism	JP	0.000	0.000	0.000	0.000	0.000	0.103
	IS	–	0.109	0.286	–	0.141	0.023
	NZ	–	–	0.001	–	–	0.000
IV. Recognition of stress effects on own performance	JP	0.753	0.031	0.062	0.000	0.000	0.040
	IS	–	0.097	0.241	–	0.180	0.175
	NZ	–	–	0.504	–	–	0.742
V. Recognition of stress management	JP	0.015	0.122	0.000	0.519	0.163	0.000
	IS	–	0.238	0.000	–	0.208	0.000
	NZ	–	–	0.000	–	–	0.000
VI. Morale & Motivation	JP	0.272	0.063	0.000	0.000	0.000	0.000
	IS	–	0.748	0.070	–	0.690	0.000
	NZ	–	–	0.050	–	–	0.000
VII. Recognition of human error	JP	0.853	0.257	0.748	0.372	0.007	0.596
	IS	–	0.645	0.961	–	0.515	0.804
	NZ	–	–	0.569	–	–	0.447
VIII. Satisfaction with management	JP	0.103	0.369	0.113	0.830	0.002	0.000
	IS	–	0.535	0.036	–	0.167	0.010
	NZ	–	–	0.105	–	–	0.000
IX. Awareness of own competence	JP	0.000	0.000	0.000	0.000	0.000	0.000
	IS	–	0.970	0.347	–	0.329	0.274
	NZ	–	–	0.261	–	–	0.025

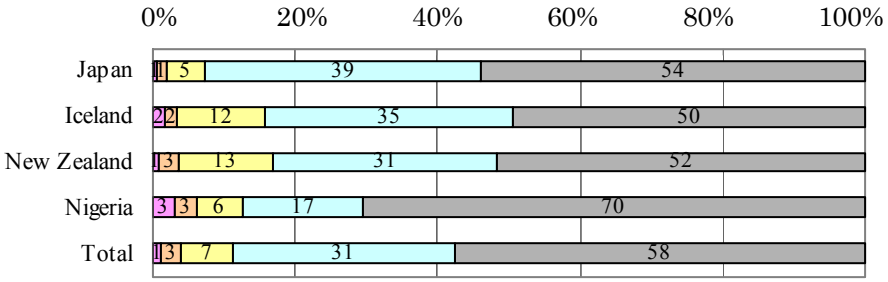
The following figures represent the responses of doctors in the four countries to each safety culture factor (until Page 61). To depict charts of the factor-based responses, percentage of each response option (from 'strongly disagree' to 'strongly agree') was reproduced as the rate of the total number of responses to an individual response option over the total number of responses for the specific items of each factor. As mentioned previously, before calculation of the factor-based rate of each response option, items that represent negative meaning in terms of the factor label – as mentioned

above, items having a minus sign in Table 2.3 – have their ratings of agreement reversed, i.e., 5 and 4 responses, reversed to 1 and 2, and vice versa.

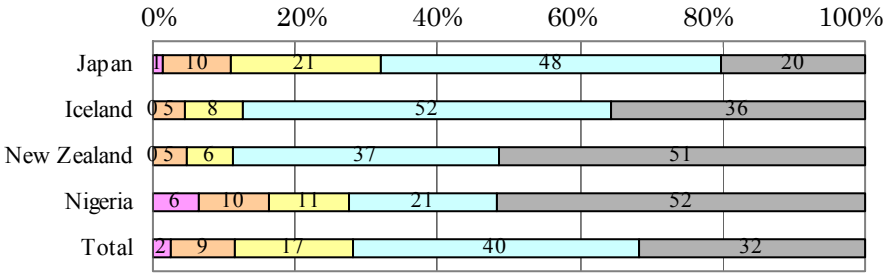
Doctor's responses: Power distance



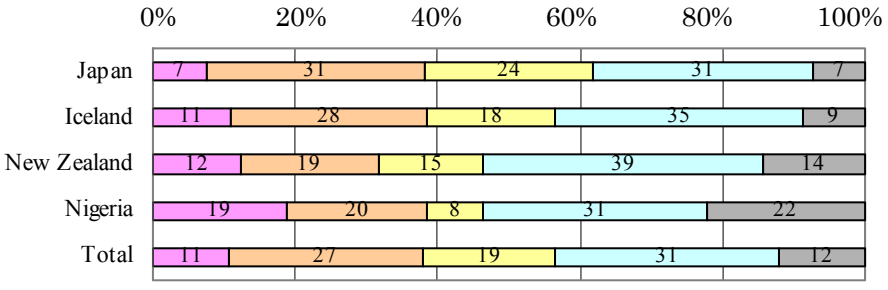
Doctor's responses: Communication



Doctor's responses: Individualism-collectivism

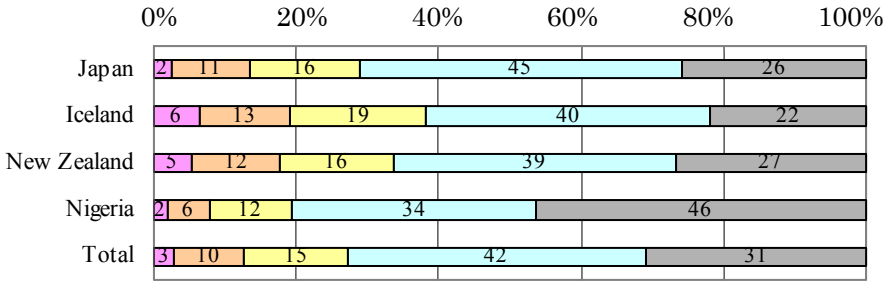


Doctor's responses: Recognition of stress effects on own performance

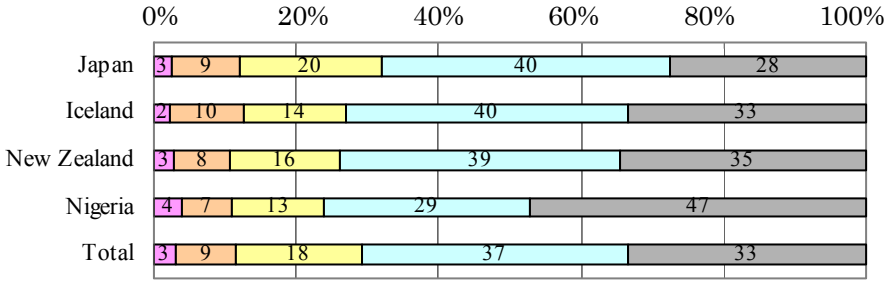


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

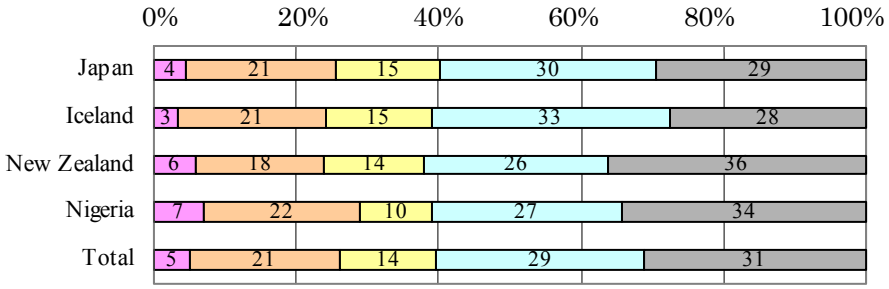
Doctor's responses: Recognition of stress management



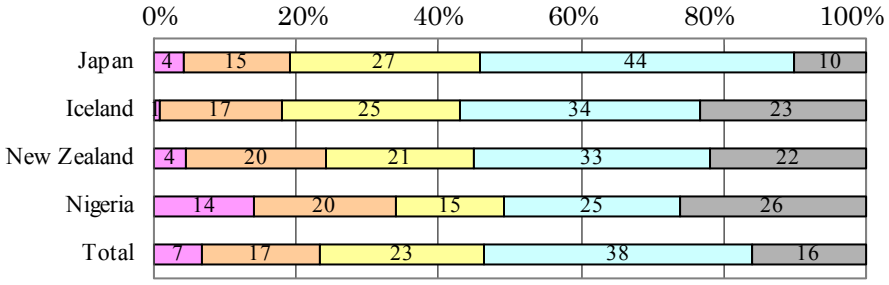
Doctor's responses: Morale & motivation

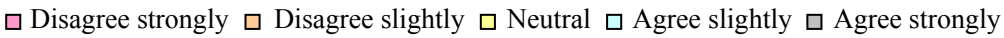


Doctor's responses: Recognition of human error

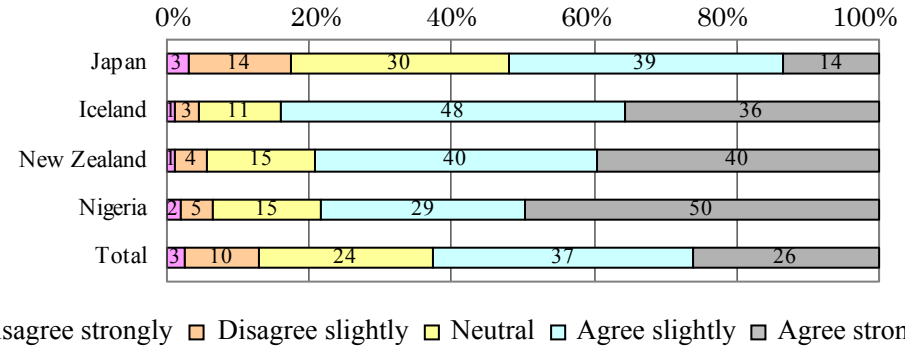


Doctor's responses: Satisfaction with management



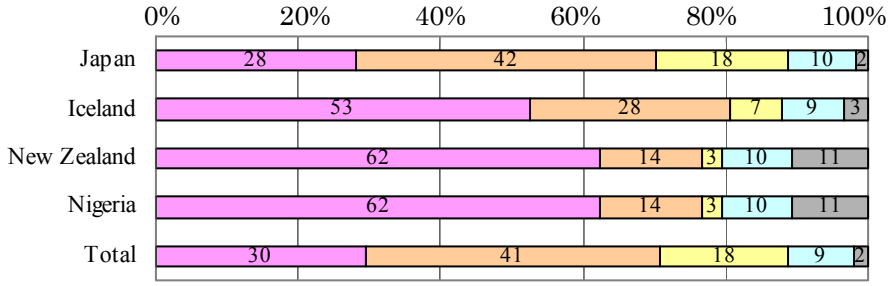


Doctor's responses: Awareness of own competence

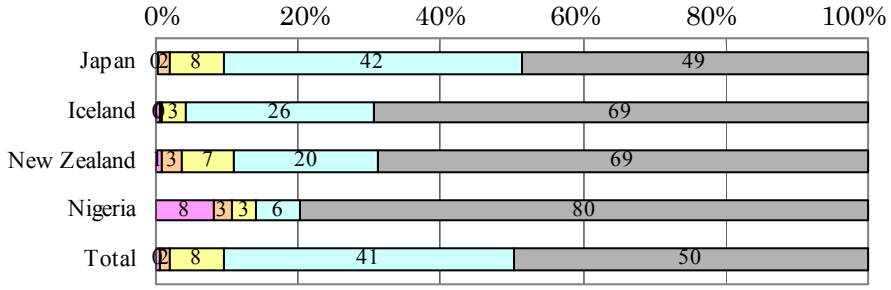


The following figures represent the factor-based responses of nurses in each country (until Page 63).

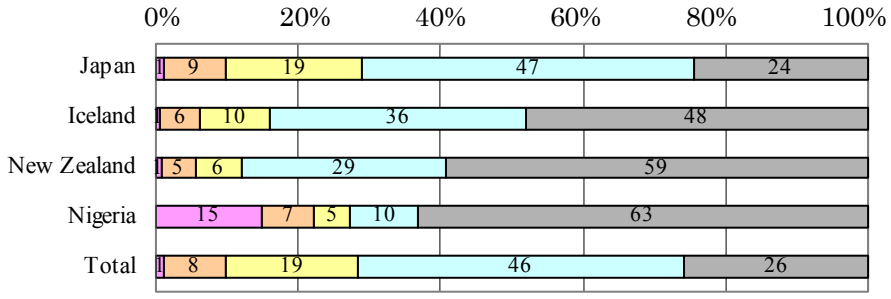
Nurse's responses: Power distance



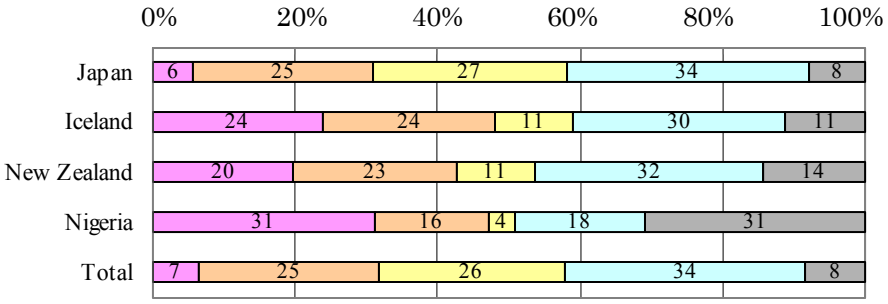
Nurse's responses: Communication



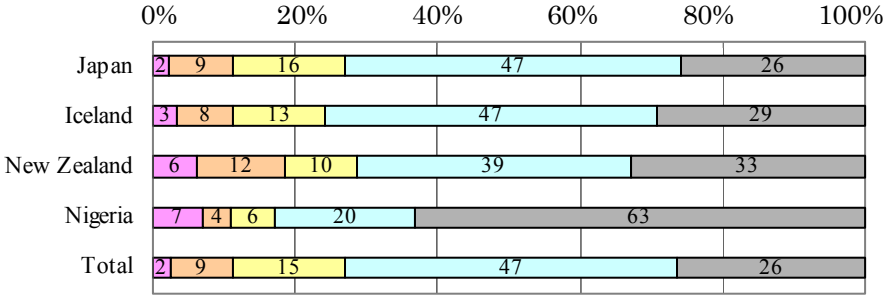
Nurse's responses: Individualism-collectivism



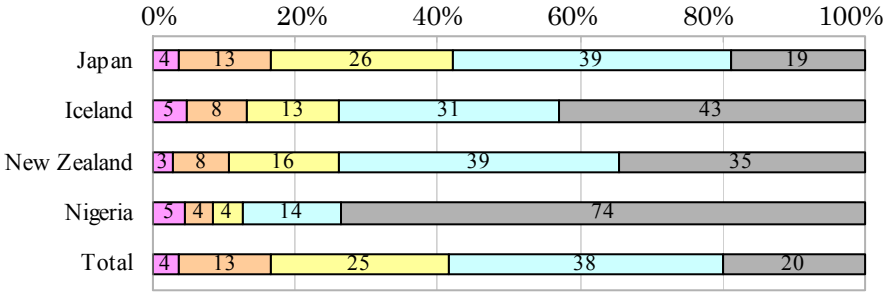
Nurse's responses: Recognition of stress effects on own performance



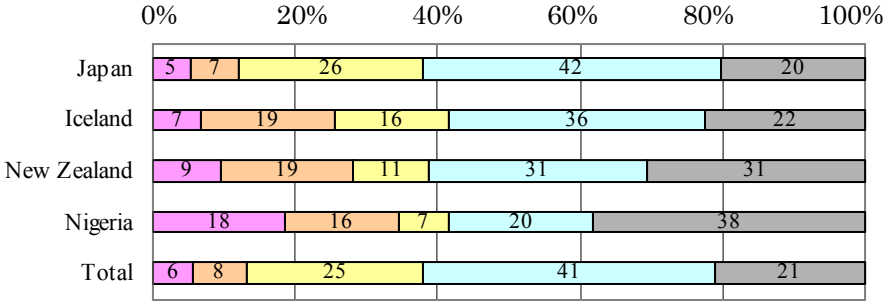
Nurse's responses: Recognition of stress management



Nurse's responses: Morale & motivation

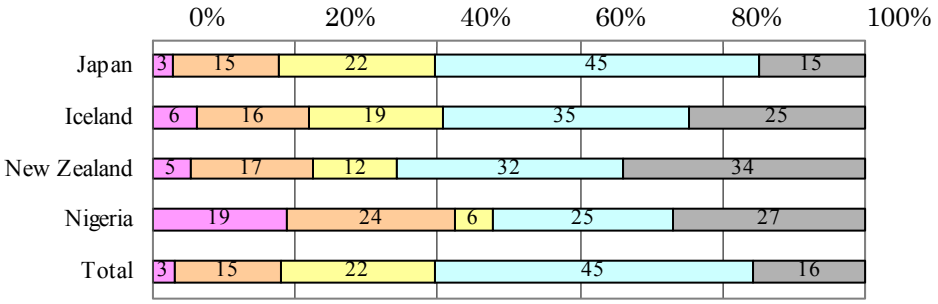


Nurse's responses: Recognition of human error

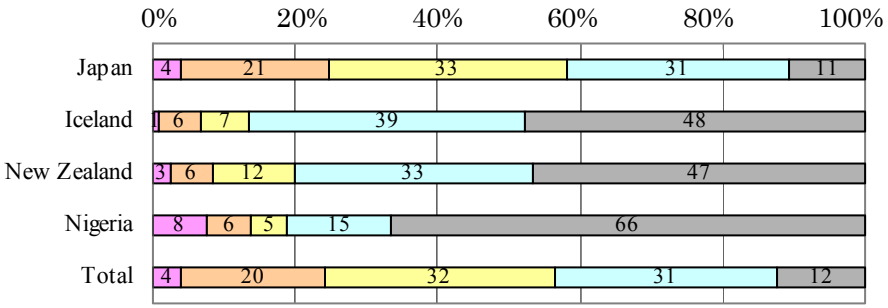


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

Nurse's responses: Satisfaction with management



Nurse's responses: Awareness of own competence



3. Attitudes to Reporting Adverse Events for Three Cases

3.1 Case-based responses

Here, we present multi-national comparison results of healthcare staff responses to error reporting and interaction with the patient based on the severities of outcome, i.e., the three adverse event cases.

Table 3.1: Staff responses regarding attitudes to error reporting and interaction with the patient and significance levels between doctors and nurses in the Near-miss Case

		Doctors			Nurses			Mann-Whitney
		N	Agree	Disagree	N	Agree	Disagree	significance
1a. Keep it to myself that I took the wrong capped vial.	JP	380	12%	77%	5031	10%	75%	0.256
	DK	670	26%	70%	1263	19%	78%	0.000
	IS	29	17%	79%	53	15%	81%	0.825
	NZ	54	28%	69%	131	16%	77%	0.014
	NG	162	36%	61%	56	16%	82%	0.000
1b. Talk in confidence with a colleague about the incident.	JP	378	20%	65%	4954	26%	57%	0.021
	DK	649	58%	37%	1241	72%	23%	0.000
	IS	29	66%	28%	53	76%	13%	0.149
	NZ	52	79%	21%	131	80%	15%	0.820
	NG	161	73%	23%	57	74%	26%	0.510
1c. Talk to several colleagues about the incident.	JP	379	61%	25%	4967	55%	26%	0.023
	DK	663	63%	33%	1253	64%	31%	0.363
	IS	29	48%	45%	53	34%	45%	0.563
	NZ	54	56%	41%	131	42%	40%	0.217
	NG	161	27%	63%	57	14%	83%	0.015
1d. Inform my superior about the incident	JP	379	75%	15%	5015	74%	11%	0.684
	DK	665	42%	54%	1262	59%	34%	0.000
	IS	29	76%	14%	54	78%	17%	0.593
	NZ	54	43%	30%	132	67%	23%	0.005
	NG	159	41%	49%	57	65%	33%	0.001
1e. Bring up the incident at the doctors' conference.	JP	373	51%	25%	4902	45%	25%	0.196
	DK	668	43%	52%	1258	22%	69%	0.000
	IS	29	28%	48%	53	11%	76%	0.007
	NZ	54	35%	52%	118	10%	77%	0.000
	NG	160	25%	61%	55	15%	78%	0.037
1f. Inform the patient about the incident	JP	–	–	–	–	–	–	–
	DK	66	5%	93%	1265	11%	85%	0.000
	IS	29	21%	66%	53	19%	59%	0.540
	NZ	54	7%	72%	132	25%	65%	0.559
	NG	156	7%	88%	55	6%	91%	0.118
1g. Report the event to the local reporting system [do not mark this item unless you do have such a system].	JP	368	64%	19%	4907	67%	15%	0.030
	DK	172	30%	47%	200	15%	63%	0.000
	IS	189	67%	33%	36	53%	39%	0.864
	NZ	37	46%	38%	109	54%	37%	0.390
	NG	19	5%	84%	14	29%	64%	0.128

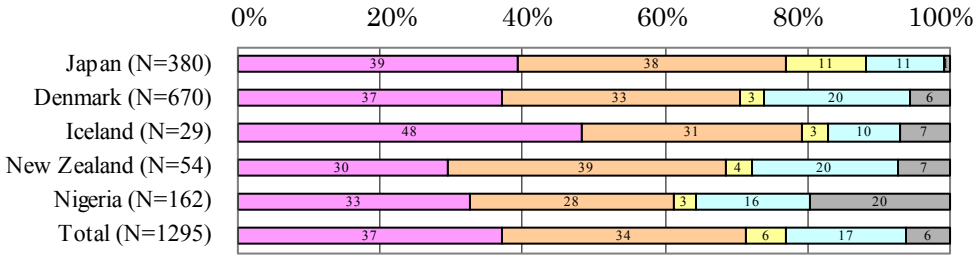
JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

(1) Near-miss Case (A)

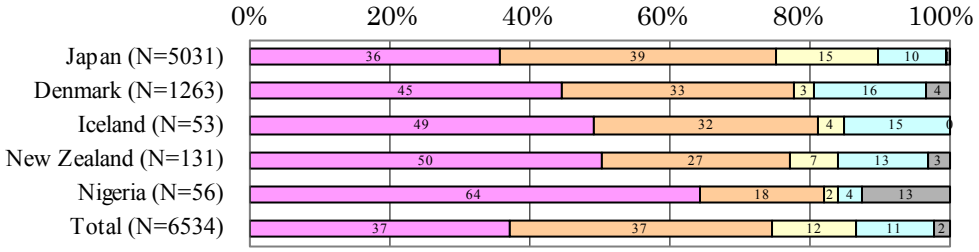
First, percentage agreement and disagreement of each question item in the near-miss case (Case A) are shown in Table 3.1 for each professional group in five countries, i.e., Japan, Denmark, Iceland, New Zealand and Nogeria. This table includes information on significance levels (obtained by the Mann-Whitney test) of differences between the professional groups, i.e., doctors and nurses.

The following figures (until Page 68) indicate the healthcare staff responses (both doctor and nurse groups, respectively) in each country to each question item in the near-miss case.

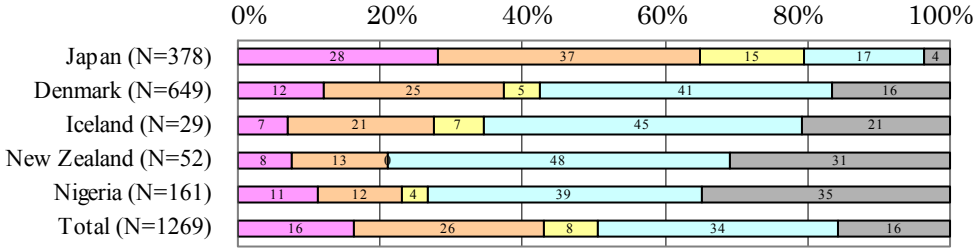
Doctor's responses to Near-miss Case:
Keep it myself that I took the wrong capped vial.



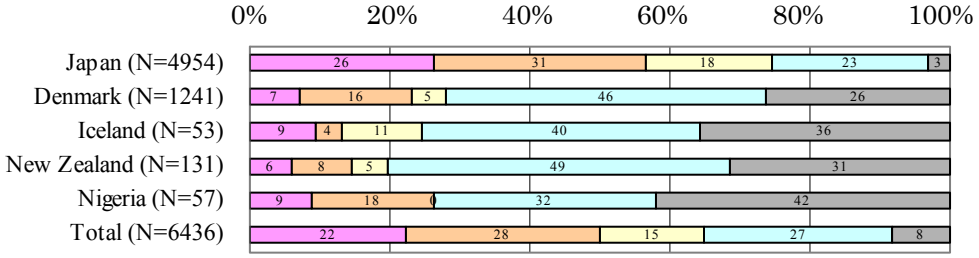
Nurse's responses to Near-miss Case:
Keep it myself that I took the wrong capped vial.



Doctor's responses to Near-miss Case:
Talk in confidence with a colleague about the incident.

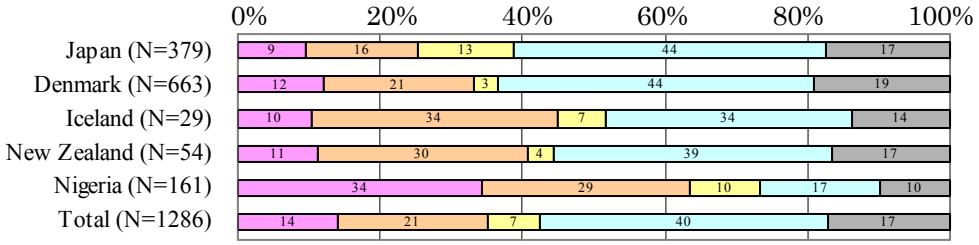


Nurse's responses to Near-miss Case:
Talk in confidence with a colleague about the incident.

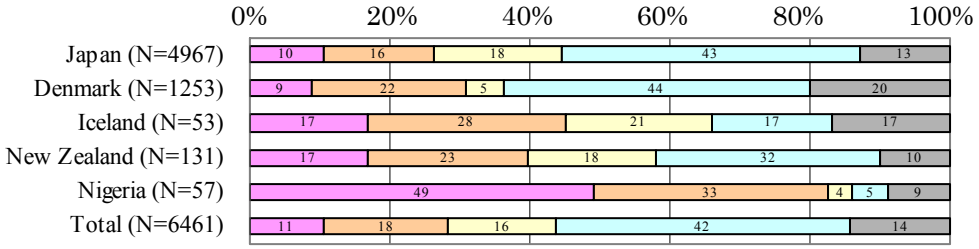


Definitely not Probably not Don't know Yes, probably Yes, definitely

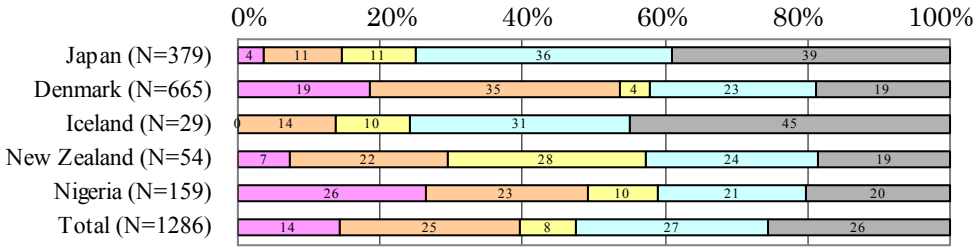
Doctor's responses to Near-miss Case:
Talk to several colleagues about the incident.



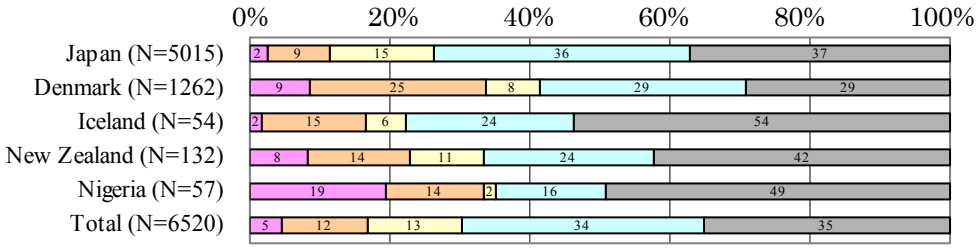
Nurse's responses to Near-miss Case:
Talk to several colleagues about the incident.



Doctor's responses to Near-miss Case:
Inform my superior about the incident.

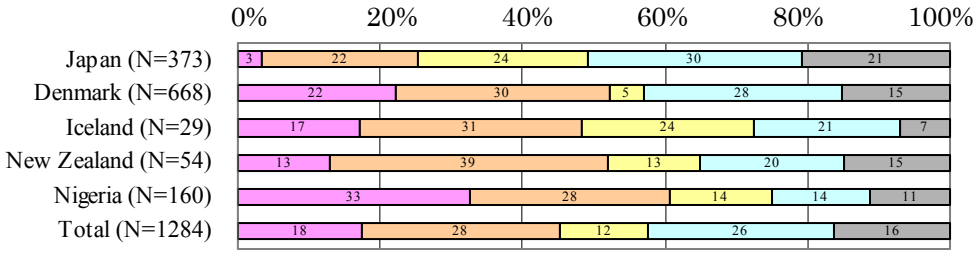


Nurse's responses to Near-miss Case:
Inform my superior about the incident.

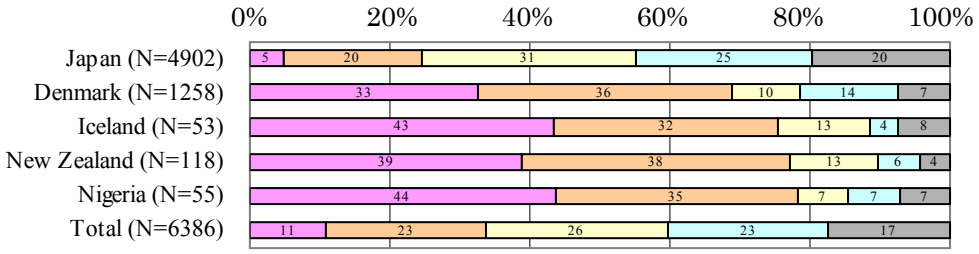


Definitely not Probably not Don't know Yes, probably Yes, definitely

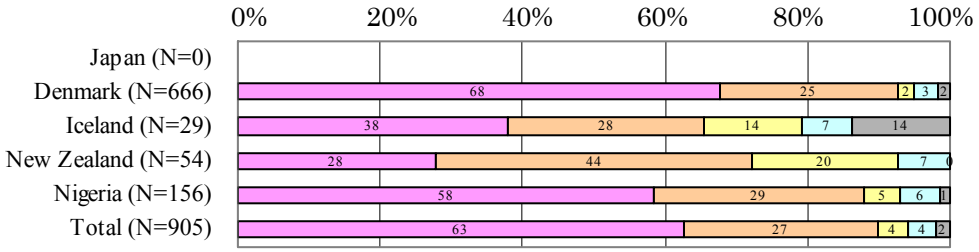
Doctor's responses to Near-miss Case:
Bring up the incident at the doctors' conference.



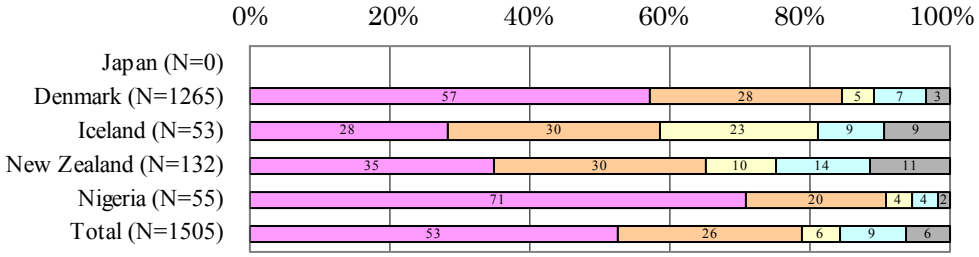
Nurse's responses to Near-miss Case:
Bring up the incident at the doctors' conference.



Doctor's responses to Near-miss Case:
Inform the patient about the incident.

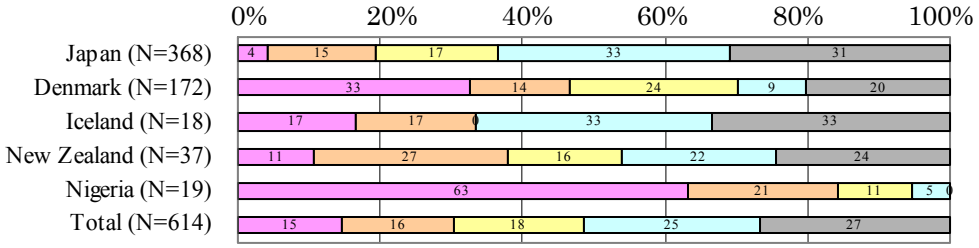


Nurse's responses to Near-miss Case:
Inform the patient about the incident.

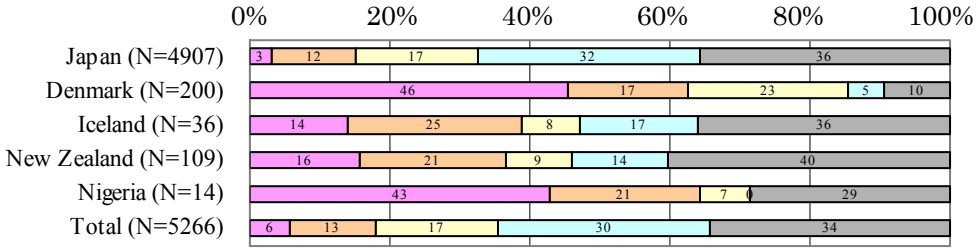


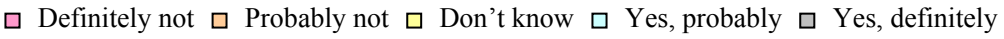
Definitely not Probably not Don't know Yes, probably Yes, definitely

Doctor's responses to Near-miss Case:
Report the event to the local reporting system
[do not mark this item unless you do have such a system].



Nurse's responses to Near-miss Case:
Report the event to the local reporting system
[do not mark this item unless you do have such a system].





(2) Minor injury Case (B)

Next, as in the same way as above, we indicate percentage agreement and disagreement of each question item in the mild outcome case (Case B) as well as significance levels of differences between each country's two professional groups in Table 3.2.

Table 3.2: Staff responses regarding attitudes to error reporting and interaction with the patient and significance levels between doctors and nurses in the Minor injury Case

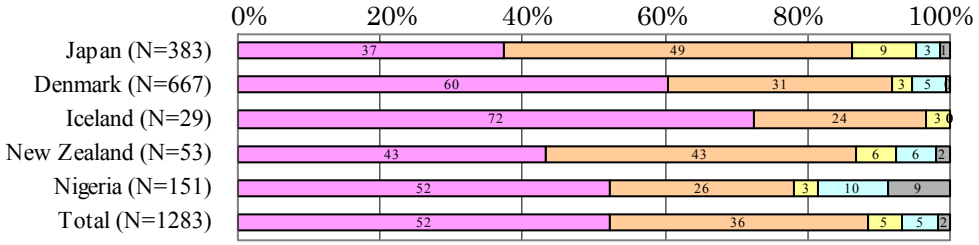
		Doctors			Nurses			Mann-Whitney
		N	Agree	Disagree	N	Agree	Disagree	significance
1a. Keep it to myself that the patient has not received anti-coagulant.	JP	383	5%	86%	5060	2%	93%	0.000
	DK	667	5%	92%	1274	3%	95%	0.000
	IS	29	0%	97%	51	0%	100%	0.498
	NZ	53	8%	87%	128	5%	94%	0.000
	NG	151	19%	78%	47	0%	98%	0.000
1b. Talk in confidence with a colleague about the incident.	JP	381	21%	67%	4945	16%	67%	0.000
	DK	645	59%	36%	1248	70%	22%	0.000
	IS	29	86%	7%	51	71%	22%	0.247
	NZ	53	81%	11%	127	81%	13%	1.000
	NG	150	77%	16%	47	81%	15%	0.289
1c. Talk to several colleagues about the incident.	JP	386	60%	24%	4971	53%	29%	0.011
	DK	655	66%	29%	1257	70%	23%	0.001
	IS	28	50%	36%	51	41%	41%	0.565
	NZ	53	60%	32%	123	46%	36%	0.170
	NG	147	21%	65%	46	28%	65%	0.588
1d. Write in patient's case record that the patient has not received injection.	JP	386	72%	10%	5011	68%	8%	0.952
	DK	675	81%	13%	1269	92%	5%	0.000
	IS	29	83%	3%	51	94%	2%	0.040
	NZ	54	83%	9%	130	90%	7%	0.010
	NG	149	66%	26%	47	68%	21%	0.133
1e. Inform my leader or doctor in charge of this patient for the sake of the treatment of the patient	JP	380	88%	5%	5079	93%	3%	0.000
	DK	674	88%	10%	1280	95%	3%	0.000
	IS	29	100%	0%	51	96%	4%	0.065
	NZ	54	96%	0%	130	97%	3%	0.001
	NG	149	83%	15%	47	94%	4%	0.089
1f. Report the event to the local reporting system [do not mark this item *unless* you do have a such a system]	JP	361	66%	11%	4854	0.91	3%	0.000
	DK	133	57%	11%	141	60%	9%	0.343
	IS	18	78%	6%	34	68%	15%	0.476
	NZ	40	70%	3%	107	89%	7%	0.000
	NG	26	8%	77%	10	60%	30%	0.004

		Doctors			Nurses			Mann-Whitney
		N	Agree	Disagree	N	Agree	Disagree	significance
2a. Inform the patient that he has developed a thrombosis and explain the consequences.	JP	386	86%	7%	5059	66%	8%	0.000
	DK	693	99%	0%	1275	98%	2%	0.006
	IS	24	96%	4%	53	94%	0%	0.861
	NZ	48	100%	0%	123	94%	3%	0.122
	NG	122	64%	34%	52	69%	27%	0.892
2b. Explain to the patient that by mistake he has not received an anticoagulant injection which probably would habe prevented the thrombosis.	JP	382	47%	26%	5017	36%	16%	0.202
	DK	683	88%	9%	1276	87%	9%	0.838
	IS	24	92%	0%	53	85%	6%	0.630
	NZ	47	70%	13%	122	74%	12%	0.547
	NG	121	36%	55%	53	45%	51%	0.264
2c. Explain to the patient that I am responsible for this mistake.	JP	381	47%	26%	5009	36%	17%	0.208
	DK	682	76%	19%	1271	68%	23%	0.002
	IS	24	75%	4%	53	57%	8%	0.087
	NZ	48	71%	15%	123	61%	18%	0.593
	NG	122	21%	61%	53	28%	68%	0.873
2d. Express my regrets to the patient.	JP	381	53%	21%	5003	58%	9%	0.001
	DK	687	92%	6%	1275	88%	7%	0.056
	IS	24	92%	0%	53	81%	4%	0.622
	NZ	48	83%	8%	123	73%	11%	0.237
	NG	120	38%	46%	52	65%	27%	0.010
2e. Inform the patient that he may initiate complaint procedures.	JP	359	40%	27%	4734	33%	20%	0.680
	DK	678	80%	15%	1253	87%	8%	0.000
	IS	24	75%	8%	53	57%	13%	0.119
	NZ	48	42%	29%	122	74%	11%	0.000
	NG	115	6%	79%	51	10%	77%	0.301

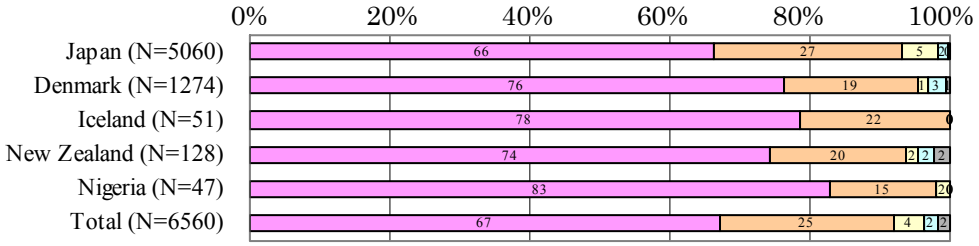
JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

The following figures (until Page 75) illustrate multi-national comparisons of the healthcare staff responses (both doctor and nurse groups, respectively) to each question item in the mild outcome case.

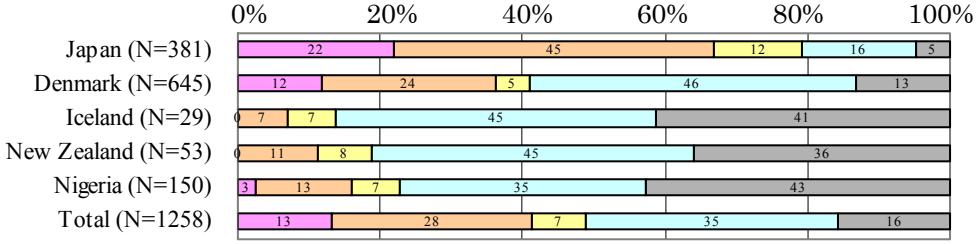
Doctor's responses to Minor injury Case:
Keep it to myself that the patient has not received anti-coagulant.



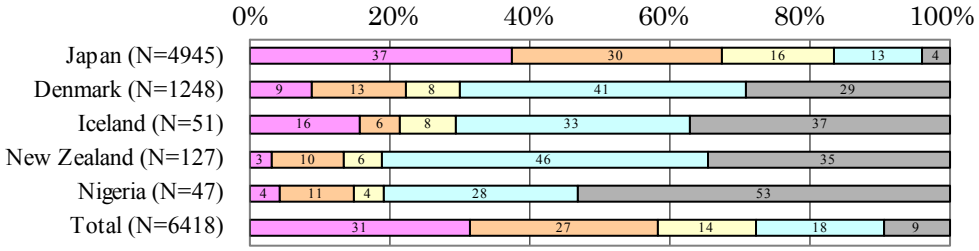
Nurse's responses to Minor injury Case:
Keep it to myself that the patient has not received anti-coagulant.

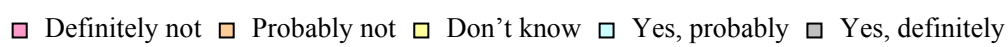


Doctor's responses to Minor injury Case:
Talk in confidence with a colleague about the incident.

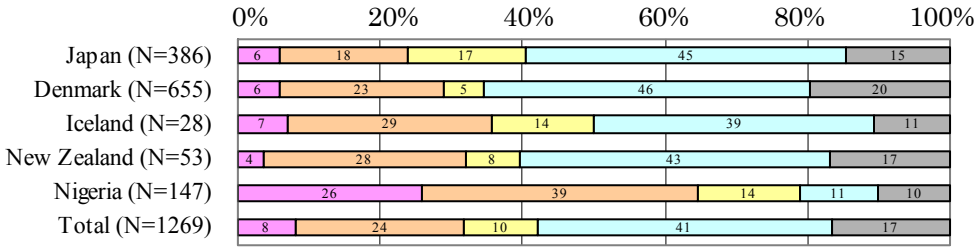


Nurse's responses to Minor injury Case:
Talk in confidence with a colleague about the incident.

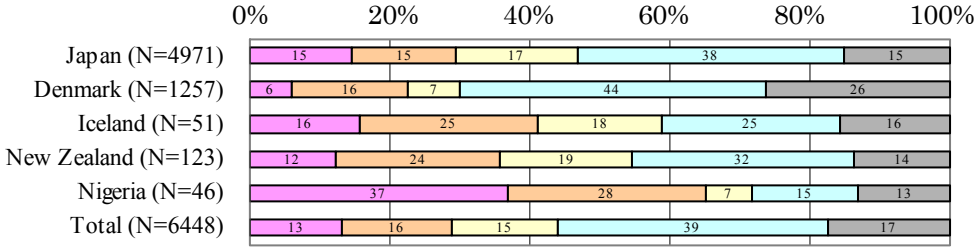




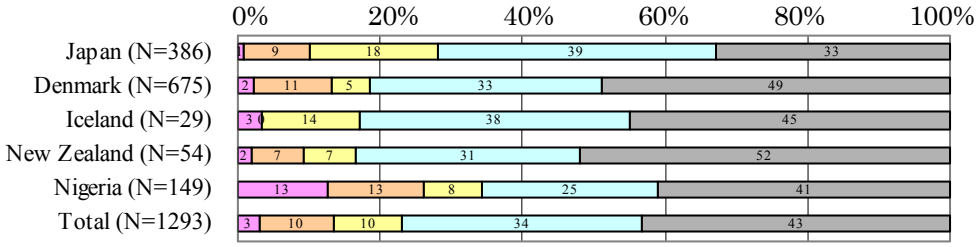
Doctor's responses to Minor injury Case:
Talk to several colleagues about the incident.



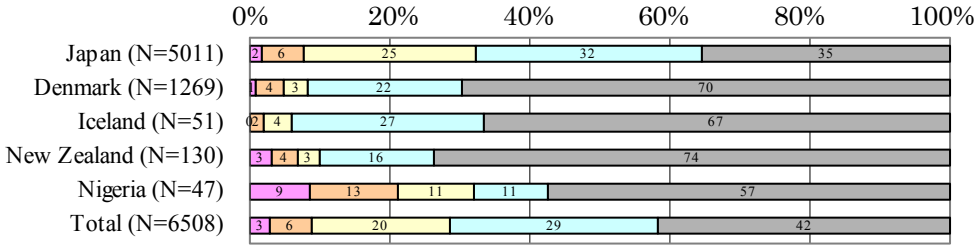
Nurse's responses to Minor injury Case:
Talk to several colleagues about the incident.



Doctor's responses to Minor injury Case:
Write in patient's case record that the patient has not received injection.



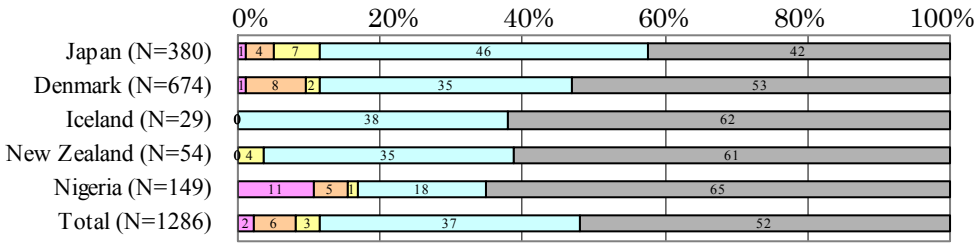
Nurse's responses to Minor injury Case:
Write in patient's case record that the patient has not received injection.



Definitely not Probably not Don't know Yes, probably Yes, definitely

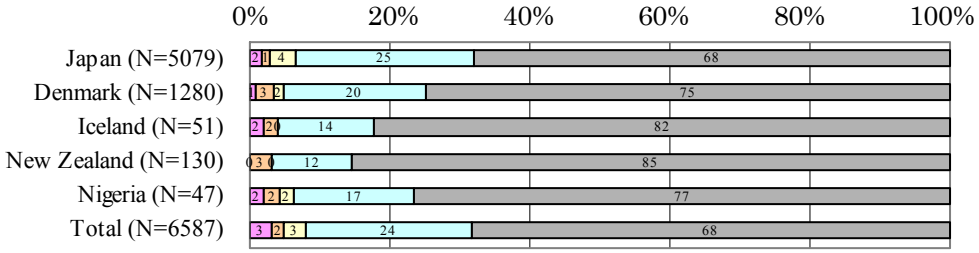
Doctor's responses to Minor injury Case:

Inform my leader or doctor in charge of this patient for the sake of the treatment of the patient.



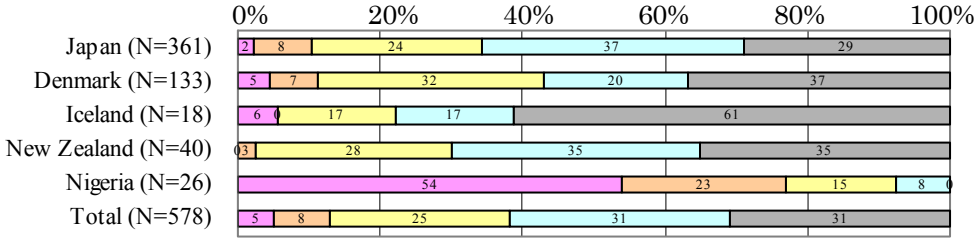
Nurse's responses to Minor injury Case:

Inform my leader or doctor in charge of this patient for the sake of the treatment of the patient.



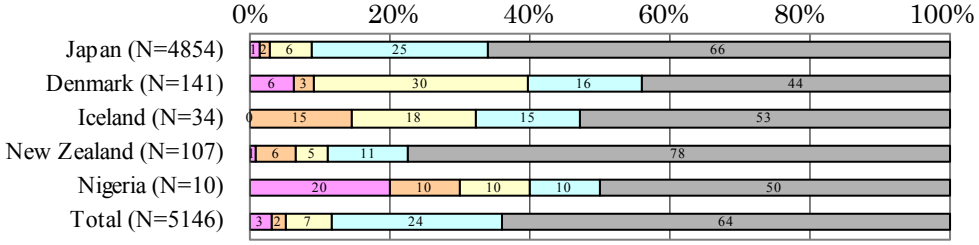
Doctor's responses to Minor injury Case:

Report the event to the local reporting system [do not mark this item unless you do have such a system].



Nurse's responses to Minor injury Case:

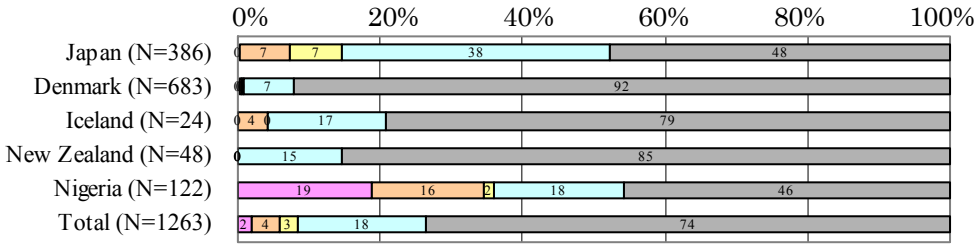
Report the event to the local reporting system [do not mark this item unless you do have such a system].



Definitely not Probably not Don't know Yes, probably Yes, definitely

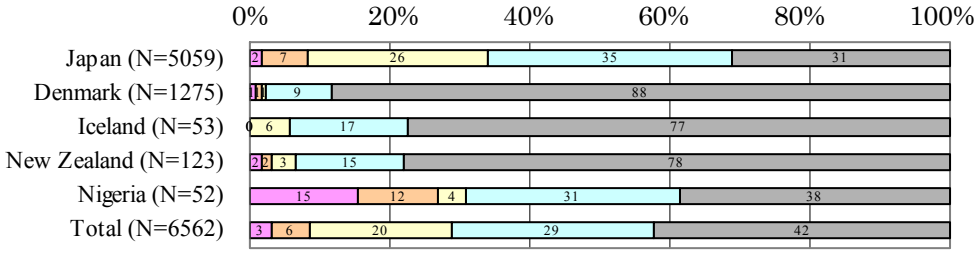
Doctor's responses to Minor injury Case:

Inform the patient that he has developed a thrombosis and explain the consequences.



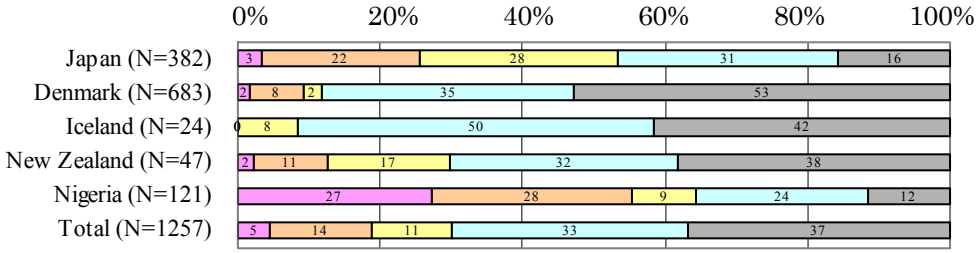
Nurse's responses to Minor injury Case:

Inform the patient that he has developed a thrombosis and explain the consequences.



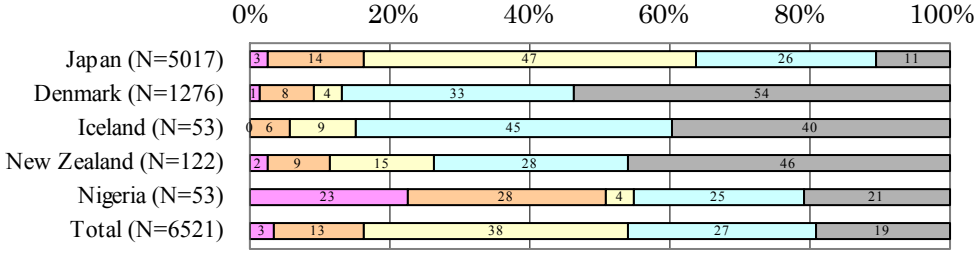
Doctor's responses to Minor injury Case:

Explain to the patient that by mistake he has not received an anticoagulant injection which probably would have prevented the thrombosis.



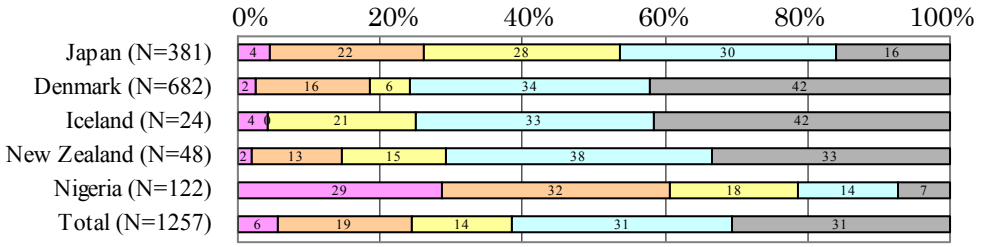
Nurse's responses to Minor injury Case:

Explain to the patient that by mistake he has not received an anticoagulant injection which probably would have prevented the thrombosis.

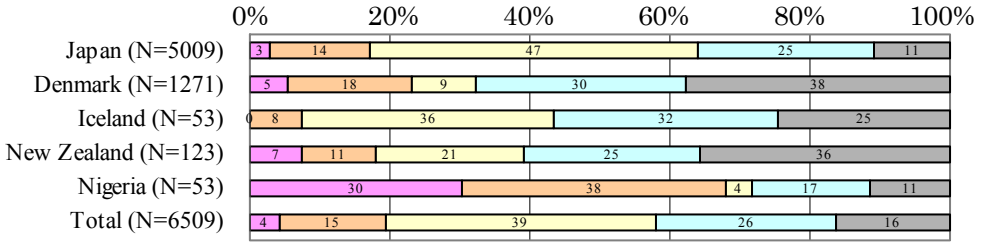


Definitely not Probably not Don't know Yes, probably Yes, definitely

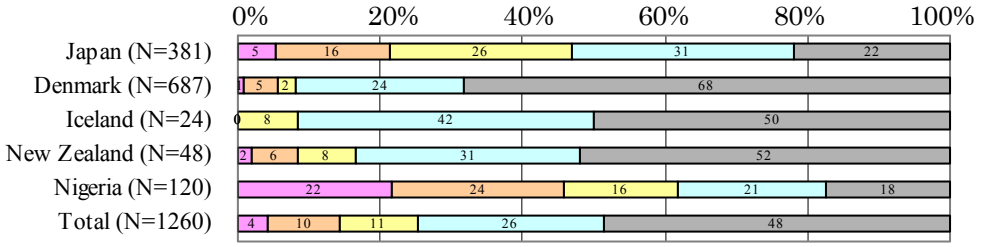
Doctor's responses to Minor injury Case:
Explain to the patient that I am responsible for this mistake.



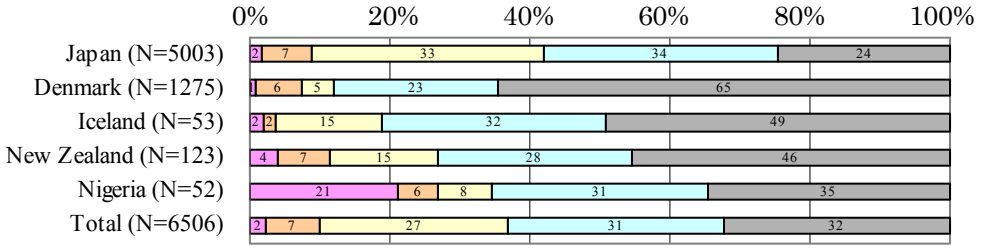
Nurse's responses to Minor injury Case:
Explain to the patient that I am responsible for this mistake.



Doctor's responses to Minor injury Case:
Express my regrets to the patient.

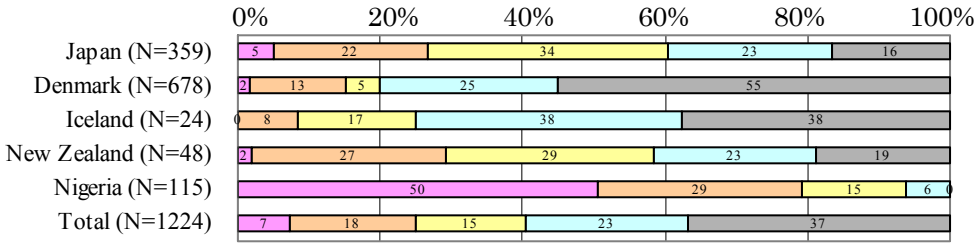


Nurse's responses to Minor injury Case:
Express my regrets to the patient.

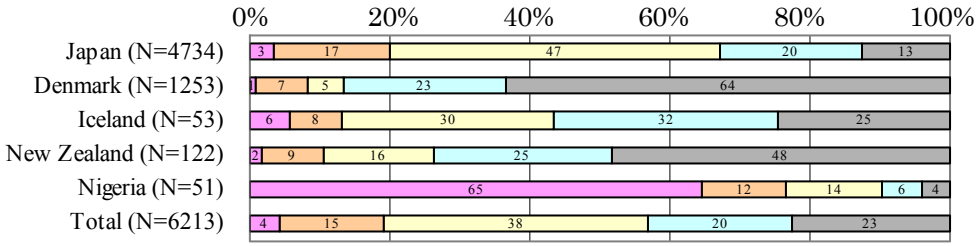


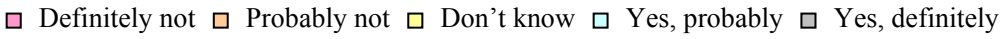
Definitely not Probably not Don't know Yes, probably Yes, definitely

Doctor's responses to Minor injury Case:
Inform the patient that he may initiate complaint procedures.



Nurse's responses to Minor injury Case:
Inform the patient that he may initiate complaint procedures.





(3) Major injury Case (C)

Finally, we describe the doctor's and nurse's responses of the five countries to each question item in the severe outcome case (Case C) as well as its significance levels of differences between the two professional groups in Table 3.3.

Table 3.3: Staff responses regarding attitudes to error reporting and interaction with the patient and significance levels between doctors and nurses in the Major injury Case

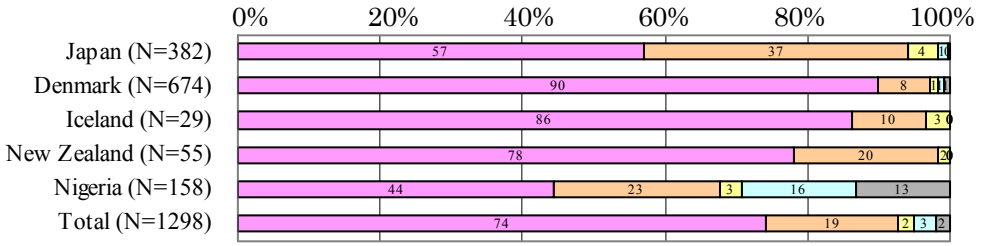
		Doctors			Nurses			Mann-Whitney
		N	Agree	Disagree	N	Agree	Disagree	significance
1a. Keep it myself that the patient has received 10 times the prescribed level.	JP	382	2%	94%	4972	1%	92%	0.000
	DK	674	2%	97%	1273	1%	99%	0.000
	IS	29	0%	97%	52	2%	98%	0.763
	NZ	55	0%	98%	133	2%	97%	0.118
	NG	158	29%	68%	55	13%	84%	0.001
1b. Talk in confidence with a colleague about the incident.	JP	377	18%	69%	4893	15%	68%	0.028
	DK	651	67%	28%	1248	75%	20%	0.000
	IS	29	83%	7%	51	67%	22%	0.047
	NZ	54	85%	11%	131	79%	16%	0.098
	NG	157	75%	19%	54	80%	19%	0.405
1c. Talk to several colleagues about the incident.	JP	380	55%	32%	4861	45%	35%	0.000
	DK	662	75%	20%	1258	76%	17%	0.592
	IS	29	52%	24%	52	33%	39%	0.163
	NZ	55	66%	27%	130	44%	42%	0.004
	NG	158	19%	70%	53	13%	81%	0.408
1d. Write in patient's case record that the patient has received 10 times the prescribed level.	JP	383	87%	4%	4944	65%	6%	0.000
	DK	681	94%	4%	1272	94%	3%	0.620
	IS	29	90%	3%	52	96%	4%	0.080
	NZ	56	95%	2%	136	85%	7%	0.956
	NG	156	38%	51%	55	47%	46%	0.297
1e. Inform my leader or the doctor in charge of the patient in order that the patient may receive treatment.	JP	385	97%	1%	5044	93%	2%	0.003
	DK	686	98%	1%	1287	99%	1%	0.000
	IS	29	100%	0%	52	98%	2%	0.402
	NZ	56	96%	2%	135	99%	2%	0.018
	NG	159	76%	21%	54	94%	6%	0.001
1f. Report the event to the local reporting system [do not mark this item unless you do have such a system]	JP	371	92%	2%	4938	0.93	2%	0.000
	DK	123	72%	5%	123	69%	2%	0.672
	IS	17	94%	0%	35	93%	9%	0.980
	NZ	41	83%	2%	115	96%	4%	0.000
	NG	30	7%	83%	14	57%	36%	0.010

		Doctors			Nurses			Mann-Whitney
		N	Agree	Disagree	N	Agree	Disagree	significance
2a. Inform the patient about the midication error and explain the risk of heart problems in the future.	JP	382	88%	4%	4973	67%	6%	0.000
	DK	683	98%	1%	1274	96%	2%	0.234
	IS	28	89%	0%	53	94%	2%	0.359
	NZ	54	93%	0%	127	91%	6%	0.792
	NG	146	38%	52%	54	44%	48%	0.799
2b. Explain to the patient that it was I who made the mistake.	JP	381	79%	4%	4944	52%	9%	0.000
	DK	683	87%	9%	1269	79%	13%	0.000
	IS	28	93%	0%	53	68%	6%	0.002
	NZ	54	83%	2%	128	77%	12%	0.695
	NG	145	24%	60%	52	29%	64%	0.448
2c. Express my regrets about the event to the patient.	JP	380	84%	6%	4950	72%	4%	0.001
	DK	681	97%	2%	1273	94%	3%	0.000
	IS	28	93%	0%	53	81%	0%	0.114
	NZ	54	89%	0%	129	85%	8%	0.920
	NG	144	40%	42%	53	53%	36%	0.082
2d. Inform the patient that she may initiate complaint procedures.	JP	374	59%	15%	4823	43%	13%	0.000
	DK	685	92%	5%	1275	94%	3%	0.078
	IS	28	82%	7%	52	77%	6%	0.188
	NZ	54	63%	13%	128	84%	9%	0.005
	NG	141	10%	74%	50	18%	74%	0.447
2e. Inform the patient about the possibility of applying for compensation from the hospital's insurance scheme.	JP	369	21%	30%	4723	15%	19%	0.208
	DK	666	94%	4%	1214	93%	3%	0.712
	IS	27	82%	4%	50	68%	6%	0.021
	NZ	53	59%	9%	120	52%	10%	0.601
	NG	125	16%	63%	46	17%	65%	0.711

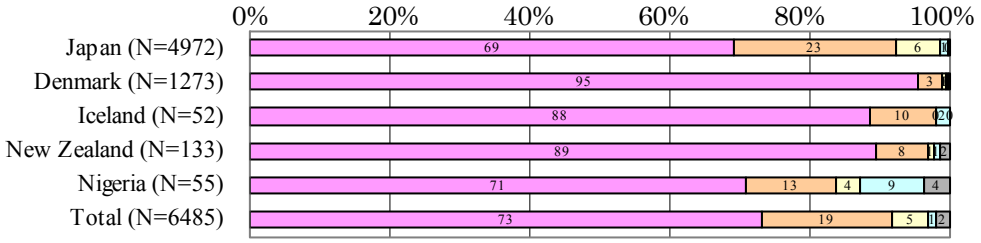
JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

The following figures (until Page 82) are depicted top make multi-national comparisons of the healthcare staff responses (both doctor and nurse groups, respectively) to each question item regarding attitudes to error reporting and interaction with the patient in the severe outcome case.

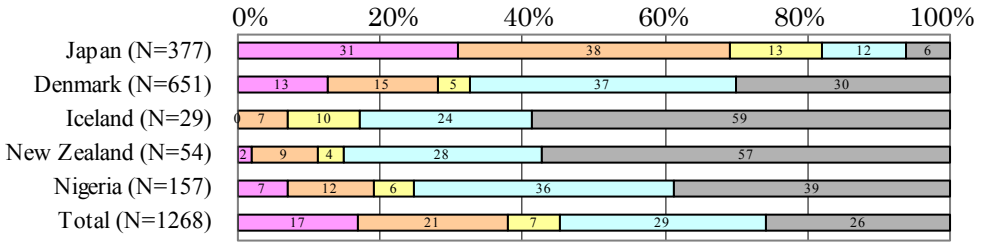
Doctor's responses to Major injury Case:
Keep it to myself that the patient has received 10 times the prescribed level.



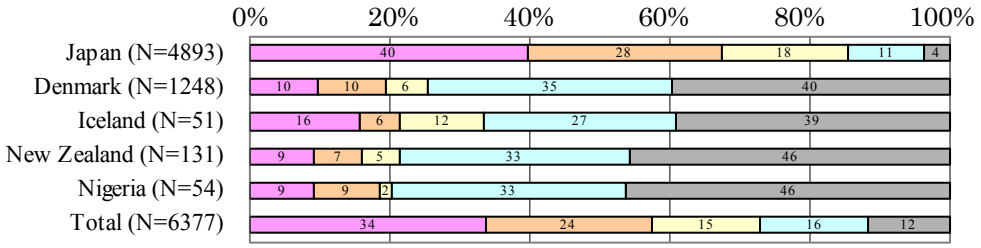
Nurse's responses to Major injury Case:
Keep it to myself that the patient has received 10 times the prescribed level.



Doctor's responses to Major injury Case:
Talk in confidence with a colleague about the incident.

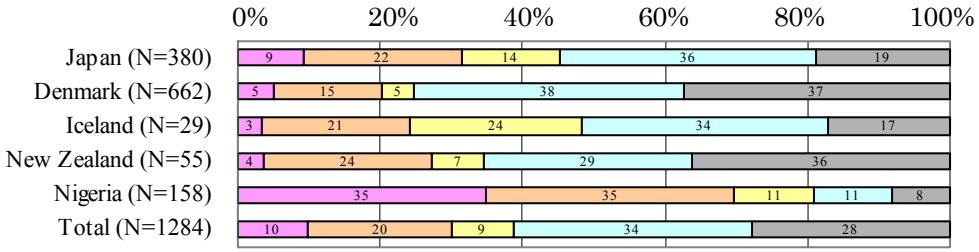


Nurse's responses to Major injury Case:
Talk in confidence with a colleague about the incident.

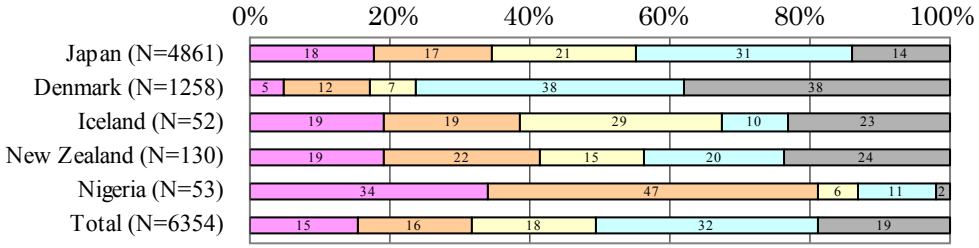


Definitely not Probably not Don't know Yes, probably Yes, definitely

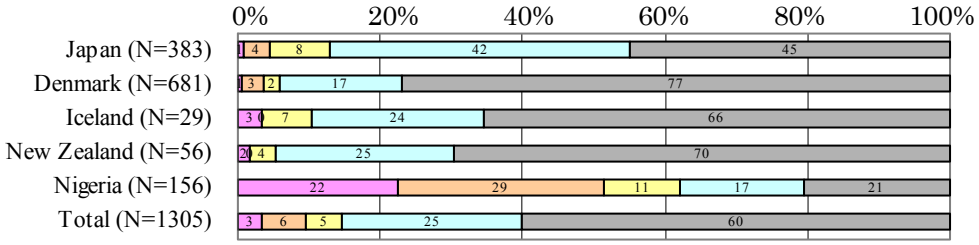
Doctor's responses to Major injury Case:
Talk to several colleagues about the incident.



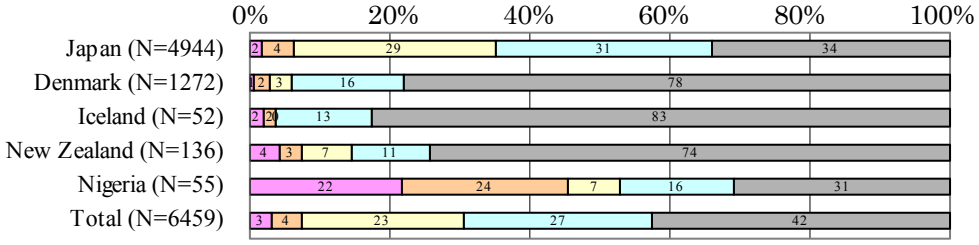
Nurse's responses to Major injury Case:
Talk to several colleagues about the incident.



Doctor's responses to Major injury Case:
Write in patient's case record that the patient has received 10 times the prescribed level.

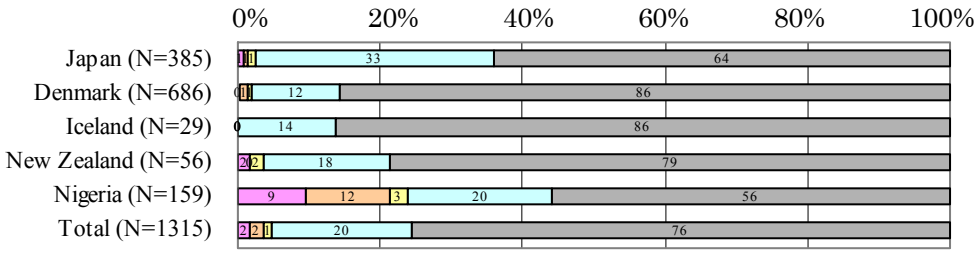


Nurse's responses to Major injury Case:
Write in patient's case record that the patient has received 10 times the prescribed level.

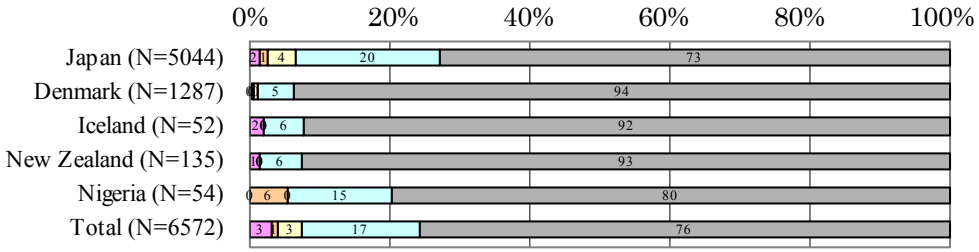


Definitely not Probably not Don't know Yes, probably Yes, definitely

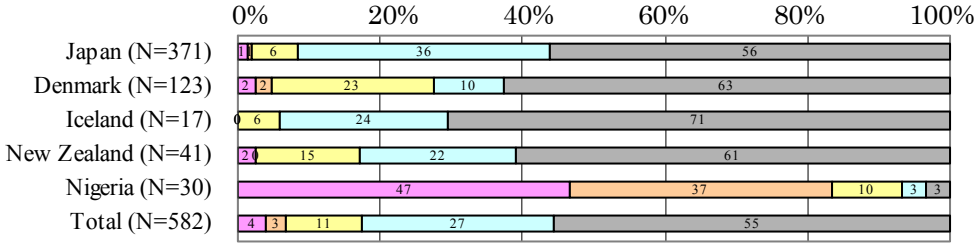
Doctor's responses to Major injury Case:
Inform my leader or the doctor in charge of the patient in order that the patient may receive treatment.



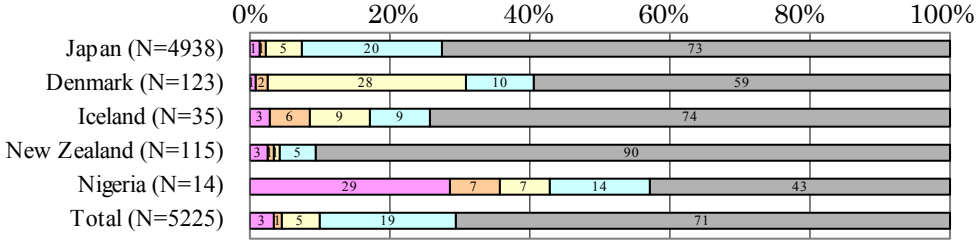
Nurse's responses to Major injury Case:
Inform my leader or the doctor in charge of the patient in order that the patient may receive treatment.



Doctor's responses to Major injury Case:
Report the event to the local reporting system
[do not mark this item unless you do have such a system].

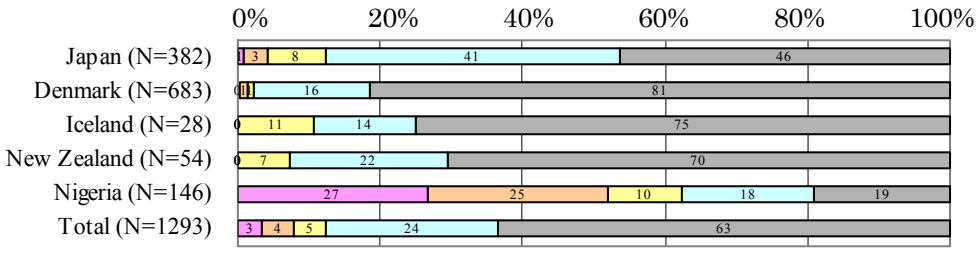


Nurse's responses to Major injury Case:
Report the event to the local reporting system
[do not mark this item unless you do have such a system].

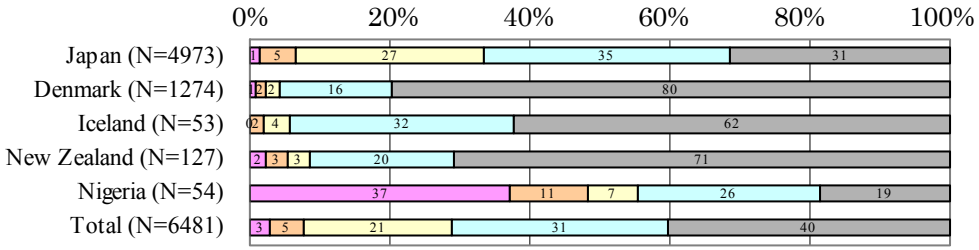


Definitely not Probably not Don't know Yes, probably Yes, definitely

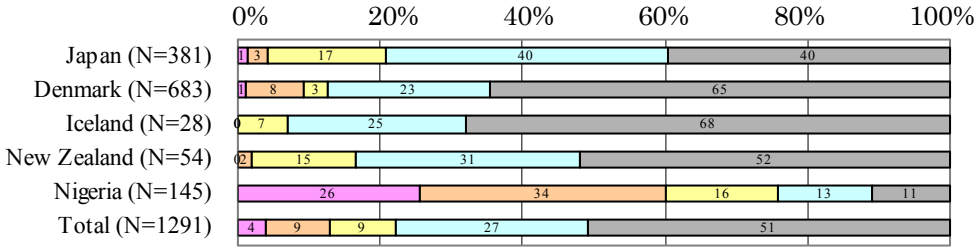
Doctor's responses to Major injury Case:
Inform the patient about the medication error and explain the risk of heart problems in the future.



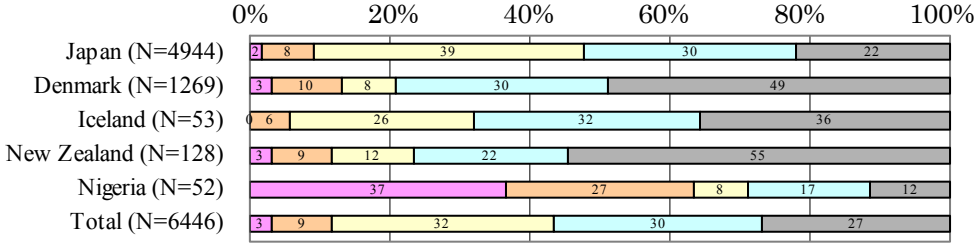
Nurse's responses to Major injury Case:
Inform the patient about the medication error and explain the risk of heart problems in the future.



Doctor's responses to Major injury Case:
Explain to the patient that it was I who made the mistake.

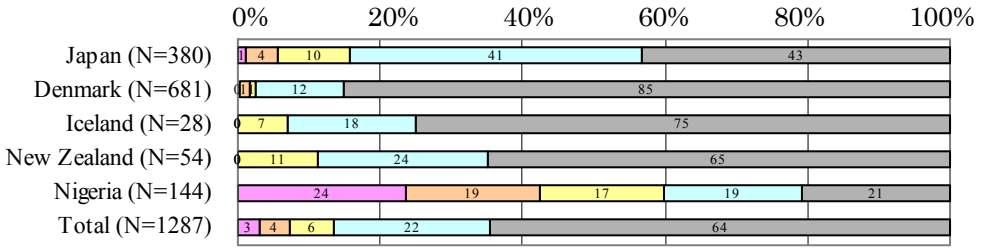


Nurse's responses to Major injury Case:
Explain to the patient that it was I who made the mistake.

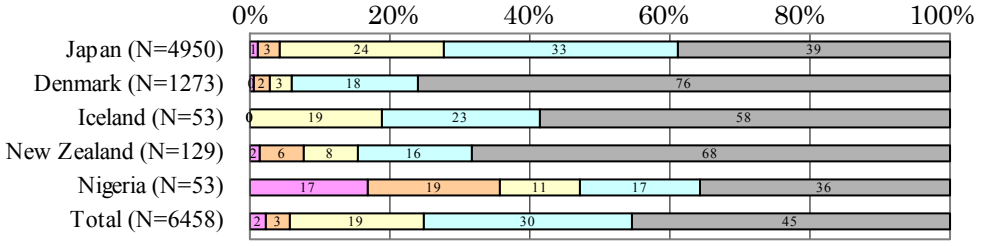


Definitely not Probably not Don't know Yes, probably Yes, definitely

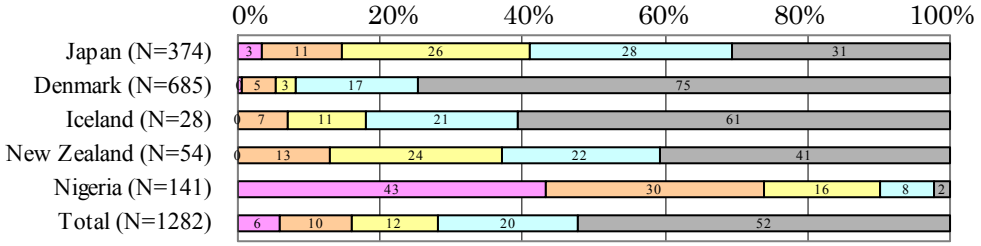
Doctor's responses to Major injury Case:
Express my regrets about the event to the patient.



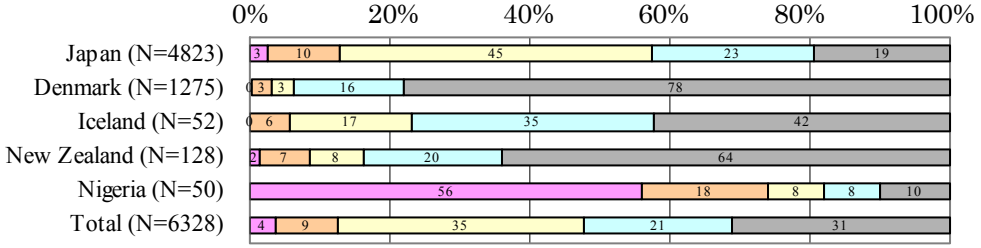
Nurse's responses to Major injury Case:
Express my regrets about the event to the patient.



Doctor's responses to Major injury Case:
Inform the patient that she may initiate complaint procedures.



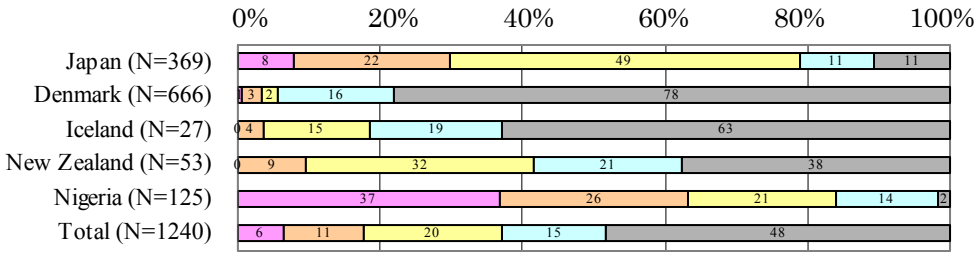
Nurse's responses to Major injury Case:
Inform the patient that she may initiate complaint procedures.



Definitely not Probably not Don't know Yes, probably Yes, definitely

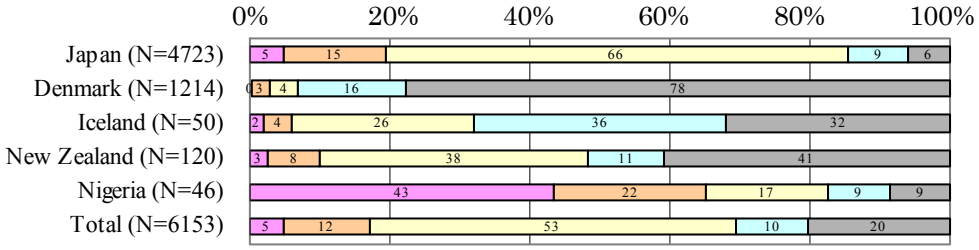
Doctor's responses to Major injury Case:

Inform the patient about the possibility of applying for compensation from the hospital's insurance scheme.



Nurse's responses to Major injury Case:

Inform the patient about the possibility of applying for compensation from the hospital's insurance scheme.



Definitely not Probably not Don't know Yes, probably Yes, definitely

3.2 Differences in error reporting between countries

In this subsection, we describe results of statistical test (the Mann-Whitney test) which examines differences in healthcare staff responses to error reporting and interaction with the patient between any two of the five countries surveyed in this study.

(1) Near-miss Case (A)

Table 3.4 indicates results of multi-national comparisons of healthcare attitudes to error reporting and interaction with the patient. The results are represented in terms of significance levels between any two of the five countries for each question item in the near-miss case (Case A), separately using doctor's and nurse's samples.

Table 3.4: Mann-Whitney significance between any two nations in the Near-miss Care

		Doctors				Nurses			
		DK	IS	NZ	NG	DK	IS	NZ	NG
1a. Keep it to myself that I took the wrong capped.	JP	0.016	0.556	0.047	0.000	0.001	0.106	0.032	0.002
	DK	–	0.219	0.375	0.009	–	0.414	0.333	0.032
	IS	–	–	0.118	0.037	–	–	0.887	0.284
	NZ	–	–	–	0.468	–	–	–	0.183
1b. Talk in confidence with a colleague about the incident.	JP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	DK	–	0.297	0.002	0.000	–	0.182	0.051	0.128
	IS	–	–	0.233	0.228	–	–	0.919	0.854
	NZ	–	–	–	0.940	–	–	–	0.705
1c. Talk to several colleagues about the incident.	JP	0.873	0.143	0.254	0.000	0.000	0.013	0.001	0.000
	DK	–	0.212	0.330	0.000	–	0.003	0.000	0.000
	IS	–	–	0.687	0.010	–	–	0.732	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
1d. Inform my superior about the incident.	JP	0.000	0.604	0.000	0.000	0.000	0.079	0.463	0.698
	DK	–	0.000	0.053	0.653	–	0.000	0.006	0.164
	IS	–	–	0.003	0.000	–	–	0.094	0.179
	NZ	–	–	–	0.081	–	–	–	0.905
1e. Bring up the incident at the doctor's conference.	JP	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000
	DK	–	0.658	0.736	0.001	–	0.095	0.029	0.073
	IS	–	–	0.620	0.212	–	–	0.810	0.932
	NZ	–	–	–	0.026	–	–	–	0.721
1f. Inform the patient about the incident.	JP	–	–	–	–	–	–	–	–
	DK	–	0.000	0.000	0.020	–	0.000	0.000	0.040
	IS	–	–	0.887	0.008	–	–	0.576	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
1g. Report the event to the local reporting system [do not mark this item unless you do have such a system].	JP	0.000	0.769	0.035	0.000	0.000	0.091	0.029	0.003
	DK	–	0.041	0.051	0.002	–	0.000	0.000	0.613
	IS	–	–	0.472	0.000	–	–	0.804	0.094
	NZ	–	–	–	0.000	–	–	–	0.053

JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

(2) Minor injury Case (B)

Like in the last table, results of multi-national comparisons in the mild outcome case (Case B) are shown in Table 3.5.

Table 3.5: Mann-Whitney significance between any two nations in the Minor injury Case

		Doctors				Nurses			
		DK	IS	NZ	NG	DK	IS	NZ	NG
1a. Keep it to myself that the patient has not received anti-coagulant.	JP	0.000	0.000	0.460	0.228	0.000	0.044	0.111	0.015
	DK	–	0.166	0.019	0.003	–	0.609	0.451	0.268
	IS	–	–	0.012	0.017	–	–	0.397	0.611
	NZ	–	–	–	0.889	–	–	–	0.176
1b. Talk in confidence with a colleague about the incident.	JP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	DK	–	0.000	0.000	0.000	–	0.567	0.012	0.003
	IS	–	–	0.455	0.654	–	–	0.452	0.087
	NZ	–	–	–	0.689	–	–	–	0.126
1c. Talk to several colleagues about the incident.	JP	0.164	0.242	0.915	0.000	0.000	0.179	0.233	0.000
	DK	–	0.126	0.527	0.000	–	0.000	0.000	0.000
	IS	–	–	0.398	0.002	–	–	0.580	0.025
	NZ	–	–	–	0.000	–	–	–	0.002
1d. Write in patient's case record that the patient has not received injection.	JP	0.000	0.123	0.010	0.528	0.000	0.000	0.000	0.192
	DK	–	0.914	0.550	0.001	–	0.760	0.588	0.006
	IS	–	–	0.624	0.167	–	–	0.564	0.074
	NZ	–	–	–	0.025	–	–	–	0.014
1e. Inform my leader or doctor in charge of this patient for the sake of the treatment of the patient	JP	0.008	0.017	0.005	0.002	0.000	0.033	0.000	0.247
	DK	–	0.172	0.122	0.124	–	0.236	0.012	0.836
	IS	–	–	0.862	0.738	–	–	0.681	0.475
	NZ	–	–	–	0.787	–	–	–	0.196
1f. Report the event to the local reporting system [do not mark this item unless you do have a such a system]	JP	0.947	0.025	0.394	0.000	0.000	0.016	0.042	0.078
	DK	–	0.054	0.420	0.000	–	0.463	0.000	0.793
	IS	–	–	0.130	0.000	–	–	0.004	0.523
	NZ	–	–	–	0.000	–	–	–	0.024

		Doctors				Nurses			
		DK	IS	NZ	NG	DK	IS	NZ	NG
2a. Inform the patient that he has developed thrombosis and explain the consequences.	JP	0.000	0.004	0.000	0.003	0.000	0.000	0.000	0.957
	DK	–	0.020	0.234	0.000	–	0.016	0.000	0.000
	IS	–	–	0.347	0.001	–	–	0.965	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
2b. Explain to the patient that by mistake he has not received an anticoagulant injection which probably would have prevented the thrombosis.	JP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059
	DK	–	0.491	0.018	0.000	–	0.083	0.010	0.000
	IS	–	–	0.273	0.000	–	–	0.787	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
2c. Explain to the patient that I am responsible for this mistake	JP	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000
	DK	–	0.847	0.365	0.000	–	0.306	0.554	0.000
	IS	–	–	0.450	0.000	–	–	0.630	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
2d. Express my regrets to the patient.	JP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.821
	DK	–	0.098	0.023	0.000	–	0.026	0.000	0.000
	IS	–	–	0.872	0.000	–	–	0.357	0.026
	NZ	–	–	–	0.000	–	–	–	0.066
2e. Inform the patient that he may initiate complaint procedures.	JP	0.000	0.001	0.726	0.000	0.000	0.001	0.000	0.000
	DK	–	0.195	0.000	0.000	–	0.000	0.000	0.000
	IS	–	–	0.010	0.000	–	–	0.006	0.000
	NZ	–	–	–	0.000	–	–	–	0.000

JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

(3) Major injury Case (C)

Finally, Table 3.6 shows significance levels between any two of the five countries in the severe outcome case (Case C), when applying the Mann-Whitney test separately to doctor's and nurse's samples.

Table 3.6: Mann-Whitney significance between any two nations in the Major injury Case

		Doctors				Nurses			
		DK	IS	NZ	NG	DK	IS	NZ	NG
1a. Keep it to myself that the patient has received 10 times the prescribed level.	JP	0.000	0.003	0.002	0.000	0.000	0.003	0.000	0.776
	DK	–	0.550	0.028	0.000	–	0.028	0.001	0.000
	IS	–	–	0.493	0.000	–	–	0.006	0.017
	NZ	–	–	–	0.000	–	–	–	0.002
1b. Talk in confidence with a colleague about the incident.	JP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	DK	–	0.001	0.000	0.010	–	0.506	0.188	0.349
	IS	–	–	0.982	0.050	–	–	0.969	0.273
	NZ	–	–	–	0.014	–	–	–	0.941
1c. Talk to several colleagues about the incident.	JP	0.000	0.837	0.015	0.000	0.000	0.596	0.935	0.000
	DK	–	0.013	0.524	0.000	–	0.000	0.000	0.000
	IS	–	–	0.159	0.000	–	–	0.206	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
1d. Write in patient's case record that the patient has received 10 times the prescribed level.	JP	0.000	0.058	0.001	0.000	0.000	0.000	0.000	0.000
	DK	–	0.149	0.317	0.000	–	0.418	0.115	0.000
	IS	–	–	0.581	0.000	–	–	0.770	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
1e. Inform my leader or doctor in charge of the patient in order that the patient may receive treatment.	JP	0.000	0.015	0.034	0.001	0.000	0.002	0.000	0.301
	DK	–	0.905	0.218	0.000	–	0.655	0.391	0.000
	IS	–	–	0.428	0.001	–	–	0.145	0.065
	NZ	–	–	–	0.001	–	–	–	0.017
1f. Report the event to the local reporting system [do not mark this item unless you do have a such a system]	JP	0.659	0.250	0.972	0.000	0.000	0.869	0.000	0.001
	DK	–	0.268	0.826	0.000	–	0.152	0.000	0.066
	IS	–	–	0.349	0.000	–	–	0.936	0.019
	NZ	–	–	–	0.000	–	–	–	0.000

		Doctors				Nurses			
		DK	IS	NZ	NG	DK	IS	NZ	NG
2a. Inform the patient about the medication error and explain the risk of heart problems in the future..	JP	0.000	0.010	0.001	0.000	0.000	0.000	0.000	0.000
	DK	–	0.301	0.062	0.000	–	0.003	0.010	0.000
	IS	–	–	0.838	0.000	–	–	0.013	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
2b. Explain to the patient that it was I who made the mistake.	JP	0.000	0.003	0.098	0.000	0.000	0.009	0.000	0.000
	DK	–	0.568	0.134	0.000	–	0.090	0.449	0.000
	IS	–	–	0.150	0.000	–	–	0.417	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
2c. Express my regrets about the event to the patient.	JP	0.000	0.002	0.004	0.000	0.000	0.006	0.000	0.003
	DK	–	0.127	0.000	0.000	–	0.002	0.012	0.000
	IS	–	–	0.395	0.000	–	–	0.076	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
2d. Inform the patient that she may initiate complaint procedures.	JP	0.000	0.002	0.182	0.000	0.000	0.000	0.000	0.000
	DK	–	0.077	0.000	0.000	–	0.000	0.000	0.000
	IS	–	–	0.078	0.000	–	–	0.350	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
2e. Inform the patient about the possibility of applying for compensation from the hospital's insurance scheme.	JP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	DK	–	0.042	0.000	0.000	–	0.000	0.000	0.000
	IS	–	–	0.029	0.000	–	–	0.029	0.000
	NZ	–	–	–	0.000	–	–	–	0.000

JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

3.3 Differences in error reporting between severities of outcome

In this subsection, we report results of statistical test (the Mann-Whitney test) examining effects of the outcome severity on healthcare staff attitudes to error reporting and interaction with the patient, i.e., testing differences between adverse event cases.

(1) Doctors' responses

Table 3.7 indicates results of the Mann-Whitney test in terms of significance levels for doctors' responses of the five countries between the adverse event cases.

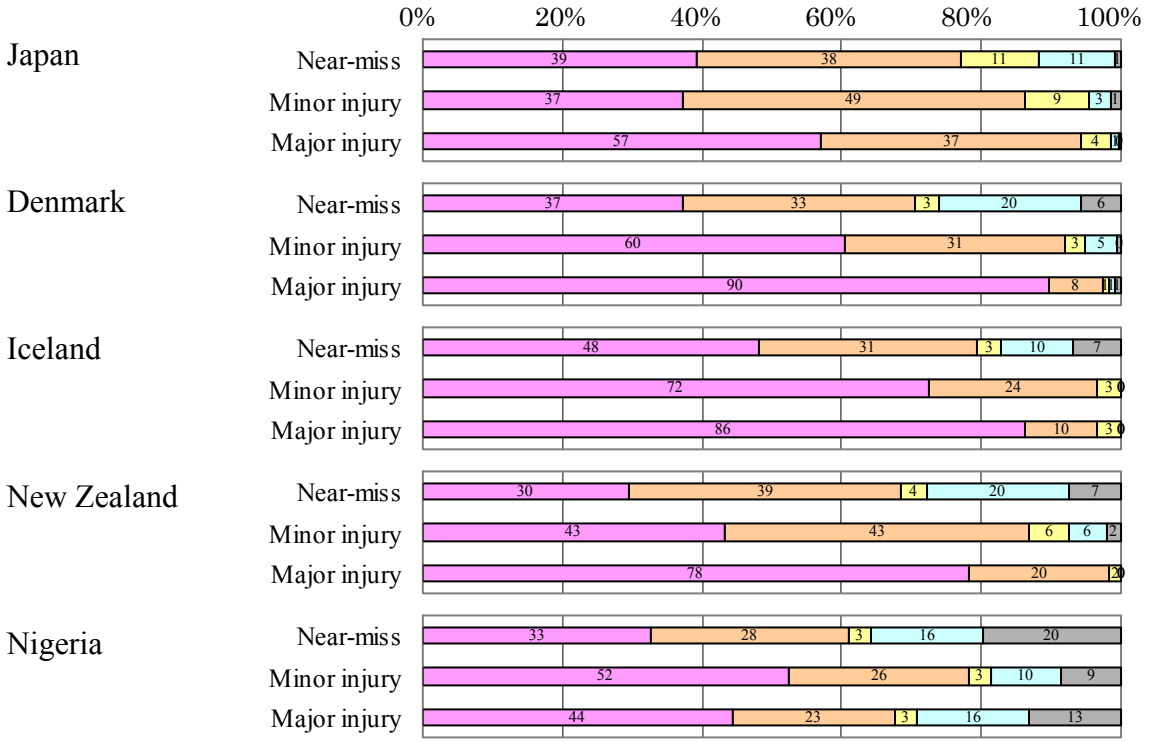
Table 3.7: Mann-Whitney significance between adverse event cases in doctors' attitudes to error reporting and interaction with the patient

		Japan		Denmark		Iceland		New Zealand		Nigeria	
	Case	B	C	B	C	B	C	B	C	B	C
Keep it to myself	Case A	0.246	0.000	0.000	0.000	0.032	0.002	0.025	0.000	0.000	0.039
	Case B	–	0.000	–	0.000	–	0.216	–	0.000	–	0.059
Talk in confidence with a colleague	Case A	0.436	0.267	0.759	0.000	0.026	0.004	0.527	0.010	0.089	0.385
	Case B	–	0.050	–	0.000	–	0.349	–	0.041	–	0.406
Talk to several colleagues	Case A	0.728	0.244	0.156	0.000	0.764	0.318	0.437	0.022	0.600	0.387
	Case B	–	0.324	–	0.000	–	0.481	–	0.099	–	0.139
Write in patient's case record	Case A	–	–	–	–	–	–	–	–	–	–
	Case B	–	0.000	–	0.000	–	0.131	–	0.036	–	0.000
Inform leader or doctor in charge	Case A	0.004	0.000	0.000	0.000	0.055	0.001	0.000	0.000	0.000	0.000
	Case B	–	0.000	–	0.000	–	0.037	–	0.052	–	0.114
Report to the local reporting system	Case A	0.489	0.000	0.000	0.000	0.095	0.013	0.012	0.000	0.502	0.347
	Case B	–	0.000	–	0.000	–	0.399	–	0.027	–	0.830

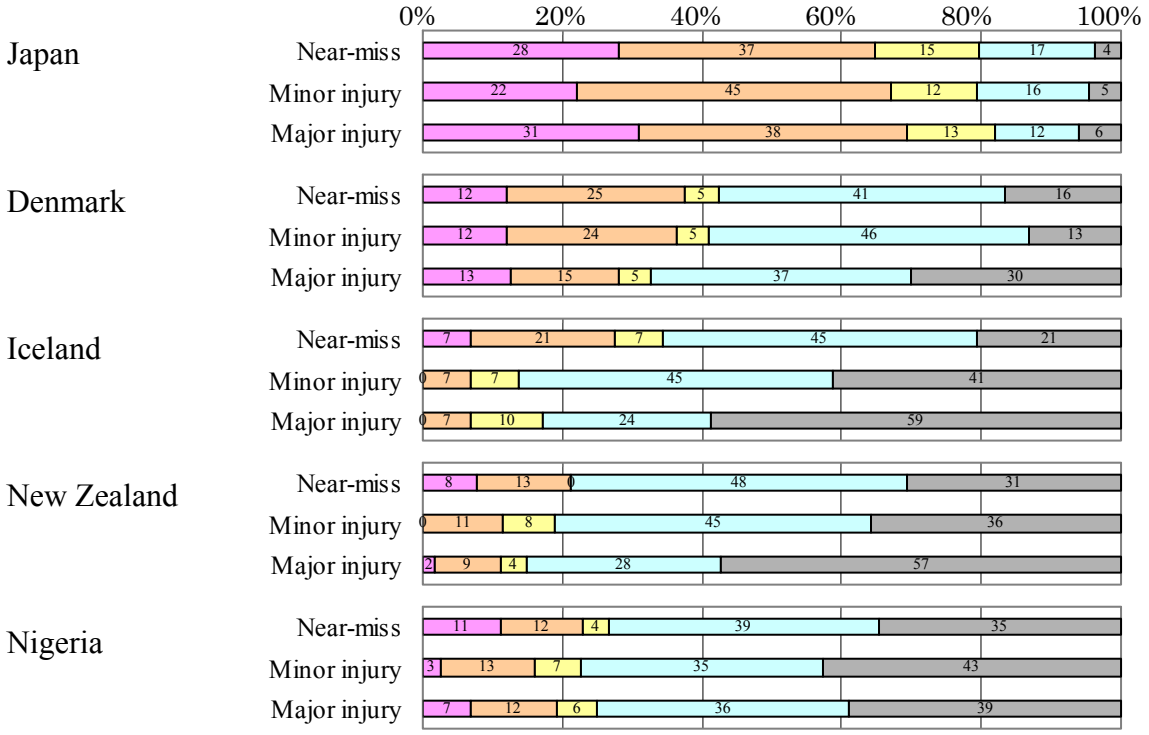
		Japan	Denmark	Iceland	New Zealand	Nigeria
	Case	C	C	C	C	C
Inform patient about the event and future risk	Case B	0.947	0.000	0.681	0.045	0.000
Explain patient caused by own mistake	Case B	0.000	0.000	0.036	0.030	0.567
Express regrets to patient	Case B	0.000	0.000	0.088	0.160	0.722
Inform patient to initiate complaint	Case B	0.000	0.000	0.149	0.006	0.187

The following figures (until Page 89) are shown as comparison results of the three cases about the doctor's responses to each question item.

Doctor's responses: Keep it myself.

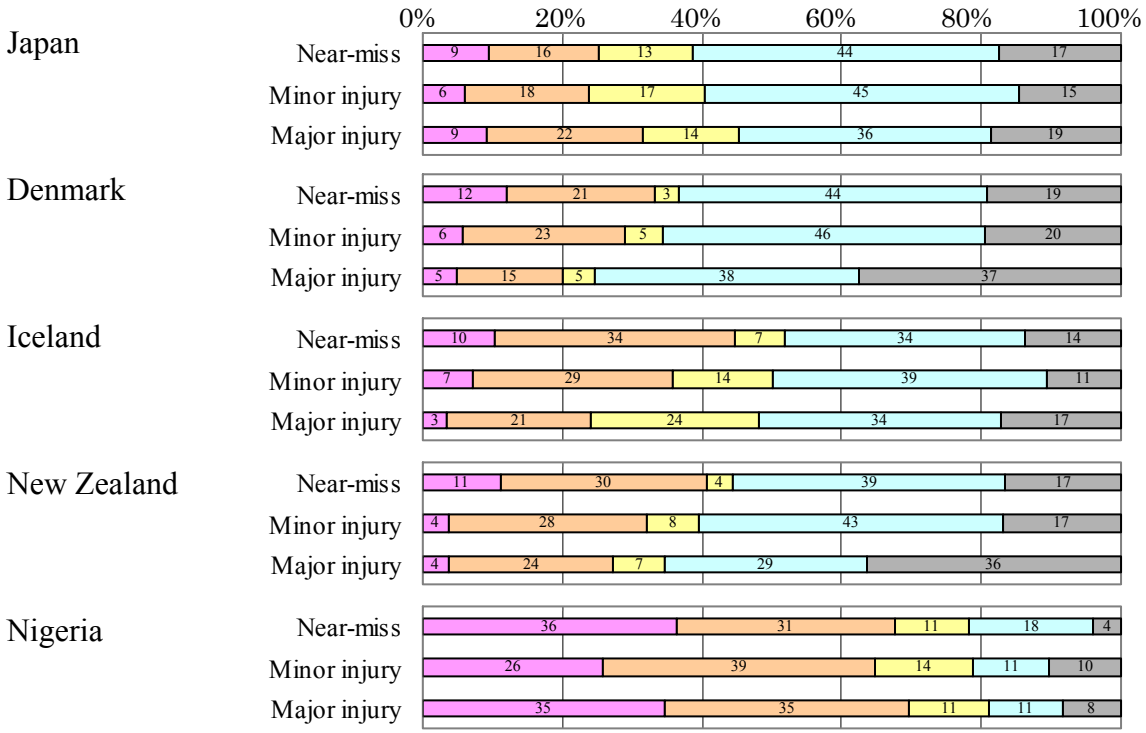


Doctor's responses: Talk in confidence with a colleague.

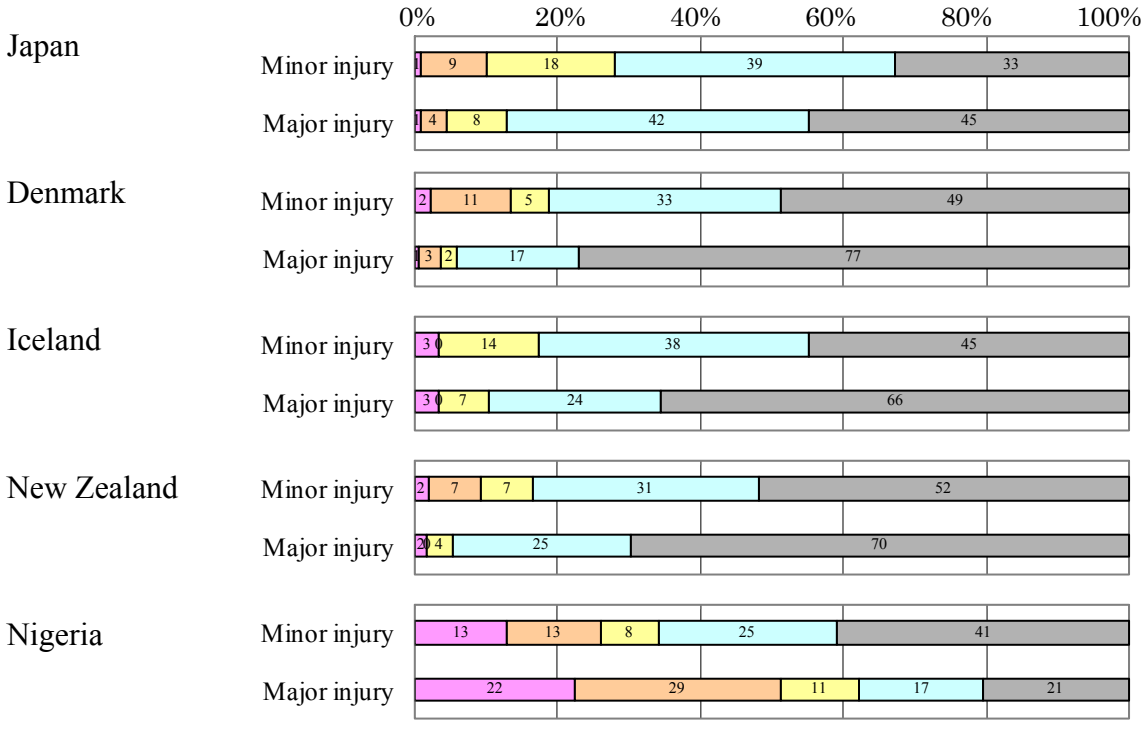


Definitely not Probably not Don't know Yes, probably Yes, definitely

Doctor's responses: Talk to several colleagues.

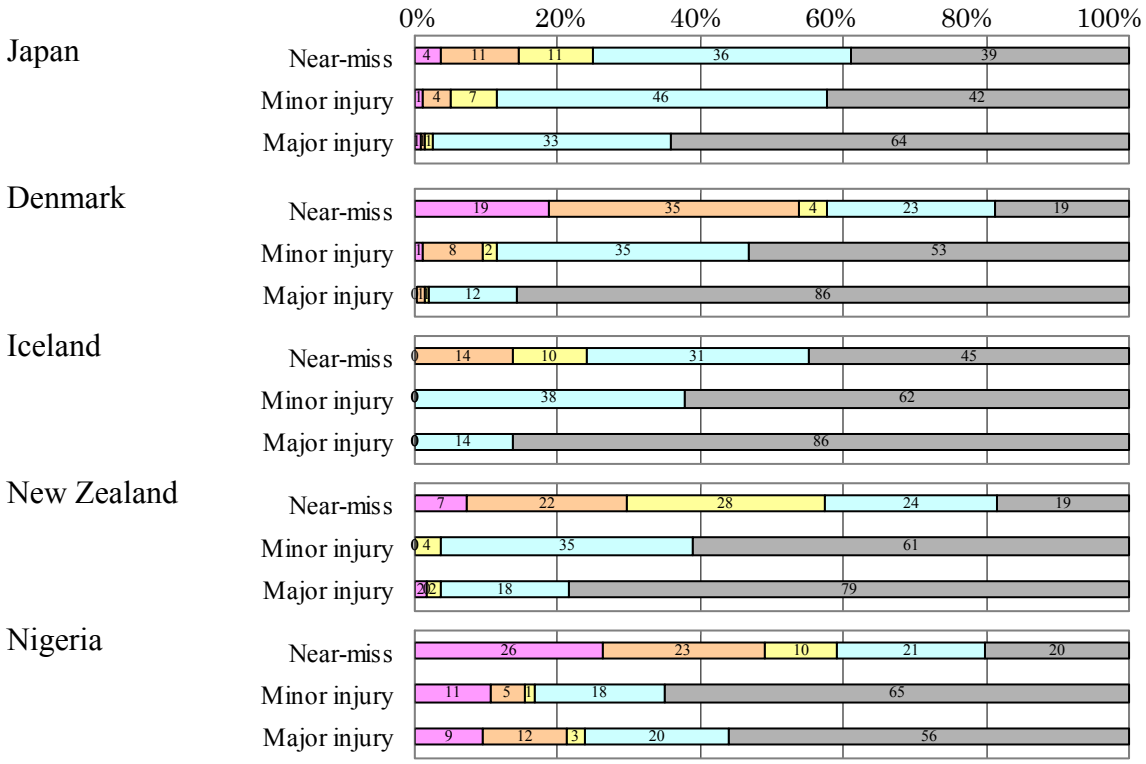


Doctor's responses: Write in patient's case record.

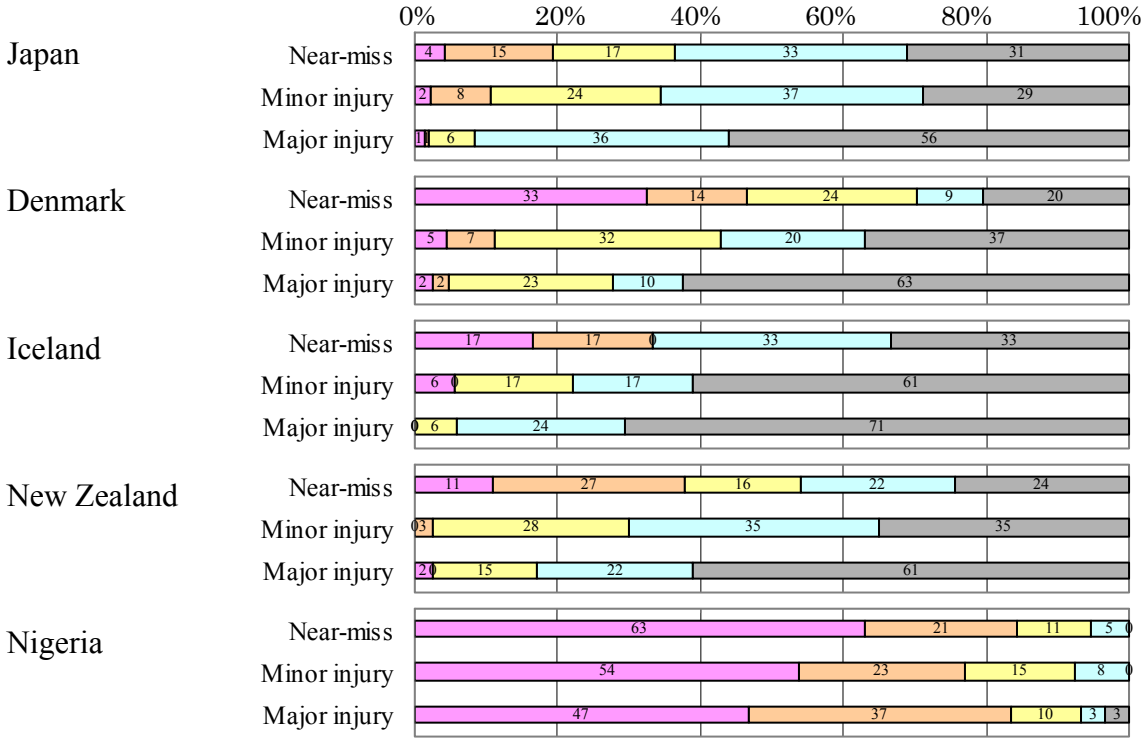


Definitely not Probably not Don't know Yes, probably Yes, definitely

Doctor's responses: Inform leader or doctor in charge.



Doctor's responses: Report to the local reporting system.



Definitely not Probably not Don't know Yes, probably Yes, definitely

(2) Nurses' responses

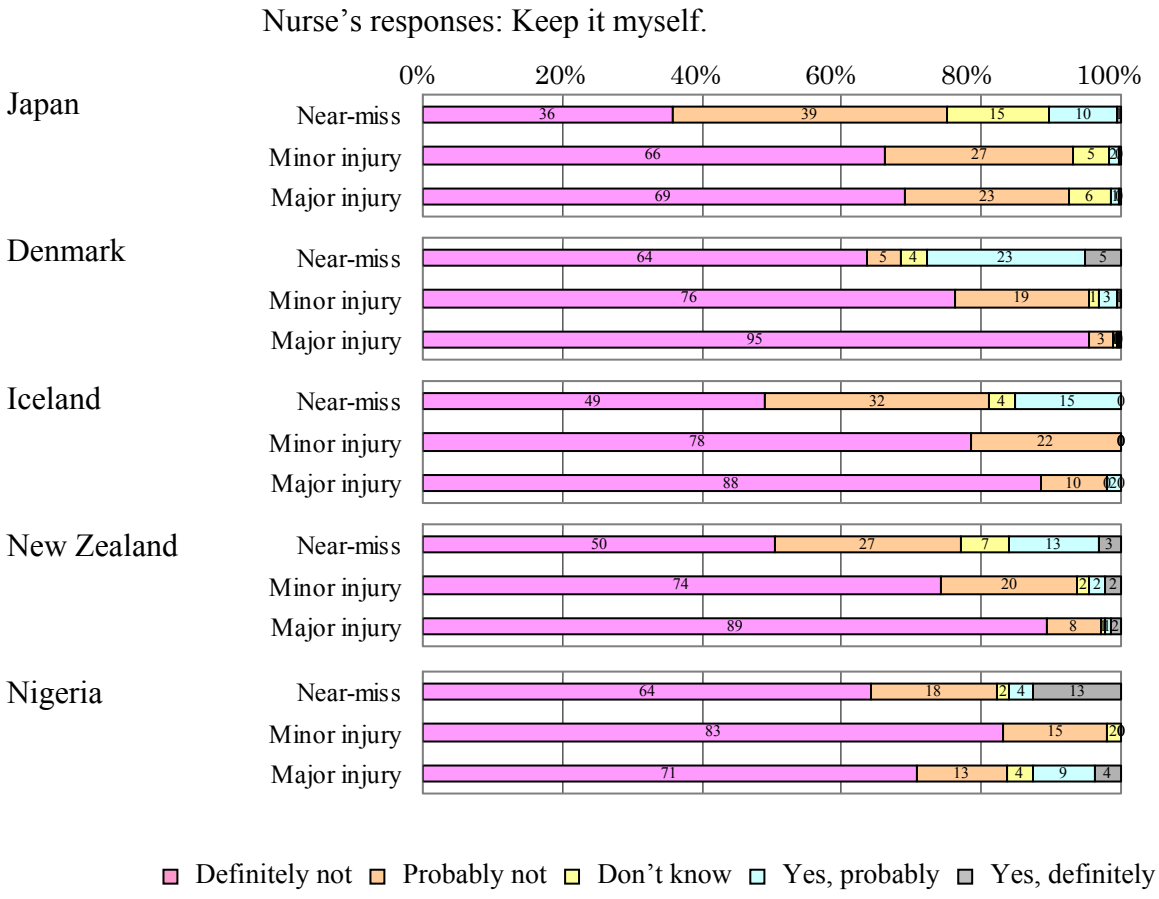
Like in the last table, regarding nurses' responses, results of the Mann-Whitney test between the adverse event cases are shown in Table 3.8 in terms of significance levels.

Table 3.8: Mann-Whitney significance between adverse event cases in nurses' attitudes to error reporting and interaction with the patient

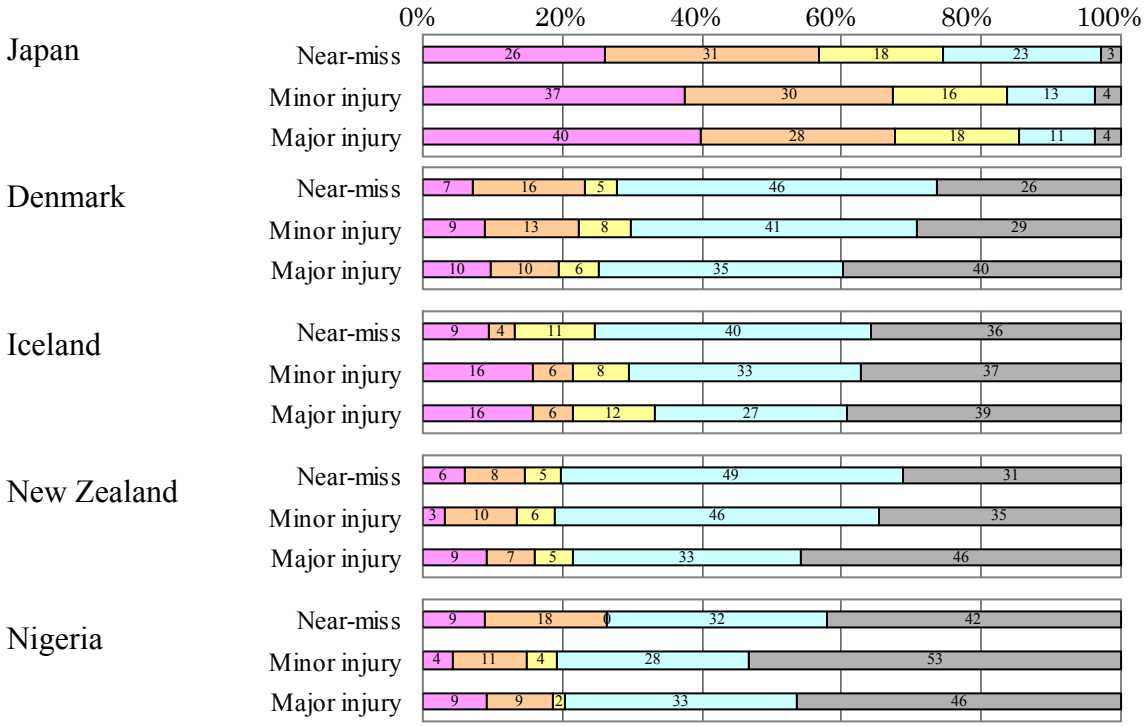
		Japan		Denmark		Iceland		New Zealand		Nigeria	
	Case	B	C	B	C	B	C	B	C	B	C
Keep it to myself	Case A	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.017	0.421
	Case B	–	0.012	–	0.000	–	0.191	–	0.002	–	0.090
Talk in confidence with a colleague	Case A	0.000	0.000	0.677	0.000	0.745	0.710	0.509	0.129	0.200	0.547
	Case B	–	0.048	–	0.000	–	0.983	–	0.379	–	0.497
Talk to several colleagues	Case A	0.053	0.000	0.000	0.000	0.661	0.723	0.283	0.478	0.092	0.245
	Case B	–	0.000	–	0.000	–	0.936	–	0.791	–	0.366
Write in patient's case record	Case A	–	–	–	–	–	–	–	–	–	–
	Case B	–	0.082	–	0.000	–	0.072	–	0.926	–	0.005
Inform leader or doctor in charge	Case A	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000
	Case B	–	0.000	–	0.000	–	0.134	–	0.069	–	0.716
Report to the local reporting system	Case A	0.000	0.000	0.000	0.000	0.048	0.001	0.000	0.000	0.157	0.267
	Case B	–	0.000	–	0.013	–	0.082	–	0.010	–	0.709

		Japan	Denmark	Iceland	New Zealand	Nigeria
	Case	C	C	C	C	C
Inform patient about the event and future risk	Case B	0.346	0.000	0.113	0.199	0.004
Explain patient caused by own mistake	Case B	0.000	0.000	0.165	0.002	0.834
Express regrets to patient	Case B	0.000	0.000	0.412	0.001	0.708
Inform patient to initiate complaint	Case B	0.000	0.000	0.015	0.015	0.350

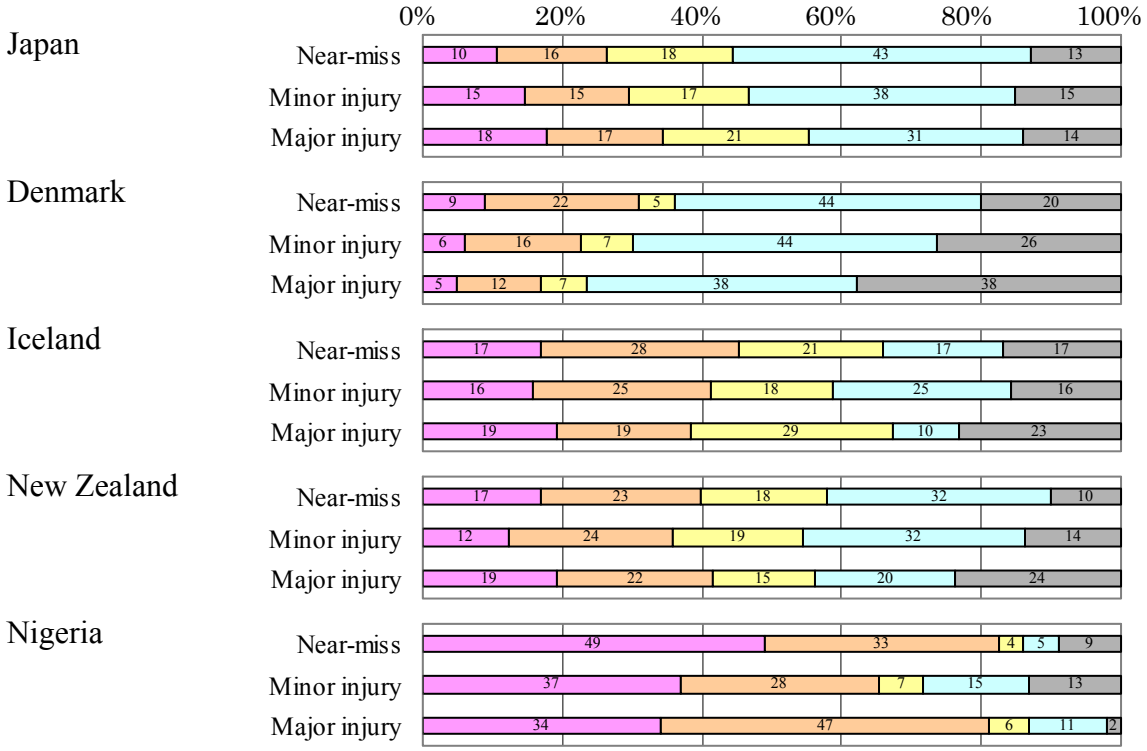
The following figures (until Page 93) indicate comparisons of the three adverse event cases about the nurse's responses to each question item.



Nurse's responses: Talk in confidence with a colleague.

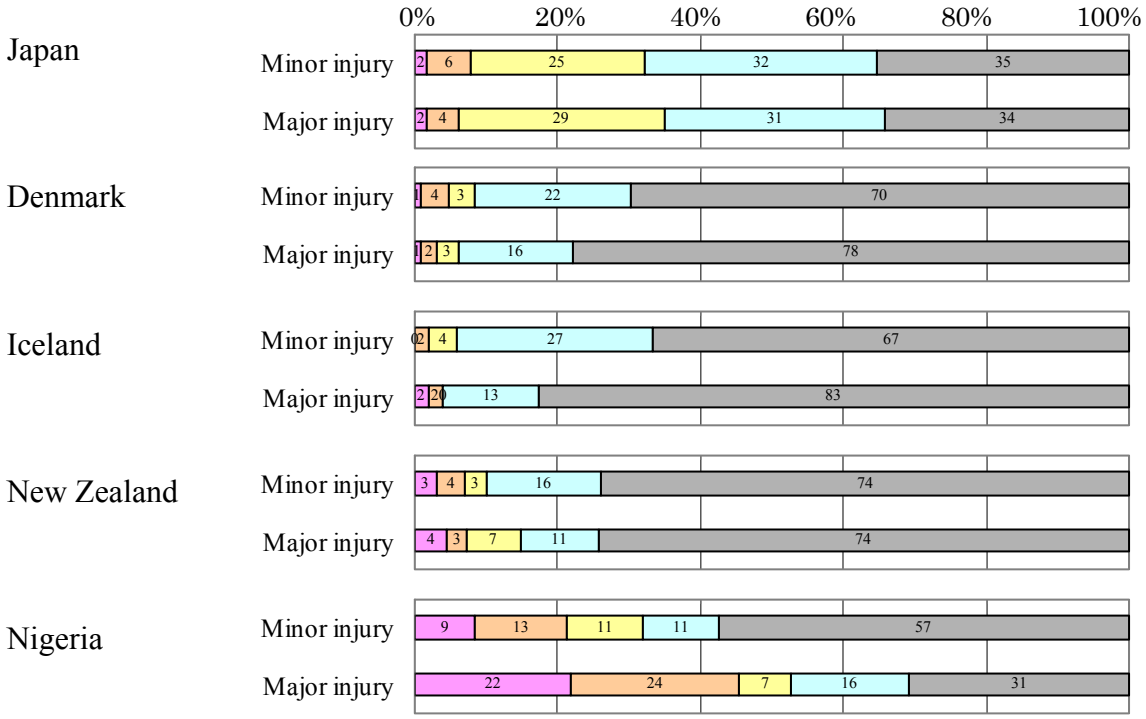


Nurse's responses: Talk to several colleagues.

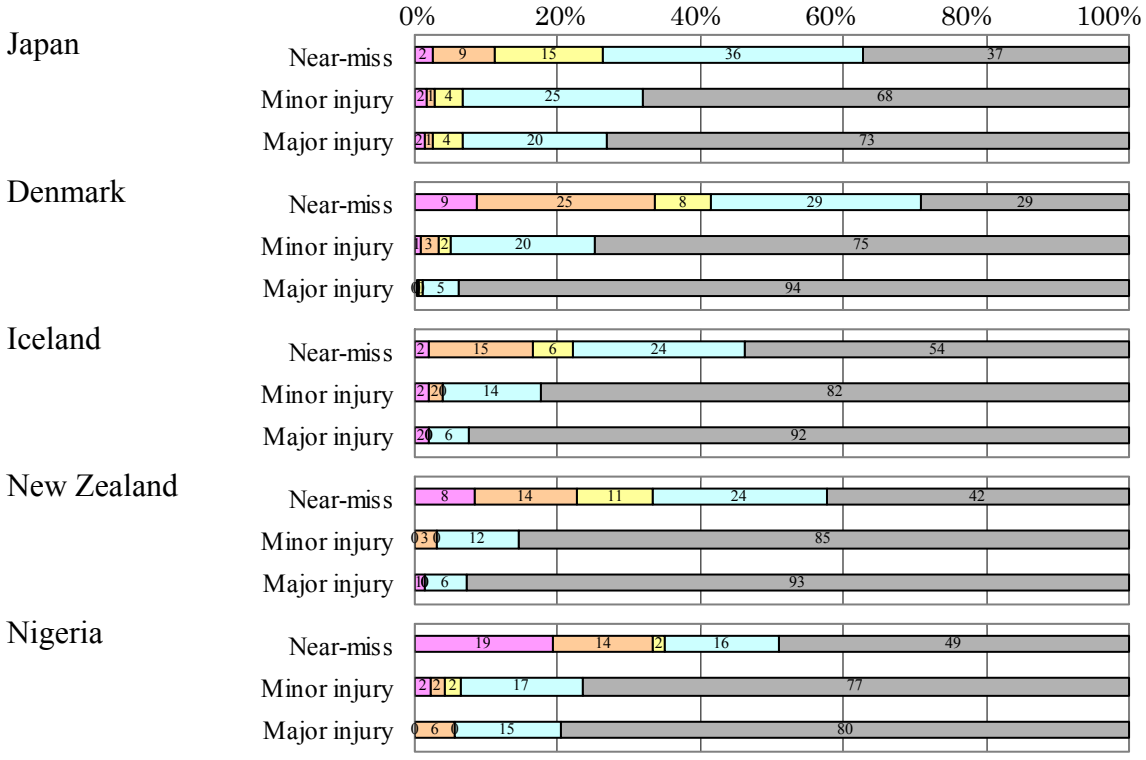


Definitely not Probably not Don't know Yes, probably Yes, definitely

Nurse's responses: Write in patient's record.

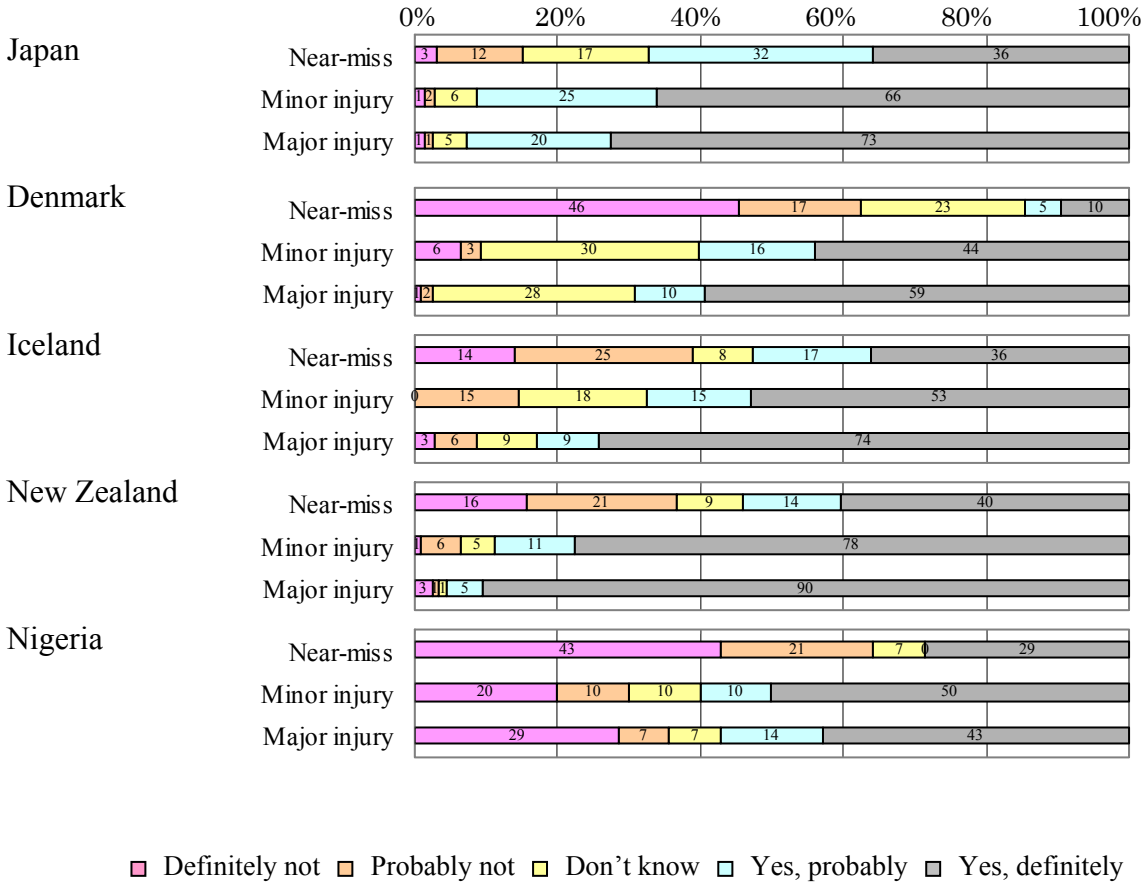


Nurse's responses: Inform leader or doctor in charge.



Definitely not Probably not Don't know Yes, probably Yes, definitely

Nurse’s responses: Report to the local reporting system.



Definitely not Probably not Don’t know Yes, probably Yes, definitely

4. Reasons for Not Bringing Up Adverse Events

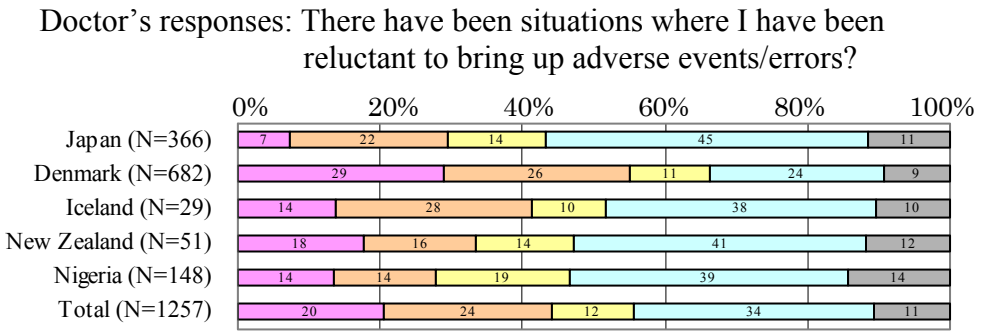
4.1 Experience of reluctance to report

First, comparisons of healthcare staff experience of reluctance to report errors are summarised in Table 4.1 in terms of percentage agreement and disagreement for each professional group in the five countries. This table also includes significance levels (obtained by the Mann-Whitney test) of differences between the professional groups, i.e., doctors and nurses in each country.

Table 4.1: Staff experiences of reluctance to bring up adverse events

	Doctors			Nurses			Mann-Whitney significance
	N	Agree	Disagree	N	Agree	Disagree	
Japan	366	57%	30%	4794	61%	22%	0.102
Denmark	663	35%	57%	1239	20%	70%	0.000
Iceland	29	48%	41%	51	26%	41%	0.185
New Zealand	51	53%	33%	126	52%	37%	0.359
Nigeria	148	53%	28%	46	48%	37%	0.295
Total		53%	33%		47%	34%	

The following two figures indicate multi-national comparisons of healthcare staff experience of reluctance to report errors for the doctors and nurses, respectively.



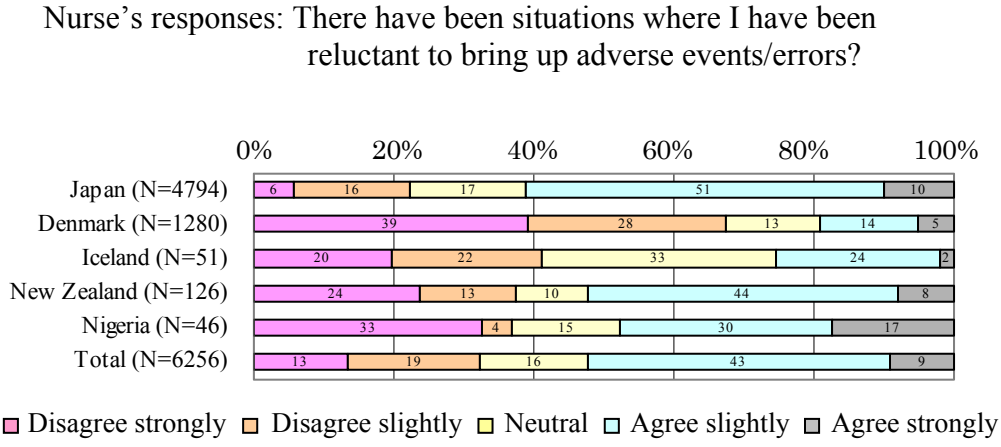


Table 4.2 summaries results of multi-national comparisons in terms of significance levels analysed by the Mann-Whitney test for the question on experience of reluctance to report errors, separately using doctor's and nurse's samples.

Table 4.2: Differences in experience of reluctance to report errors/incidents between the five countries

	Doctors				Nurses			
	Denmark	Iceland	New Zealand	Nigeria	Denmark	Iceland	New Zealand	Nigeria
Japan	0.000	0.262	0.663	0.756	0.000	0.000	0.001	0.053
Denmark	−	0.068	0.003	0.000	−	0.001	0.000	0.001
Iceland	−	−	0.578	0.395	−	−	0.069	0.236
New Zealand	−	−	−	0.846	−	−	−	0.958

4.2 Potential reasons for not reporting

Next, comparison results of reasons for not reporting errors/incidents are summarised in Table 4.3 in terms of percentage agreement and disagreement for each professional group in the five countries. This table includes information on significance levels (obtained by the Mann-Whitney test) of differences between the professional groups, i.e., doctors and nurses in each country, for the 13 potential reasons suggested in the questionnaire.

Table 4.3: Multi-national comparisons of reasons for not bringing up adverse events

Items		Doctors			Nurses			Mann-Whitney significance
		N	Agree	Disagre	N	Agree	Disagre	
a. We have no tradition in my department for bringing up adverse events/errors.	JP	375	15%	76%	4896	6%	88%	0.000
	DK	672	39%	49%	1254	25%	65%	0.000
	IS	29	24%	59%	53	23%	68%	0.620
	NZ	56	13%	66%	139	8%	89%	0.000
	NG	161	40%	48%	55	22%	66%	0.005
b. When I am busy I forget to bring up adverse events/errors.	JP	376	19%	72%	1911	12%	79%	0.000
	DK	672	20%	70%	1270	11%	81%	0.000
	IS	29	10%	66%	53	21%	66%	0.305
	NZ	56	39%	38%	139	26%	67%	0.001
	NG	159	28%	60%	55	15%	80%	0.006
c. The patient may file a complaint.	JP	375	32%	50%	4910	24%	56%	0.001
	DK	671	28%	63%	1245	20%	69%	0.002
	IS	29	28%	62%	52	31%	56%	0.818
	NZ	56	29%	48%	136	26%	61%	0.089
	NG	159	61%	19%	54	67%	19%	0.165
d. I don't know who is responsible for bringing up adverse events/errors.	JP	375	10%	82%	4905	3%	89%	0.000
	DK	662	26%	62%	1239	18%	73%	0.000
	IS	29	17%	66%	53	9%	77%	0.225
	NZ	56	20%	68%	136	4%	90%	0.000
	NG	156	31%	45%	53	19%	70%	0.001
e. I might get a reprimand.	JP	376	27%	57%	4933	33%	51%	0.019
	DK	667	31%	57%	1244	28%	60%	0.076
	IS	29	14%	41%	49	14%	45%	0.836
	NZ	56	23%	55%	139	27%	61%	0.364
	NG	158	61%	25%	55	60%	31%	0.973
f. It might have cosequences for my future employment or career.	JP	377	26%	60%	4923	21%	62%	0.059
	DK	663	28%	59%	1236	26%	60%	0.945
	IS	29	28%	41%	53	28%	57%	0.689
	NZ	56	32%	45%	137	32%	52%	0.165
	NG	161	65%	23%	55	56%	33%	0.474
g. It wouldn't help the patients that I bring up my own events/errors.	JP	377	12%	74%	4919	4%	84%	0.000
	DK	679	11%	83%	1269	6%	85%	0.065
	IS	29	24%	55%	53	21%	70%	0.642
	NZ	56	11%	71%	137	17%	76%	0.151
	NG	160	44%	46%	52	33%	62%	0.130

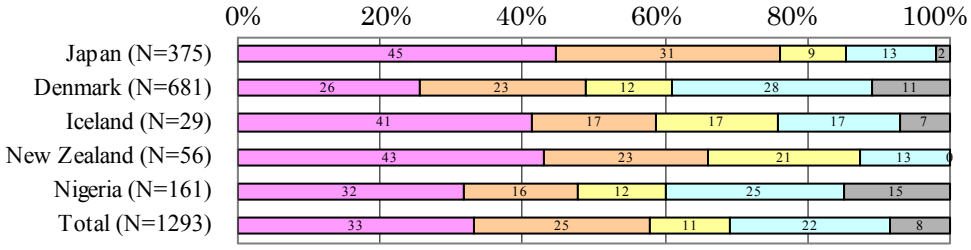
JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

Items		Doctors N	Doctors Agree	Doctors Disagre	Nurses N	Nurses Agree	Nurses Disagre	Mann-Whitney significance
h. It might get out and the press might start writing about it.	JP	377	28%	56%	4927	20%	61%	0.001
	DK	658	37%	47%	1194	27%	52%	0.001
	IS	29	24%	45%	53	13%	68%	0.171
	NZ	56	27%	48%	137	15%	68%	0.002
	NG	160	62%	18%	54	54%	33%	0.378
i. The adverse event/error may become reported to the madical licensing board.	JP	377	19%	64%	4906	19%	63%	0.779
	DK	668	25%	61%	1230	26%	60%	0.934
	IS	29	21%	45%	52	21%	46%	0.710
	NZ	56	36%	46%	137	26%	54%	0.073
	NG	159	64%	21%	50	62%	32%	0.308
j. It is too cumbersome to bring up adverse events/errors.	JP	377	28%	53%	4905	13%	72%	0.000
	DK	668	27%	59%	1217	9%	81%	0.000
	IS	28	18%	57%	51	12%	63%	0.923
	NZ	55	35%	47%	137	18%	78%	0.000
	NG	158	31%	49%	52	21%	73%	0.011
k. One does not feel confident about bringing up adverse events/errors in our department.	JP	375	12%	72%	4878	11%	73%	0.156
	DK	665	23%	63%	1252	14%	75%	0.000
	IS	29	24%	66%	54	24%	61%	0.972
	NZ	55	20%	60%	137	14%	76%	0.001
	NG	161	48%	36%	53	42%	51%	0.144
l. I do not wish to apear as an incompetent doctor[nurse].	JP	377	20%	62%	4931	25%	59%	0.204
	DK	669	36%	48%	1259	31%	58%	0.005
	IS	29	41%	38%	54	37%	46%	0.980
	NZ	56	46%	29%	137	42%	50%	0.048
	NG	161	58%	32%	53	51%	45%	0.414
m. Bringing up adverse events/errors will not lead to any improvement in our ward.	JP	376	13%	71%	4897	8%	78%	0.000
	DK	649	14%	74%	1236	8%	82%	0.000
	IS	29	0%	90%	54	13%	80%	0.410
	NZ	55	7%	80%	136	7%	90%	0.000
	NG	161	24%	68%	53	13%	81%	0.005

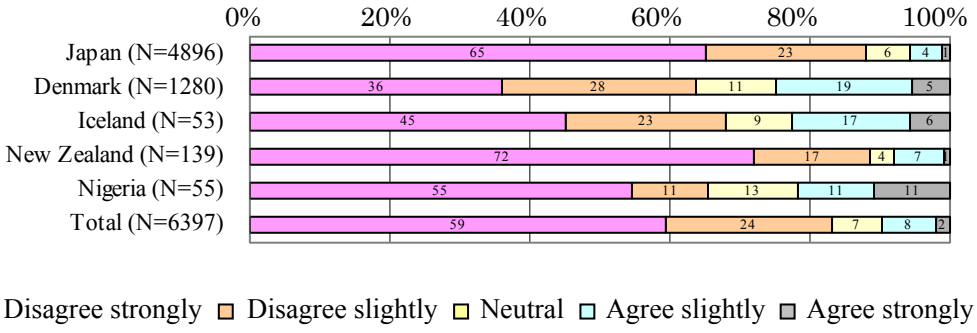
JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

The following figures (until Page 102) indicate multi-national comparisons of healthcare staff reasons for not reporting errors/incidents for the doctors and nurses, respectively.

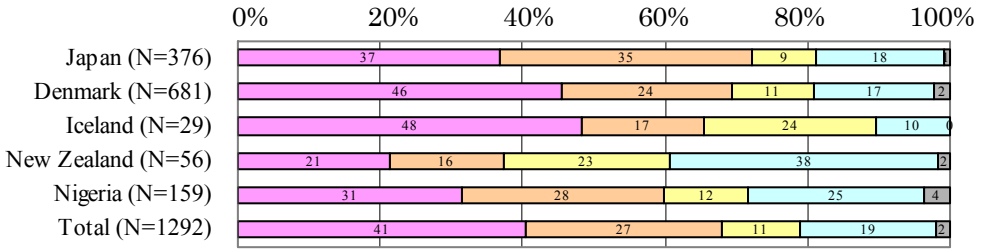
Doctor's responses: We have no tradition in my department for bringing up adverse events/errors.



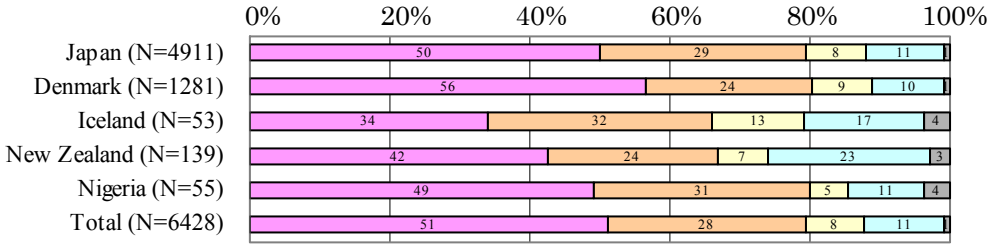
Nurse's responses: We have no tradition in my department for bringing up adverse events/errors.



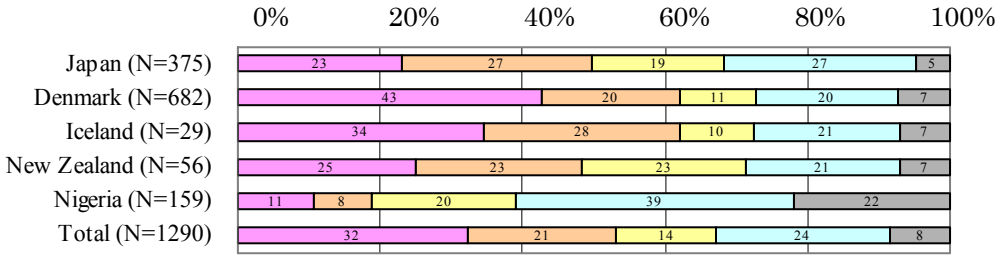
Doctor's responses: When I am busy I forget to bring up adverse events/errors.



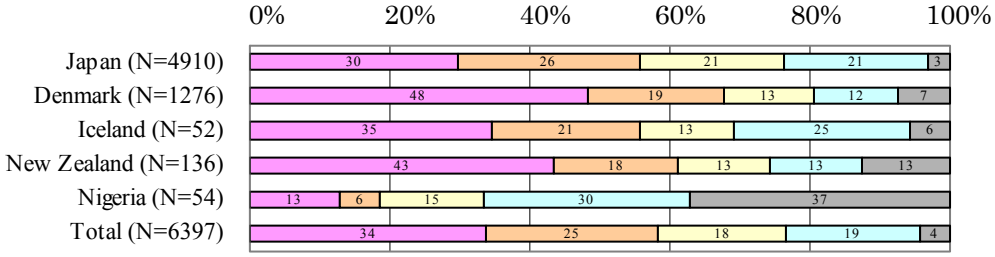
Nurse's responses: When I am busy I forget to bring up adverse events/errors.



Doctor's responses: The patient may file a complaint.

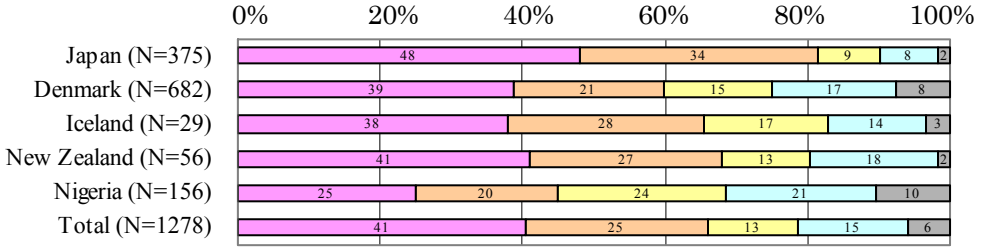


Nurse's responses: The patient may file a complaint.

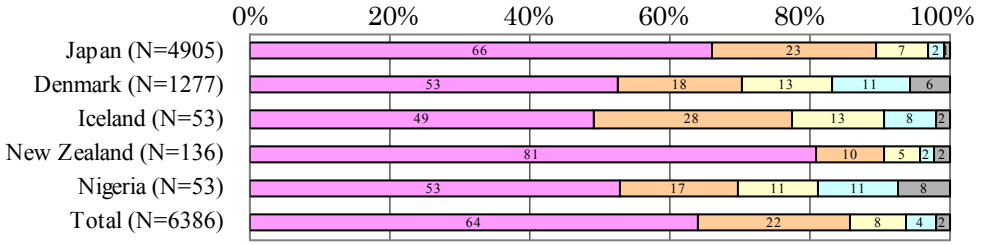


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

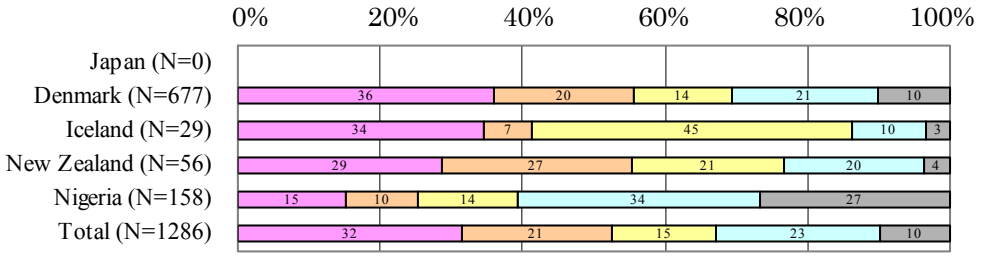
Doctor's responses: I don't know who is responsible for bringing up adverse events/errors.



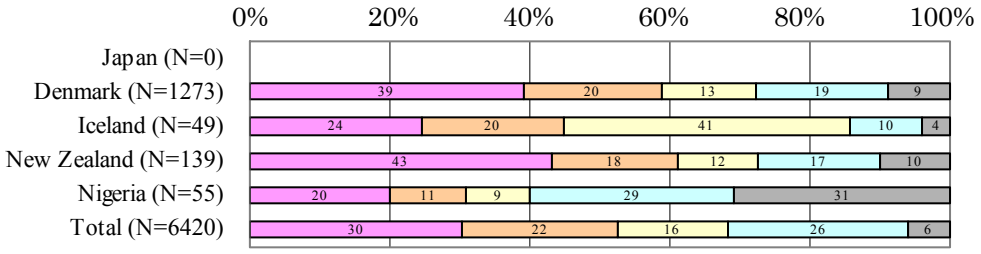
Nurse's responses: I don't know who is responsible for bringing up adverse events/errors.



Doctor's responses: I might get a reprimand.

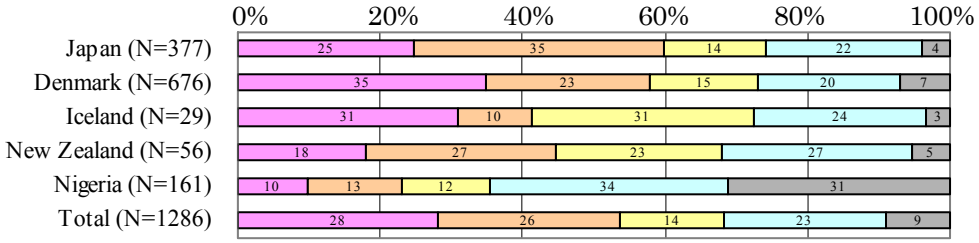


Nurse's responses: I might get a reprimand.

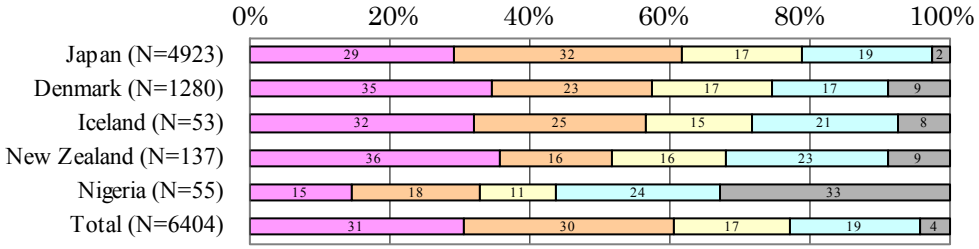


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

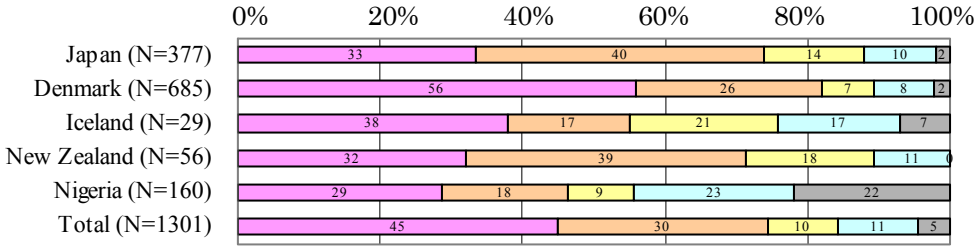
Doctor's responses: It might have consequences for my future employment or career.



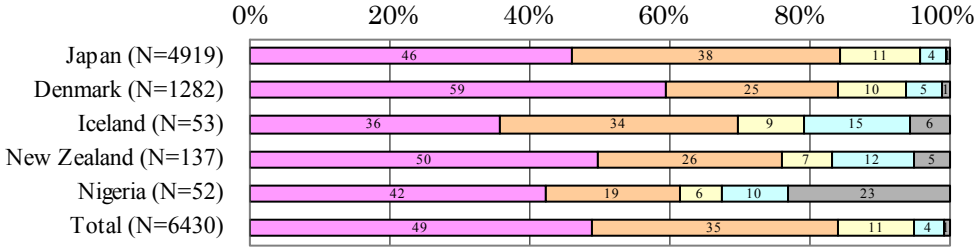
Nurse's responses: It might have consequences for my future employment or career.



Doctor's responses: It wouldn't help the patient that I bring up my own events/errors.

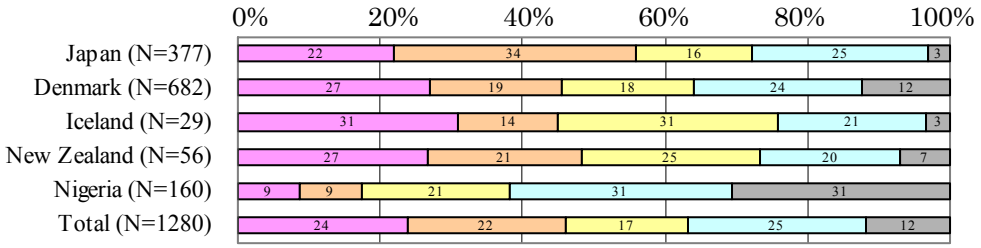


Nurse's responses: It wouldn't help the patient that I bring up my own events/errors.

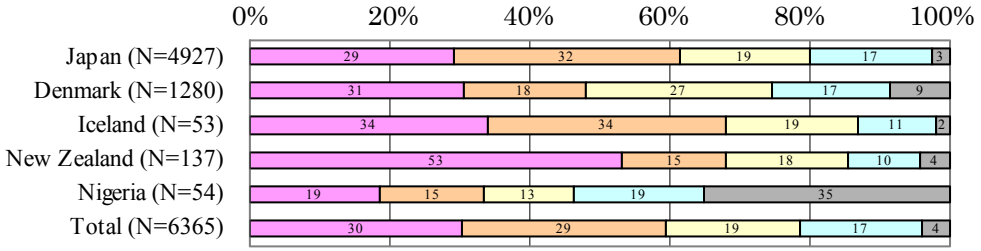


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

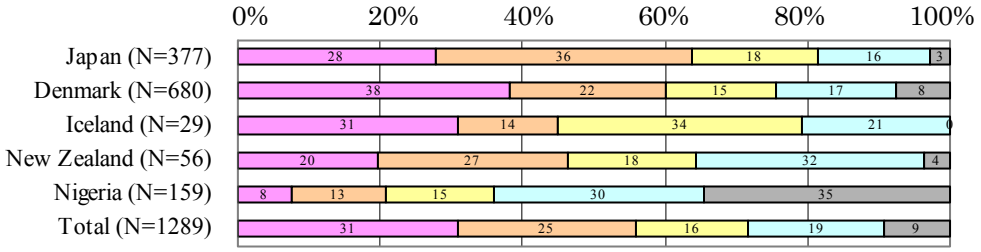
Doctor's responses: It might get out and the press might start writing about it.



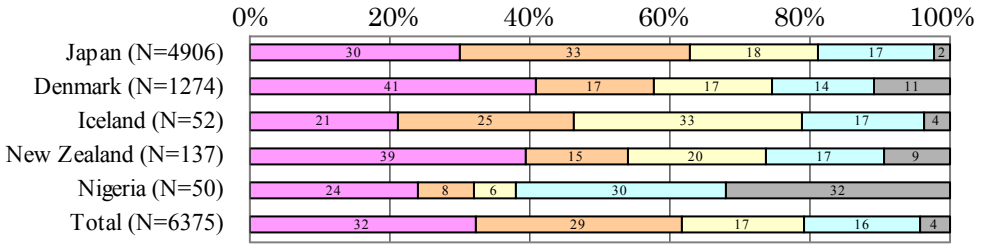
Nurse's responses: It might get out and the press might start writing about it.



Doctor's responses: The adverse event/error may become reported to the medical licensing board.

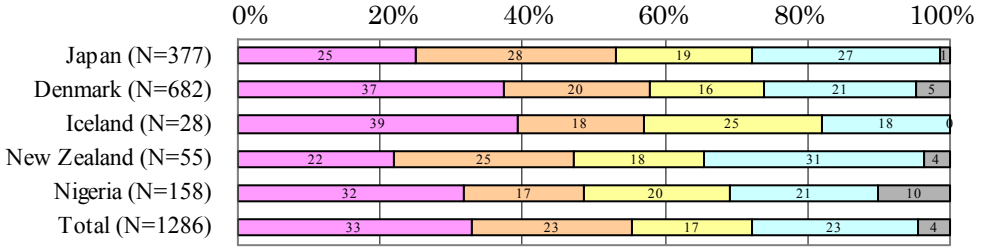


Nurse's responses: The adverse event/error may become reported to the medical licensing board.

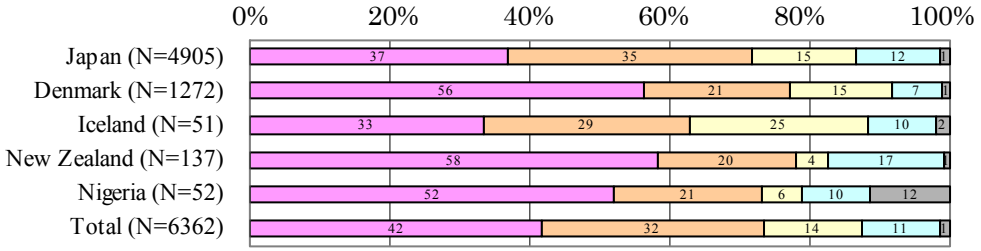


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

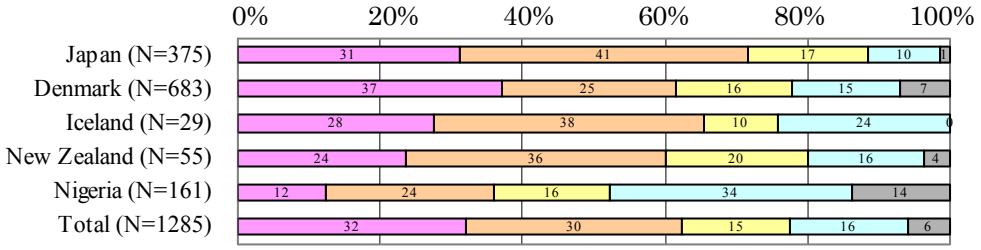
Doctor's responses: It is too cumbersome to bring up adverse events/errors.



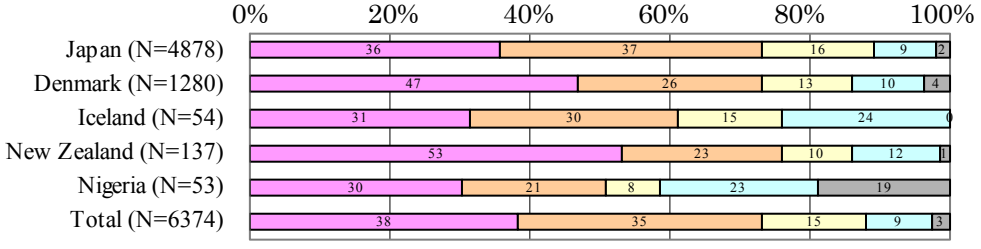
Nurse's responses: It is too cumbersome to bring up adverse events/errors.



Doctor's responses: One does not feel confident about bringing up adverse events/errors in our department.

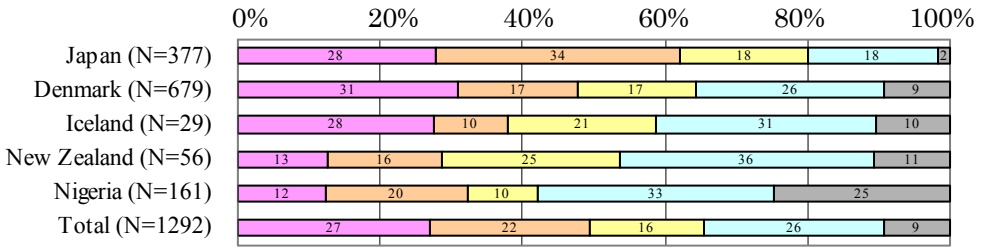


Nurse's responses: One does not feel confident about bringing up adverse events/errors in our department.

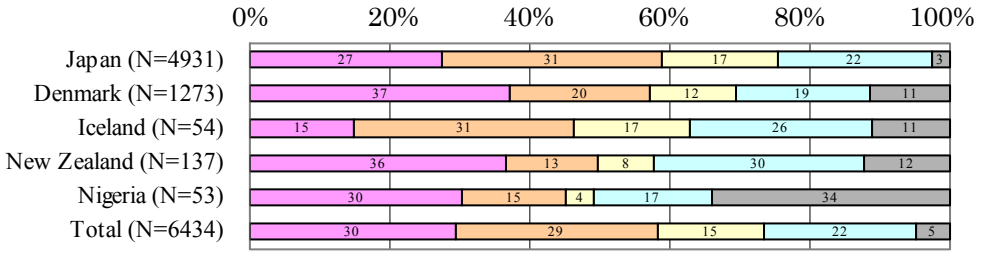


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

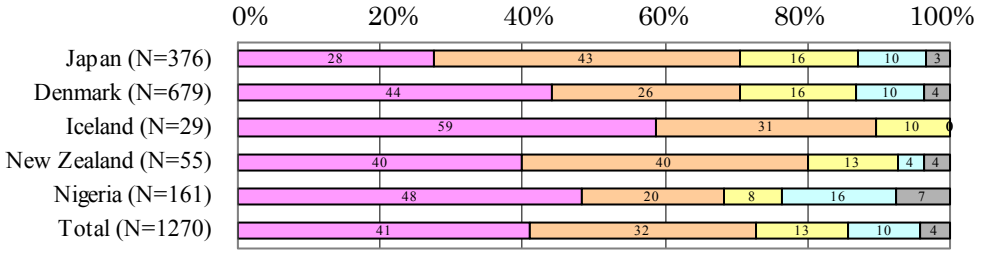
Doctor's responses: I do not wish to appear as an incompetent doctor [nurse].



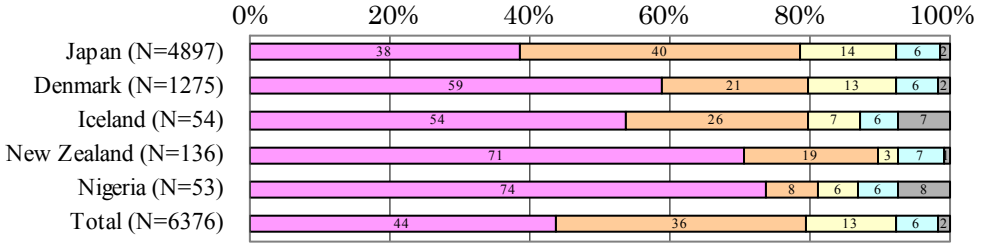
Nurse's responses: I do not wish to appear as an incompetent doctor [nurse].



Doctor's responses: Bringing up adverse events/errors will not lead to any improvement in our ward.



Nurse's responses: Bringing up adverse events/errors will not lead to any improvement in our ward.



Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

In Table 4.4 are shown multi-national comparisons of reasons for not reporting errors/incidents in terms of significance levels which were derived by the Mann-Whitney test for each potential reason, separately using doctor's and nurse's samples.

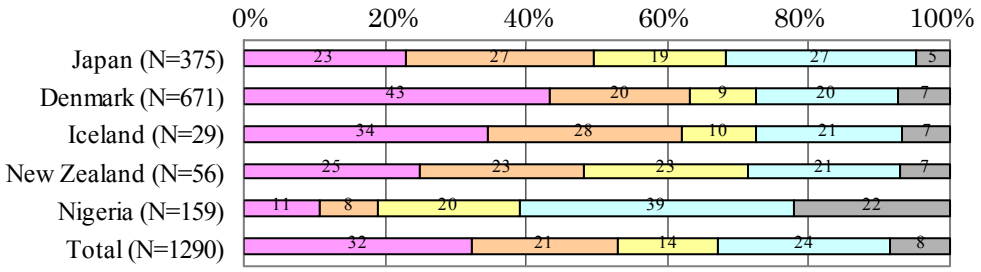
Table 4.4: Multi-national differences in reasons for not reporting errors/incidents

Items		Doctors				Nurses			
		DK	IS	NZ	NG	DK	IS	NZ	NG
a. We have no tradition in my department for bringing up adverse events/errors.	JP	0.000	0.233	0.378	0.000	0.000	0.000	0.137	0.006
	DK	–	0.081	0.001	0.881	–	0.345	0.000	0.137
	IS	–	–	0.568	0.140	–	–	0.000	0.663
	NZ	–	–	–	0.004	–	–	–	0.003
b. When I am busy I forget to bring up adverse events/errors.	JP	0.115	0.455	0.000	0.018	0.000	0.007	0.002	0.857
	DK	–	0.783	0.000	0.001	–	0.000	0.000	0.287
	IS	–	–	0.002	0.076	–	–	0.631	0.084
	NZ	–	–	–	0.025	–	–	–	0.160
c. The patient may file a complaint.	JP	0.000	0.244	0.996	0.000	0.000	0.915	0.166	0.000
	DK	–	0.578	0.028	0.000	–	0.029	0.052	0.000
	IS	–	–	0.336	0.000	–	–	0.482	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
d. I don't know who is responsible for bringing up adverse ebents/errors.	JP	0.000	0.111	0.098	0.000	0.000	0.003	0.002	0.003
	DK	–	0.723	0.406	0.000	–	0.998	0.000	0.743
	IS	–	–	0.810	0.041	–	–	0.000	0.795
	NZ	–	–	–	0.004	–	–	–	0.000
e. I might get a reprimand.	JP	0.948	0.954	0.888	0.000	0.000	0.566	0.009	0.000
	DK	–	0.860	0.917	0.000	–	0.280	0.720	0.000
	IS	–	–	0.929	0.000	–	–	0.255	0.001
	NZ	–	–	–	0.000	–	–	–	0.000
f. It might have cosequences for my future employment or career.	JP	0.204	0.582	0.041	0.000	0.877	0.568	0.212	0.000
	DK	–	0.440	0.018	0.000	–	0.656	0.365	0.000
	IS	–	–	0.479	0.000	–	–	0.875	0.001
	NZ	–	–	–	0.000	–	–	–	0.000
g. It wouldn't help the patients that I bring up my own events/errors.	JP	0.000	0.330	0.824	0.000	0.000	0.011	0.404	0.008
	DK	–	0.006	0.001	0.000	–	0.000	0.002	0.000
	IS	–	–	0.458	0.083	–	–	0.141	0.604
	NZ	–	–	–	0.001	–	–	–	0.068
h. It might get out and the press might start writing about it.	JP	0.036	0.933	0.794	0.000	0.000	0.251	0.000	0.000
	DK	–	0.379	0.456	0.000	–	0.063	0.000	0.000
	IS	–	–	0.836	0.000	–	–	0.184	0.000
	NZ	–	–	–	0.000	–	–	–	0.000
i. The adverse event/error may become reported to the madical licensing board.	JP	0.450	0.443	0.008	0.000	0.256	0.052	0.567	0.000
	DK	–	0.478	0.009	0.000	–	0.084	0.508	0.000
	IS	–	–	0.257	0.000	–	–	0.326	0.003
	NZ	–	–	–	0.000	–	–	–	0.000
j. It is too cumbersome to bring up adverse events/errors.	JP	0.009	0.187	0.303	0.656	0.000	0.392	0.000	0.292
	DK	–	0.673	0.035	0.035	–	0.000	0.476	0.127
	IS	–	–	0.088	0.181	–	–	0.014	0.235
	NZ	–	–	–	0.566	–	–	–	0.323
k. One does not feel confident about bringing up adverse events/errors in our department.	JP	0.311	0.373	0.055	0.000	0.000	0.093	0.006	0.001
	DK	–	0.667	0.229	0.000	–	0.011	0.365	0.000
	IS	–	–	0.671	0.002	–	–	0.008	0.126
	NZ	–	–	–	0.000	–	–	–	0.000
l. I do not wish to apear as an incompetent doctor[nurse].	JP	0.001	0.038	0.000	0.000	0.649	0.007	0.065	0.003
	DK	–	0.467	0.007	0.000	–	0.017	0.141	0.006
	IS	–	–	0.344	0.053	–	–	0.347	0.479
	NZ	–	–	–	0.210	–	–	–	0.072
m. Bringing up adverse events/errors will not lead to any improvement in our ward.	JP	0.000	0.000	0.044	0.052	0.000	0.133	0.000	0.000
	DK	–	0.060	0.964	0.515	–	0.270	0.025	0.202
	IS	–	–	0.084	0.060	–	–	0.023	0.091
	NZ	–	–	–	0.788	–	–	–	0.975

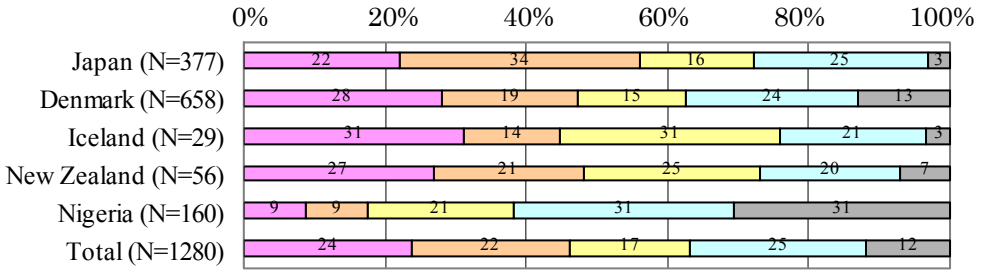
JP: Japan, DK: Denmark, IS: Iceland, NZ: New Zealand, NG: Nigeria

In the following figures (until Page 107) are shown multi-national comparisons of doctors' reasons for not reporting errors. These figures are arranged in the order of percentage agreement of Japanese doctors.

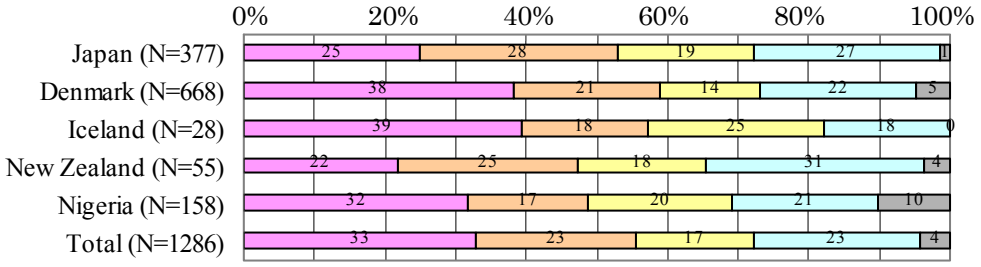
1st rank of Japanese Doctors: The patient may file a complaint.



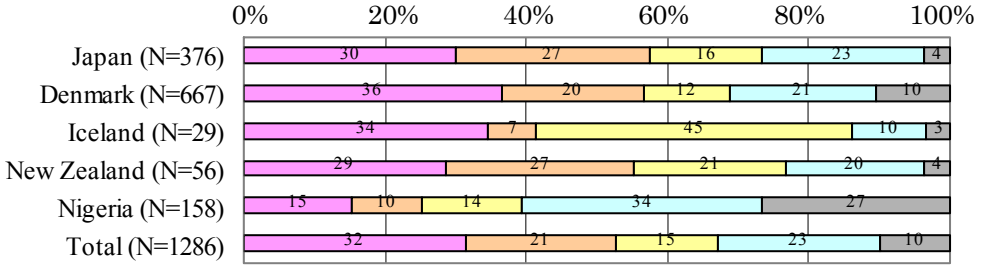
2nd rank of Japanese Doctors: It might get out and the press might start writing about it.



3rd rank of Japanese Doctors: It is too cumbersome to bring up adverse events/errors.

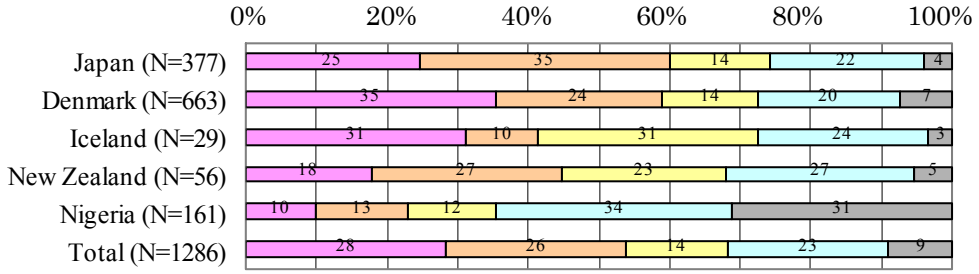


4th rank of Japanese Doctors: I might get a reprimand.

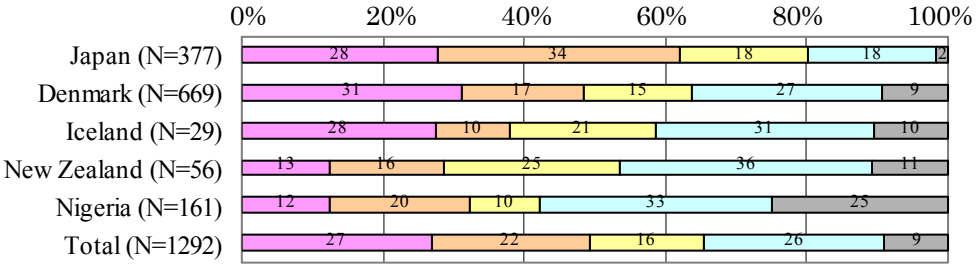


Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

5th rank of Japanese Doctors: It might have consequences for my future employment or career.



6th rank of Japanese Doctors: I do not wish to appear as an incompetent doctor.



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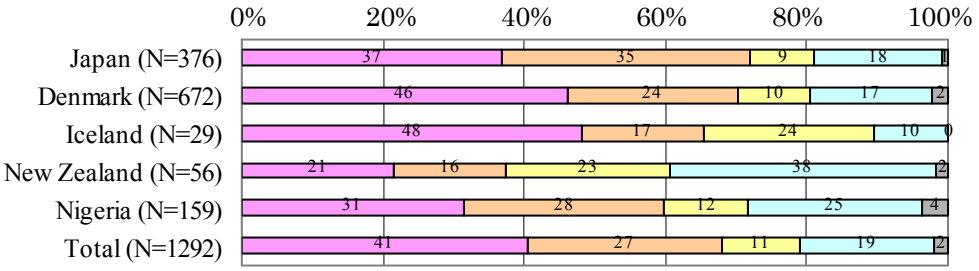

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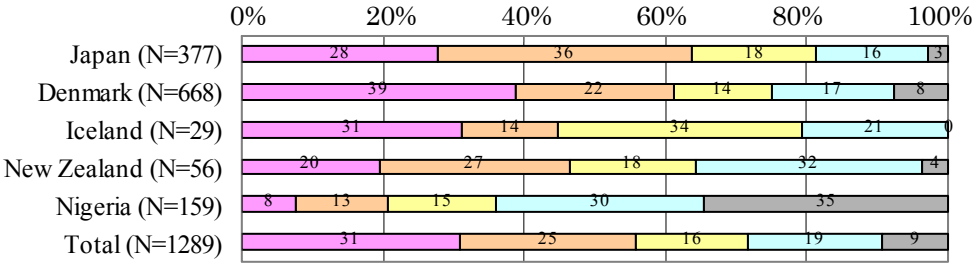

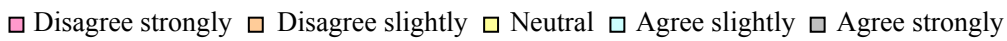

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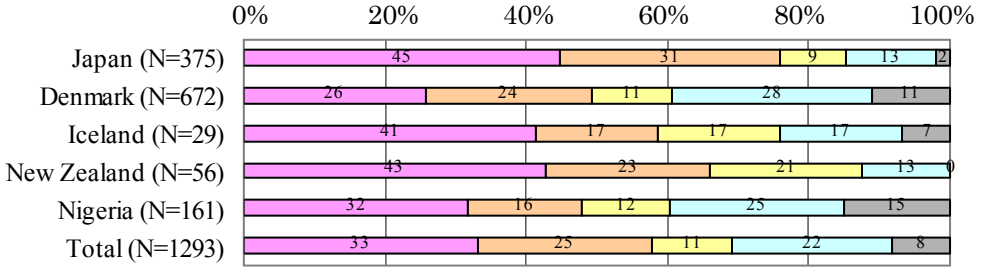

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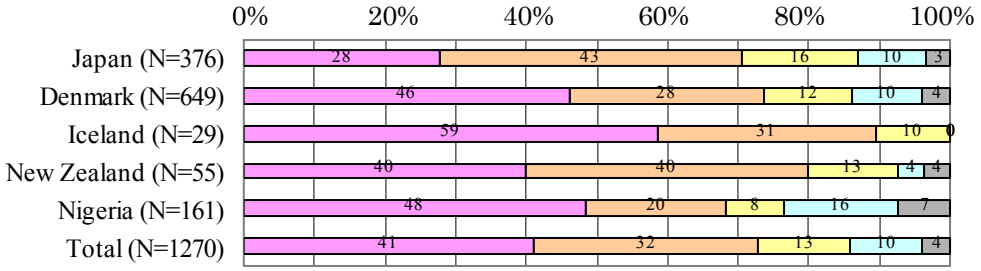
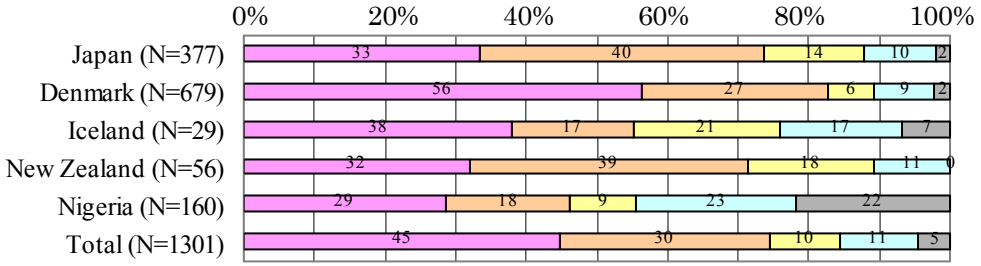
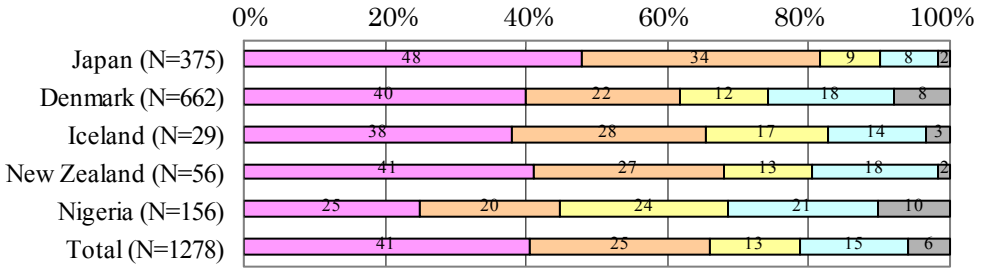


11th rank of Japanese Doctors: It wouldn't help the patients that I bring up my own events/errors.

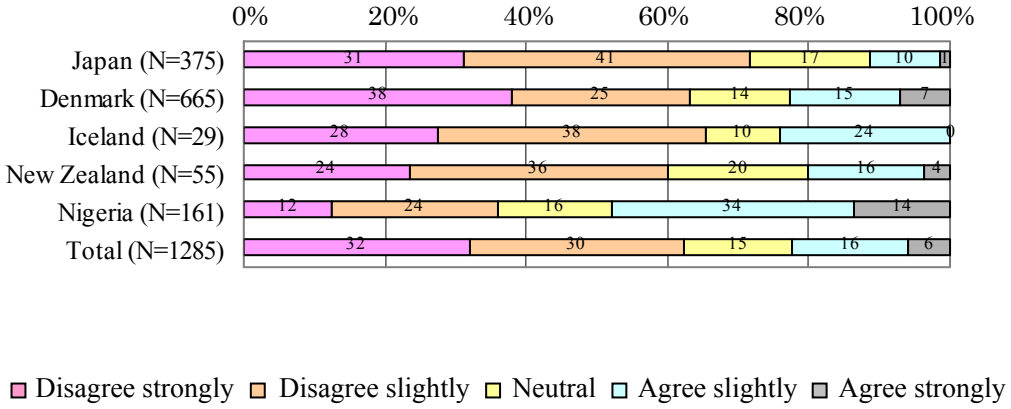


12th rank of Japanese Doctors: One does not feel confident about bringing up adverse events/errors in our department.



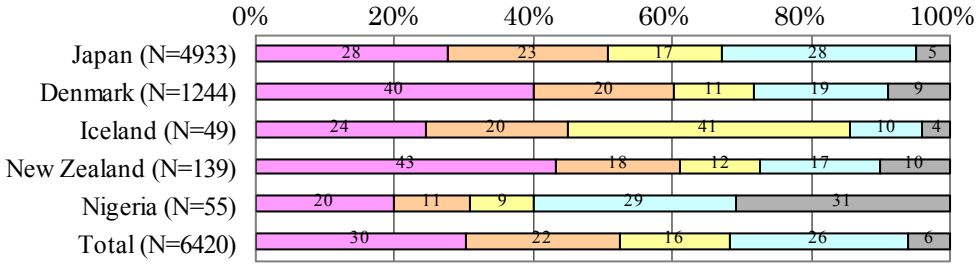
Disagree strongly Disagree slightly Neutral Agree slightly Agree strongly

13th rank of Japanese Doctors: I don't know who is responsible for bringing up adverse events/errors.



In the following figures (until Page 110) are shown multi-national comparisons of nurses' reasons for not reporting errors. These figures are arranged in the order of percentage agreement of Japanese nurses.

1st rank of Japanese Nurses: I might get a reprimand.



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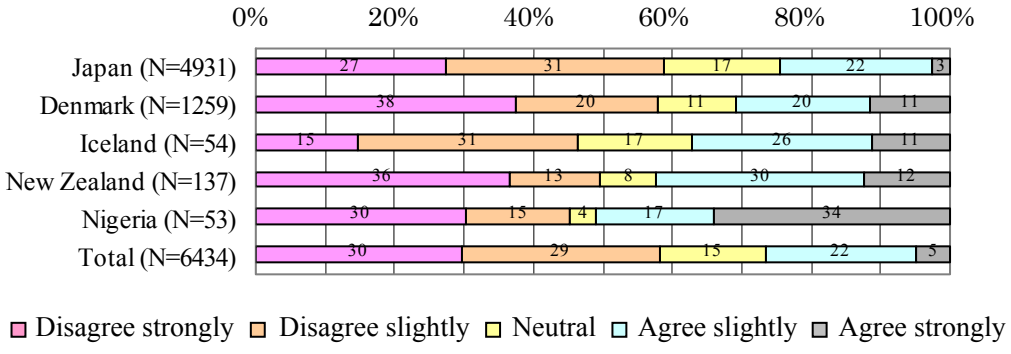
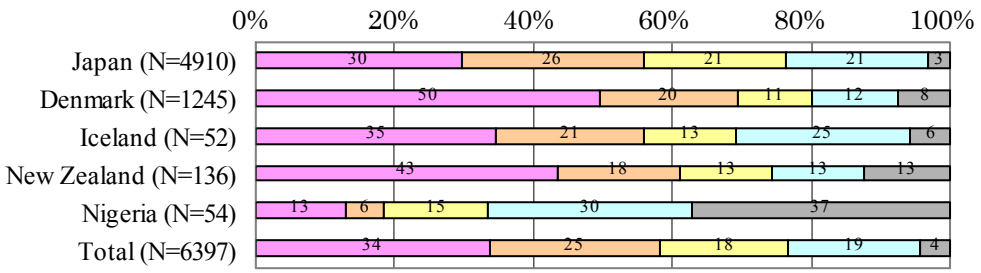


3rd rank of Japanese Nurses: The patient may file a complaint.



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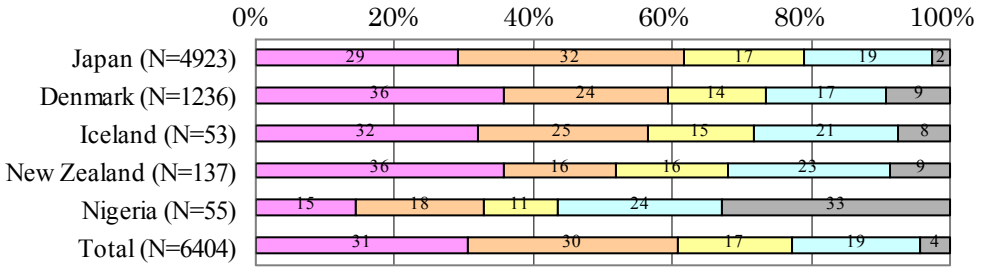
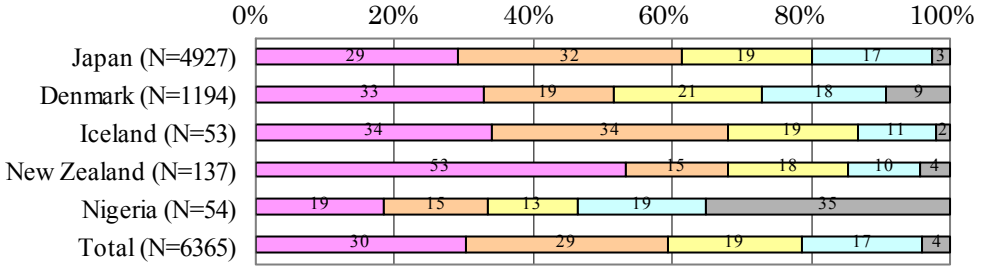


5th rank of Japanese Nurses: It might get out and the press might start writing about it.



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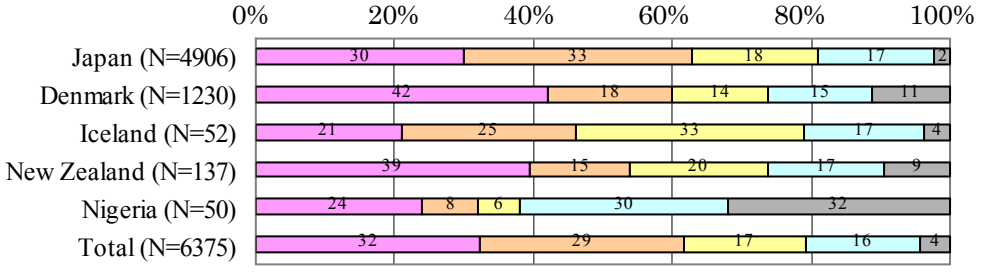

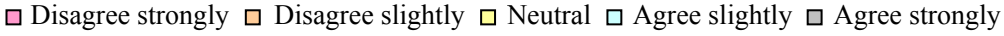

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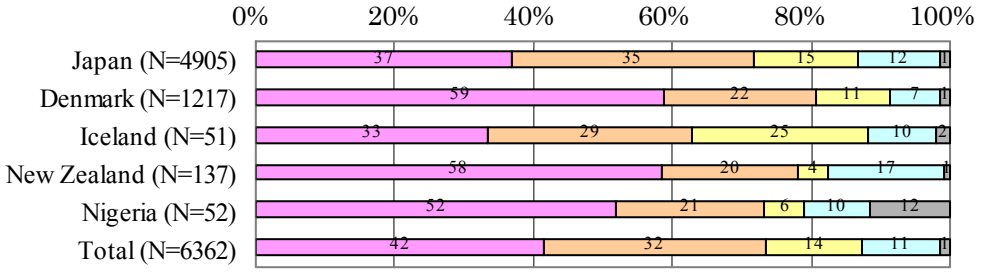

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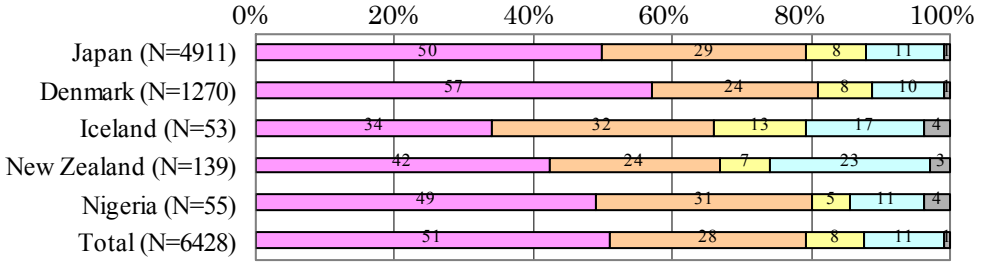

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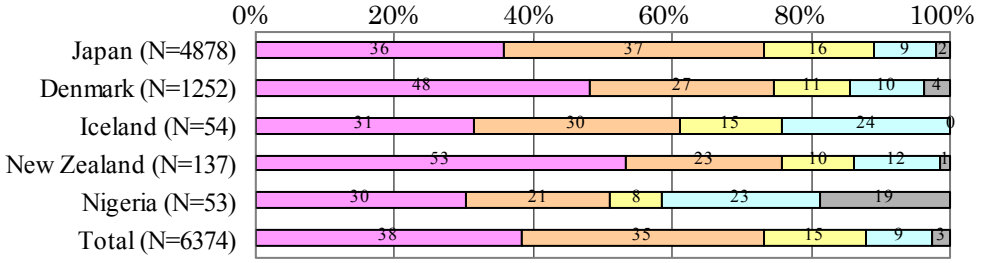

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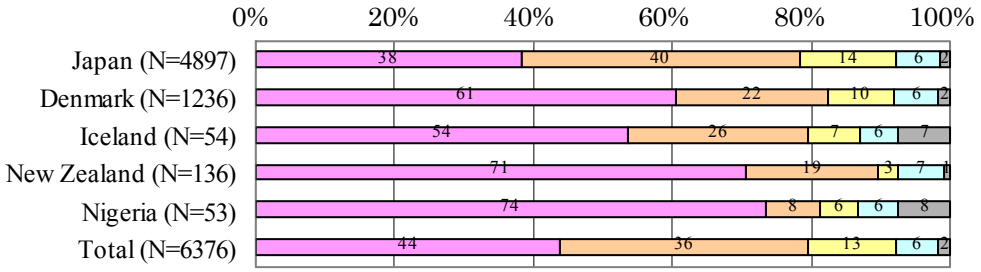

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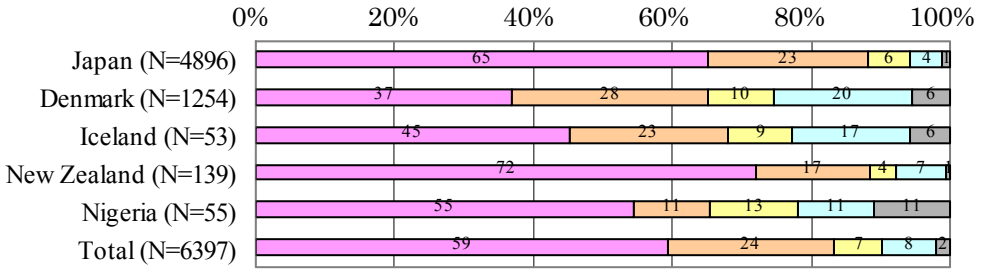

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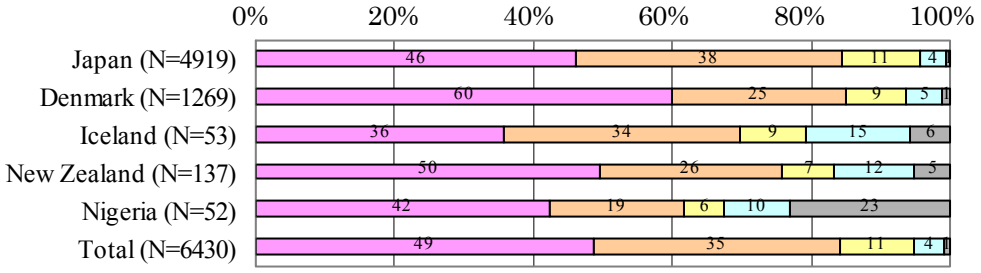

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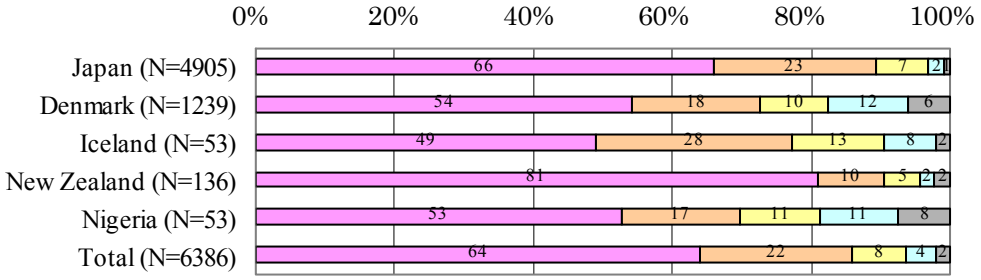

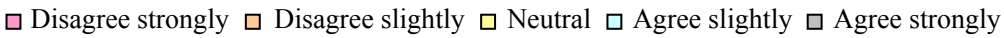

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