

Use of Patient Safety Culture Instruments and Recommendations





The European Network for Patient Safety (EUNetPaS) is a project which was funded and supported by the European Commission within the 2007 Public Health Programme.

The work described in this report was performed within Work Package 1 “Promoting Patient Safety Culture” and headed by the European Society for Quality in Healthcare, Office for Quality Indicators, Denmark.

ISBN 978-87-993779-0-9

Copyright, March 2010

European Society for Quality in Healthcare - Office for Quality Indicators

Olof Palmes Allé 13, DK-8200 Aarhus N, Denmark

www.esqh.net

Mail: esqh@rm.dk

Preface

One of the aims of the EUNetPaS project was “Promoting a Culture of Patient Safety”, and this aim was approached in Work Package 1 (WP1).

The report in hand provides information on part of the tasks to be carried out within WP1, viz. the work performed by the European Society for Quality in Healthcare (ESQH) in Denmark regarding project delivery number D26: a “*validated questionnaire to measure patient safety culture in hospitals through health care professionals at the ward level*”. This report is accompanied by a catalogue describing the patient safety culture instruments used in Member States (MS) at the time of information collection in 2009.

It is important to note that the content of the report reflects *only* the patient safety culture instruments used in MS in spring and summer 2009, and that it is based solely on information feedback from MS. Thus the information presented here should not be regarded as an exhaustive account of activities promoting patient safety culture in MS, as there is no way of knowing how exhaustive the information collection performed in the individual MS through the project’s National Contact Points (NCP) has been. However, all informants and WP1 partners were given the opportunity to comment on and correct the content of this report, and it is our belief that it reflects the level of activity fairly well.

The full work process was described in detail in a work plan commented on by Work Package partners and sent to the National Contact Points for information in February 2009.

The content of this report and the catalogue should be seen in close connection with other work done within EUNetPaS, especially the “diary” describing the experiences gained while piloting two of the recommended instruments in a clinical and political setting where patient safety work is in its early days. This work is performed by the State Health Care Accreditation Agency under the Ministry of Health of the Republic of Lithuania, supervised by the ESQH office in Denmark. Also a literature review on utility of patient safety culture measurements supporting the EUNetPaS publications is available from ESQH, Denmark. The publications are available at the project’s webpage: www.eunetpas.eu, and through the publishing organisations.

Solvejg Kristensen & Paul Bartels

European Society for Quality in Healthcare - Office for Quality Indicators, Denmark

Content

Summary.....	3
Definitions and context.....	4
Strategy for literature search.....	5
Results of the literature search	5
Collecting information from MS.....	6
Organisation.....	6
Process.....	6
Selecting recommendable instruments; process and criteria	6
Overview of Patient Safety Culture instruments used in MS	9
Assessment of the identified instruments	10
Identification of candidate instruments for recommendation.....	12
Assessment of the candidate instruments	12
Conclusions and recommendations.....	14
Summary of findings.....	14
Recommendation of PSC instruments.....	14
About the recommended instruments	15
The Hospital Survey on Patient Safety Culture	15
The Manchester Patient Safety Framework.....	16
Safety Attitude Questionnaire	17
Comments regarding the recommendations.....	18
Use of the instruments and translation	18
Using PSC instruments for benchmarking	18
Further recommendations.....	18
Appendix	21
Appendix 1. Informants on information collection, NCPs and appointed experts.....	21
Appendix 2. Questionnaire used for collecting information from MS	26
Appendix 3. Country code abbreviations used.....	30
References.....	31

Summary

The aim of the work presented was recommending a set of validated instruments to promote patient safety culture (PSC) in hospitals through healthcare professionals at ward level, which could also be of interest to health care professionals in other setting.

The process included the following elements:

- Literature search identifying PSC instruments and their use in the EU
- Establishing an EU-wide network of experts, ministerial NCPs and WP1 partners
- Collecting information from the network on instruments used
- Draft report displaying the information stratified country-wise and recommendations
- Validation by the network of the information in the report
- Assessment of identified instruments according to an approved set of “*instrument criteria*” that an instrument has to fulfil to qualify as an eligible candidate for a recommendable instrument
- Listing candidate instruments for recommendation
- Assessment of candidate instruments according to the “*set criteria*” that a set of 3-4 instruments has to fulfil to make up a set of instruments supplementing each other
- Recommendation of 3-4 instruments applicable for use in MS, and further recommendations.

The collection of information revealed 15 different instruments used in MS; three of them met the first set of criteria. They were also the instruments most frequently used in MS. A number of validation studies regarding these three instruments had either been performed or planned in MS.

The EUNetPaS literature search came up with 19 PSC instruments, four of which have been reported in use in MS, and three of them are the ones most frequently used.

At present, the following three instruments are recommended for internal use in MS, but not for benchmarking:

- **Hospital Survey on Patient Safety Culture** from the Agency for Healthcare Research and Quality (AHRQ) in the USA
- **Manchester Patient Safety Assessment Framework** from the University of Manchester in the UK
- **Safety Attitudes Questionnaire** from the University of Texas / Johns Hopkins University in the USA

In addition, a number of other instruments used were commented on, but not directly recommended.

Two of the recommended instruments were tested at ward level in Lithuanian hospitals, and the experiences gained are shown in a separate diary.

Definitions and context

In 2006, the European Society for Quality in Health Care adopted the following definition of **'culture of safety'**. This is the definition used by WP1.

'An integrated pattern of individual and organisational behaviour, based upon shared beliefs and values that continuously seeks to minimise patient harm, which may result from the processes of care delivery.'

The above definition of a culture of safety differs from other more neutral definitions of patient safety culture as the definition mirrors a dynamic, conscious culture of safety in which actions are taken towards reducing harm or risk to the patient. It is in this respect that the definition differs from others.

Surveys are generally not regarded suitable for capturing behaviour, values and competencies related to safety culture. Climate (defined by safety perceptions) is said by some organisations and opinion leaders to be more readily measurable aspects of safety culture when using surveys (perceptions form part of both definitions).

In order to successfully transform clinical safety culture, it is important to try and understand it; possibly actions may emerge from understanding and awareness. Measurement of safety culture is meant to enable organisations to see the features of their patient safety culture and to provide insights for transforming the culture. Measurement provides invaluable information about how patient safety is viewed and handled within an organisation. However, one measurement does not make up the culture, nor does surveillance of developments in the clinical safety culture. What is required is conscious actions and interventions aiming to minimise risk and harm to patients.

In this context, an **instrument** is regarded as

'a method by which one can collect information on aspects of patient safety culture. The instrument can on its own or as part of a process help assess, promote and /or develop patient safety culture.'

It is important to emphasise that an instrument needs to be followed by a formal programme of actions designed to address the limitations in safety culture identified by the instrument in order to ensure concrete results, as well as by activities to survey positive or negative developments in the culture.

Utility is here defined as

'the added value on the clinical and the organisational level following actions taken to develop the patient safety culture.'

Strategy for literature search

In summer 2008, an initial literature search was performed by the Psychiatric Research Library at Aarhus University, Denmark. The aim was to identify literature describing:

- Instruments to evaluate/survey patient safety culture/climate/resilience and the psychometric properties of the methods found
- European studies of patient safety culture/climate/resilience performed previously.

Results of the literature search

Table 1 below gives an overview of PSC instruments identified through the literature search. For sources, please see the reference list below.

Instrument	Source
1. Checklist for Assessing Institutional Resilience	(8;9)
2. Culture of Safety Survey	(3;10;11)
3. Error Orientation Questionnaire	(12;13)
4. Hospital Culture Questionnaire	(14;15)
5. Hospital Survey on Patient Safety	(3;16)
6. Hospital Survey on Patient Safety Culture	(1-3)
7. Manchester Patient Safety Assessment Framework	(4;5)
8. Nursing Unit Cultural Assessment Instrument	(14)
9. Patient Safety Climate in Aesthesia	(17)
10. Patient Safety Culture Questionnaire	(18-21)
11. Patient Safety Cultures in Healthcare Organisations	(3)
12. Safety Attitudes Questionnaire	(3;6;7)
13. Safety Climate Scale	(3;16;22;23)
14. Stanford Safety Culture Instrument	(16;24-26)
15. Teamwork and Patient Safety Attitudes Questionnaire	(27-29)
16. Trainee Supplemental Survey	(17)
17. Veteran Affairs Palo Alto/ Stanford Patient Safety Center for Inquiry	(24-26)
18. Veterans Health Administration Patient Safety Culture Questionnaire	(3)
19. Safety Climate Survey	(24;30;31)

Collecting information from MS

Organisation

During the winter 2008-2009, an EU-wide network of experts on patient safety culture, National Contact Points and WP1 partners was established. Experts were either appointed by the NCP or identified through other networks/contacts. An expert was defined as anybody who had knowledge and/or experience within the two areas:

- PSC surveys performed in their own country at local, regional or national level
- Translated or newly developed PSC instruments in their own country.

The members of the WP1 PSC network are listed in Appendix 1.

During the process of information collection, a number of experts from non-EU countries approached ESQH to be admitted for participation, either actively because they had experience in working with PSC, or because they were interested in learning more about it. Their participation was considered mutually beneficial and they were included as “the extended network”, coming from Norway, Croatia, Iceland, Switzerland and Greenland. The information they fed back is also shown in this report.

Process

Information was collected during spring 2009. Informants were asked to provide information on any patient safety culture instruments (PSCI) used. For this purpose, a structured questionnaire was provided, see Appendix 2. Informants were asked to feed information back to the Danish ESQH office. As it is the nature of the EUNetPaS project that the NCPs are responsible for national coordination and feedback to the project, organisation of information collection as well as the results obtained rely heavily on the individual NCP’s organisation for collection of information and internal communication.

The outcome of the information collection by August 2009 was:

- Feedback with number of and information on PSCIs used, or no activities currently, received from 24 MS and 4 non-MS from the extended network
- No feedback from 3 MS.

All information collected was included in the first draft of the catalogue. The network was then asked to review the information they had given, to ensure correctness. All information given describing instruments used is displayed country-wise below.

Selecting recommendable instruments; process and criteria

WP1 was given the task of recommending 3-4 validated instruments suitable for assessing/developing/promoting PSC in MS. For this purpose, a number of criteria were established, partly to ensure the quality of the selection process (how to select, and by whom) and the quality of each instruments proposed; and partly to ensure that the instruments supplemented one another, to meet different needs and healthcare contexts. Furthermore, the selection process

had to ensure that instruments not fulfilling the criteria, due to e.g. not being validated or available in English, were reviewed, and further recommendation considered.

The selection process and the criteria for selection of instruments suitable for recommendation were approved by WP1 partners and NCPs, and the experts were informed about the selection procedure in February 2009.

The process for selection of recommendable instruments was as follows:

- Establishing the method and the criteria for selecting recommendable instruments
- Collection of information from MS on currently used instruments
- Validation of information collection by experts and NCPs
- Assessment of identified instruments according to the first set of criteria which each instrument had to fulfil to qualify as a candidate for the list of recommendable instruments
- Identification of a list of candidate instruments for recommendation
- Assessment of the candidate instruments according to the second set of criteria which the 3-4 instruments had to fulfil to form a recommendable set of instruments
- Recommendation of 3-4 instruments
- Review of instruments not selected for recommendation, and further recommendations
- Literature review (see separate report).

The “**instrument criteria**” which each instrument had to fulfil to be an eligible candidate for the list of recommendable instruments were:

1. *The instrument must capture the definition of PSC used by WP1*
2. *The original instruments must have well-documented scientific properties (validated), and the instrument must have been translated into at least one MS language and tested practically*
3. *Be feasible in application (survey planning, data collection, data analysis, feedback etc.)*
4. *Target as a minimum the clinical staff as informants (doctors/nurses/therapists/others)*
5. *Be available in English*
6. *Be free of charge and easily accessible, requiring no certification to be allowed to use it.*

The set of instruments to be recommended from the list must be complementary in order to fit different needs and contexts. The so-called “**set criteria**” that the 3-4 instruments had to fulfil to form a suitable set were:

1. *Must be applicable in diverse healthcare settings (e.g. hospitals, GPs, nursing homes, community care); however, at least one instrument must be suitable for hospital use*

2. *Measure the broadest variety of dimensions of safety culture possible. This means that the individual instruments chosen should preferably measure a number of different dimensions, and together the 3-4 instruments should cover a variety of PSC issues*
3. *Be usable at different organisational and systems levels; however, at least one instrument must be suitable at ward level*
4. *Be administered on paper and/or electronically.*

Instruments having well-documented manuals were to be preferred, just as instruments that had been used to assess utility were to be preferred. Utility was defined as the added value at the clinical and the organisational level.

Overview of Patient Safety Culture instruments used in MS

Table 2 below gives an overview of the PSCI used in MS identified through the EUNetPaS information collection in spring 2009. The most frequently used instruments were the *Hospital Survey on Patient Safety Culture*, the *Manchester Patient Safety Assessment Framework* and the *Safety Attitudes Questionnaire*. Furthermore it must be emphasised that a number of MS reported that validity studies regarding these instruments were either planned or ongoing at the time of data collection. Four of the instruments were also identified in the literature search.

Table 2. Patient Safety Culture Instruments used in MS

Instrument	Use reported in the following Member States*
1. Clinical Risk Management	A
2. Drug risk perception - with respect to NSAIDs	SK
3. Error Orientation Questionnaire	DK
4. Healthcare workers' perception of adverse events and incident reporting	I
5. Hospital Survey on Patient Safety Culture	B, UK (Scotland), CH, NL, I, E, HR, S, IS, F, N, FIN
6. Information System for Surveillance and Control of Adverse Events	E
7. Manchester Patient Safety Assessment Framework	UK, D, NL
8. Patient perception of safety in health services. CASSES Questionnaire	E
9. Patient safety care in hospitals - Quality Standards	E
10. Safety Attitudes Questionnaire (different versions)	H, N, D, UK
11. Safety Climate Assessment Instrument	UK by EFN
12. The Danish Patient Safety Culture Questionnaire	DK
13. TUKU – Safety culture in health care survey	FIN
14. Vienna Safety Culture Questionnaire	A
15. World Alliance for Patient Safety Hand Hygiene Campaigns Healthcare - Units Survey on Patient Safety Culture	P

* For abbreviations of country codes, please see Appendix 3.

Assessment of the identified instruments

For an instrument to qualify as a candidate for the list of recommendable instruments for the EU level, all six “*instrument criteria*” had to be met (+/-). The criteria are described above.

The results of the assessment of the instruments used according to the “*instrument criteria*” are shown in Table 3 below.

It is important to note that some information provided by MS was not sufficient for an assessment. Therefore, as a thorough and rigorous rating by +/- of fulfilment of the criteria was not possible, a third category - the criteria partly fulfilled (+) - was introduced. MS have had the opportunity to validate the assessment in the table below, and for two instruments an additional comment regarding the assessment was required by the informant:

1. The Clinical Risk Management instrument from Austria
 - Criteria 6: As KAGes is the holder of all public hospitals within the federal state of Styria/Austria, all staff members who are public employees in Styrian hospitals and who need it to perform their tasks have access to the tool. The tool is free of charge and easily accessible for all KAGes members.

There are several levels of authorisation depending on the qualifications of the user (Certified Risk Managers, Risk Agents, other hospital staff). This means that everybody can use the tool, but generation of reports and statistics as well as implementation of preventive measures can only be carried out and coordinated by certain appointed and responsible staff members.

This means that the Clinical Risk Management instrument fulfils criteria 6 for KAGes members, but not for all MS of the EU – therefore criteria 6 has been rated partly fulfilled.
2. For the Patient Perception of Safety in Health Services (CASSES Questionnaire) from Spain, criteria 2 was rated partly fulfilled as information was provided that the questionnaire had been translated into English; however, no information was given as to whether the instrument has been used in any other MS than Spain.

Table 3. Assessment of the used instruments according to the defined first set of criteria*

Instrument	Fulfilment of the criteria*						All criteria fulfilled
	1	2	3	4	5	6	
1. Clinical Risk Management	X	X	X	X	X	(X)	-
2. Drug risk perception - with respect to NSAIDs	-	X	X	X	X	X	-
3. Error Orientation Questionnaire	-	-	X	X	X	X	-
4. Healthcare workers' perception of adverse events and incident reporting	X	-	X	X	-	X	-
5. Hospital Survey on Patient Safety Culture	X	X	X	X	X	X	X
6. Information System for Surveillance and Control of Adverse Events	X	-	X	X	-	X	-
7. Manchester Patient Safety Assessment Framework	X	X	X	X	X	X	X
8. Patient perception of safety in health services. CASSES Questionnaire	(X)	-	X	X	-	X	-
9. Patient safety care in hospitals - Quality Standards	X	-	X	X	-	X	-
10. Safety Attitudes Questionnaire	X	X	X	X	X	X	X
11. Safety Climate Assessment Instrument	(X)	X	X	X	X	X	-
12. The Danish Patient Safety Culture Questionnaire	X	X	X	X	-	X	-
13. TUKU – Safety culture in health care survey	X	-	X	X	-	X	-
14. Vienna Safety Culture Questionnaire	X	-	X	X	-	X	-
15. World Alliance for Patient Safety Hand Hygiene Campaigns Healthcare - Units Survey on Patient Safety Culture	-	X	X	X	X	X	-

* See phrasing of the criteria above

X fulfils the criteria

- does not fulfil the criteria

(X) partly fulfils the criteria (please see comments below)

Identification of candidate instruments for recommendation

From Table 3 above it can be concluded that the following instruments fulfil all six “*instrument criteria*” and are therefore candidates for recommendation:

- Hospital Survey on Patient Safety Culture from the Agency for Agency for Healthcare Research and Quality (AHRQ) in the USA
- Manchester Patient Safety Assessment Framework from the University of Manchester in the UK
- Safety Attitudes Questionnaire from the University of Texas / Johns Hopkins University in the USA.

Assessment of the candidate instruments

The method outlined in the work plan stated that “*if the list of instruments meeting the “instrument criteria” contains more than four instruments, they will be evaluated in a formal scoring process involving MS to select the 3-4 instruments to be proposed*”. This was not the case, however, and no formal rating procedure involving MS was carried out.

The three instruments listed above were investigated according to the “*set criteria*” outlined above and specified below as *a-h*.

- a. Comes in a version suitable for use in hospitals*
- b. Comes in a version suitable for use in other settings than hospitals*
- c. Is recommended for use at least at ward/unit/team level*
- d. Is administrable on paper*
- e. Is administrable electronically*
- f. Has a well-documented manual*
- g. Has been used to assess utility*
- h. Number of dimensions assessed*

For criteria *a-g*, at least one instrument had to fulfil the criteria, as displayed in Table 4 below. As for criterion *h*, as many different dimensions of safety culture as possible should be comprised by the set of instruments; this assessment is also displayed in Table 4 and elaborated on in Table 5.

The three instruments investigated were found to fulfil the “*set criteria*”, and thus make up a set of different instruments supplementing one another, i.e./that is, they are recommendable

Table 4. Assessment of the of candidate instruments according to the “set criteria”

Instrument	Fulfilment of the “set criteria”							
	a	b	c	d	e	f	g	h
Hospital Survey on Patient Safety Culture (HSOPSC)	X	X	X	X	X	X	X	12
Manchester Patient Safety Assessment Framework (MaPSaF)	X	X	X	X	-	X	-	9
Safety Attitudes Questionnaire (SAQ)	X	X	X	X	X	X	X	7

X fulfils the criteria - does not fulfil the criteria

Table 5. Dimensions surveyed by the PSC instruments, elaboration of point “h” in Table 4

HSOPSC	MaPSaF*	SAQ*
1. Supervisor expectations and actions promoting safety	1. Commitment to continuous improvement	1. Teamwork Climate
2. Organisational learning – continuous improvement	2. Priority given to patient safety	2. Safety Climate
3. Teamwork within hospital units	3. What causes patient safety incidents? How are they identified?	3. Stress Recognition
4. Communication openness	4. Investigating patient safety incidents	4. Job Satisfaction
5. Feedback and communication about error	5. Organisational learning following a patient safety incident	5. Perceptions of Unit Management
6. Non-punitive response to error	6. Communication	6. Perceptions of Hospital Management
7. Staffing	7. Staff and safety issues	7. Work Conditions
8. Hospital management support for patient safety	8. Staff education and training about safety issues	
9. Teamwork across hospital units	9. Team and partnership working	
10. Hospital handoffs and transitions		
11. Frequency of event reporting		
12. Overall perceptions of safety		

*Assessment according to the instrument applicable in hospital settings

Conclusions and recommendations

Summary of findings

The findings were as follows:

- The information collection revealed 15 different instruments used in MS. The most frequently used instruments were (Table 2):
 - o *Hospital Survey on Patient Safety Culture*
 - o *Manchester Patient Safety Assessment Framework*
 - o *Safety Attitudes Questionnaire*.

Furthermore, validity studies regarding these three instruments were either planned or ongoing at time of information collection.

- The literature search performed in summer 2008 identified 19 PSCI (Table 1), four of which were reported in use in MS, viz.:
 - o *Hospital Survey on Patient Safety Culture*,
 - o *Manchester Patient Safety Assessment Framework*
 - o *Safety Attitudes Questionnaire*
 - o *Error Orientation Questionnaire*
- Of the 15 PSC instruments reported in use, three met all six “*instrument criteria*” (Table 3), viz.:
 - o *Hospital Survey on Patient Safety Culture*
 - o *Manchester Patient Safety Assessment Framework*
 - o *Safety Attitudes Questionnaire*

These three instruments were also found to fulfil the “*set criteria*” (Tables 4 and 5).

Recommendation of PSC instruments

The aim was to recommend a “*validated questionnaire to measure patient safety culture in hospitals through health care professionals at ward level*”. The process applied to reach this goal very clearly points towards three instruments, which are therefore recommended for internal use – but not for benchmarking - at present in MS:

- **Hospital Survey on Patient Safety Culture**
From the Agency for Healthcare Research and Quality (AHRQ) in the USA (1-3)
- **Manchester Patient Safety Assessment Framework**
From the University of Manchester in the UK (4;5)
- **Safety Attitudes Questionnaire**
From the University of Texas / Johns Hopkins University in the USA (3;6;7)

About the recommended instruments

The Hospital Survey on Patient Safety Culture

The Hospital Survey on Patient Safety Culture is a questionnaire originating from the Agency for Healthcare Research and Quality (AHRQ) in the USA (1-3). The survey places great emphasis on patient safety issues and on error and event reporting. Health care organisations can use this survey tool to:

- Assess their patient safety culture
- Track changes in patient safety over time
- Evaluate the impact of patient safety interventions.

The survey measures seven unit-level aspects of safety culture:

- Supervisor/Manager Expectations & Actions Promoting Safety (4 items),
- Organizational Learning - Continuous Improvement (3 items),
- Teamwork Within Units (4 items),
- Communication Openness (3 items),
- Feedback and Communication About Error (3 items),
- Non-punitive Response to Error (3 items)
- Staffing (4 items).

In addition, the survey measures three hospital-level aspects of safety culture:

- Hospital Management Support for Patient Safety (3 items),
- Teamwork Across Hospital Units (4 items), and
- Hospital Handoffs and Transitions (4 items).

Finally, four outcome variables are included:

- Overall Perceptions of Safety (4 items),
- Frequency of Event Reporting (3 items),
- Patient Safety Grade (of the Hospital Unit) (1 item)
- Number of Events Reported (1 item).

The Hospital Survey Toolkit is available from the AHRQ webpage and comprises:

- The Hospital Survey on Patient Safety Culture
- Survey User's Guide
- Survey Feedback Report Template
- Comparative Database
- Data Entry and Analysis Tool.

The User's Guide provides a general overview of the issues and major decisions involved in conducting a survey and reporting the results. The Guide includes information on getting started,

selecting a sample, determining data collection methods, establishing data collection procedures, conducting a web-based survey, preparing and analysing data, and producing reports.

The Hospital Survey on Patient Safety Culture is supplemented by the following two questionnaires:

- Nursing Home Survey on Patient Safety Culture
- Medical Office Survey on Patient Safety Culture

The Hospital Survey Toolkit is available from the AHRQ's webpage.

February 2010: <http://www.ahrq.gov/qual/patientsafetyculture/hospsurindex.htm>

The Manchester Patient Safety Framework

The Manchester Patient Safety Framework (MaPSaF) from the University of Manchester in the UK (4;5) is a tool developed to help organisations assess their progress in developing a safety culture.

The MaPSaF is a qualitative assessment tool carried out in workshops, led by a facilitator from the healthcare organisation at organisational or team level.

The MaPSaF uses critical dimensions of patient safety and for each of these describes five levels of increasingly mature organisational safety culture. The dimensions relate to areas where attitudes, values and behaviours about patient safety are likely to be reflected in the organisation's working practices. For example, how patient safety incidents are investigated, staff education, and training in risk management.

The MaPSaF can be used in many ways, for example to:

- Facilitate reflection on patient safety culture
- Stimulate discussion about the strengths and weaknesses of the patient safety culture
- Reveal any differences in perception between staff groups
- Help understand how a more mature safety culture might look
- Help evaluate any specific intervention needed to change the patient safety culture.

The MaPSaF toolkit comprises:

- MaPSaF
- MaPSaF - Facilitator guidance
- MaPSaF - Evaluation
- MaPSaF - Safety culture power-point template presentation

The MaPSaF exists for the following settings:

- Acute care
- Ambulance

- Primary care
- Mental health

The MaPSaF is available from the webpage of the National Patient Safety Agency in Great Britain. February 2010: <http://www.npsa.nhs.uk/nrls/improvingpatientsafety/humanfactors/mapsaf/>

Safety Attitude Questionnaire

The Safety Attitude Questionnaire originates from the University of Texas / Johns Hopkins University in the USA (3;6;7). The SAQ elicits a snapshot of the safety culture through surveys of frontline worker perceptions. The SAQ can be used to meet the increasing demand for safety climate assessment at the clinical area level.

The SAQ is a single page (double-sided) questionnaire. The questionnaire takes approximately 10-15 minutes to complete. Each of the 60 items is answered using a 5-point Likert scale (Disagree Strongly, Disagree Slightly, Neutral, Agree Slightly, Agree Strongly). Some items are negatively worded. There is also an open-ended section for comments. The SAQ has seven dimensions:

- Teamwork Climate
- Safety Climate
- Stress Recognition
- Job Satisfaction
- Perceptions of Unit Management
- Perceptions of Hospital Management
- Work Conditions.

The SAQ toolkit comprises:

- The SAQ
- A number of Technical Reports describing application, analysis etc.

The SAQ exists in the following versions and for different clinical settings. The item content is the same for each version of the SAQ, with minor modifications to reflect the clinical area:

- Safety Attitude Questionnaire – Teamwork and Safety Climate
- Safety Attitude Questionnaire – Ambulatory Version
- Safety Attitude Questionnaire – ICU Version
- Safety Attitude Questionnaire – Labor and Delivery Version
- Safety Attitude Questionnaire – Operating Room Version
- Safety Attitude Questionnaire – Pharmacy Version
- Safety Climate Survey

The SAQ is available from the webpage of the University of Texas, Center for Healthcare Quality and Safety.

Registration at the webpage is necessary to access information regarding the SAQ. February 2010: http://www.uth.tmc.edu/schools/med/imed/patient_safety/questionnaires/registration.html

Comments regarding the recommendations

Use of the instruments and translation

Although having recommended the three instruments above, it still needs to be borne in mind that there is no single unique method suitable for assessing PSC – in fact, if designed differently and for different purposes, several instruments might support one another well and look at PSC from different perspectives. Some researchers might assert that assessing culture with only one method is problematic since a good deal of information on culture will always be missed due to the limitations of the instrument/method applied. Therefore it is advisable to use a triangulation approach (32;33).

Method, tools, instruments and data collection process, analysis, feedback of results, strategic planning of actions and monitoring of improvement will all have to be selected according to the context and the purpose of measuring – and it is important to bear in mind that each instrument has its strengths and weaknesses and every method its limitations. All instruments should be used in accordance with their original manuals and translated according to the “Process of translation and adaptation of instruments” described by the World Health Organisation (34).

Using PSC instruments for benchmarking

At present, benchmarking of results from patient safety culture surveys has not been investigated sufficiently. Therefore more research into this area is recommended, to determine whether and how it makes sense and at what level. The three instruments mentioned above are highly recommended for use for internal organisational development of patient safety culture in diverse healthcare settings, but it must be pointed out that the Manchester Patient Safety Assessment Framework was developed explicitly NOT for benchmarking; since it is used as a reflecting framework, it will also depict the state of reflection and not only of culture.

Further recommendations

The three recommended instruments fulfil a number of common and quite restrictive criteria established to suit common needs across 27 MS. But it must be emphasized that this does not mean that the instruments which failed to meet these criteria are not recommendable for use in individual MS. They should all be used further, and the experiences from the process of developing new instruments, testing, validation and general use should definitely be shared with other MS. The instruments that failed to fulfil the criteria will be reviewed in Table 6 below and further recommendations on their use given.






Table 6. Further recommendations based on the information from MS and literature










Instrument	Comments on recommendations for use
Clinical Risk Management	This instrument is specifically developed for use according to ONR in Austria, Germany and Switzerland, and further use is recommended. Experiences from the developmental process, testing, validation and general use should be shared with other MS.
Drug risk perception - with respect to NSAIDs	The information given for this instrument was insufficient to assess for full recommendation. However, the instrument is specifically developed for drug risk perception - with respect to NSAIDs, and further use in the MS which have already used the instrument is recommended. Further development and experience sharing are also recommended.
Error Orientation Questionnaire	An instrument not specific to healthcare but to error management in general. It has been used to establish a connection between the quality of error management, patient outcome and staff safety. It can be recommended for further use in MS.
Healthcare workers' perception of adverse events and incident reporting	This instrument has been developed specifically for use in Italy, and further use is recommended. Experiences from translation of the two original questionnaires from AHRQ and SAQ as well as field testing should be shared with other MS.
Information System for Surveillance and Control of Adverse Events	A Spanish data system retrieving information from patient medical records for surveillance and control of adverse events in hospitals. This system has proved itself usable in Spain; it is based on an extensive development process with field testing and validation. It is recommended for further use in Spain, and experiences from the developmental process, testing, validation and general use should be shared with other MS.
Patient perception of safety in health services. CASSES Questionnaire	A Spanish questionnaire developed to survey patient perceptions of safety in health services. The questionnaire has proved itself usable in Spain; it is based on an extensive development process with field testing and validation. It is recommended for further use in Spain and experiences from the developmental process, testing, validation and general use should be shared with other MS.
Patient safety care in hospitals - Quality Standards	A Spanish set of quality standards for safe patient care in the Spanish healthcare services. The standards have proved

Instrument	Comments on recommendations for use
	<p>themselves usable in Spain; they are based on an extensive development process with field testing and validation. They are recommended for further use in Spain, and experiences from the developmental process, testing, validation and general use should be shared with other MS.</p>
<p>Safety Climate Assessment Tool</p>	<p>This instrument launched by the Royal College of Nursing was developed and intended for use in healthcare organisations. SCAT has been tested in a large acute hospital in the UK and further development is ongoing with a number of NHS and independent healthcare organisations, including acute care and mental health. It is recommended for further use in the UK, and experiences from the developmental process, testing, validation and general use should be shared with other MS.</p>
<p>The Danish Patient Safety Culture Questionnaire</p>	<p>This instrument has been specifically developed for use in Denmark, where it has proved itself usable. It is based on an extensive development process with field testing and validation. It is recommended for further use in Denmark, and experiences from the developmental process, testing, validation and general use should be shared with other MS.</p>
<p>TUKU – Safety culture in health care survey</p>	<p>This instrument has been specifically developed for use in Finland, where it has proved itself usable to evaluate the organisational potential for safe performance. It is based on an extensive development process with field testing and validation. It is recommended for further use in Finland, and experiences from the developmental process, testing, validation and general use should be shared with other MS.</p>
<p>Vienna Safety Culture Questionnaire</p>	<p>This instrument has proved itself usable in Austria; it is based on an extensive development process with field testing and validation. It is recommended for further use in Austria, and experiences from the developmental process, testing, validation and general use should be shared with other MS.</p>
<p>World Alliance for Patient Safety Hand Hygiene Campaigns Healthcare - Units Survey on Patient Safety Culture</p>	<p>This method is recommended for use within the World Alliance for Patient Safety Hand Hygiene Campaigns Healthcare. Experience from its use should be shared with other MS.</p>

Appendix

Appendix 1. Informants on information collection, NCPs and appointed experts

Country		Expert contact details*	
	Austria	Johannes Steyrer; Johannes.steyrer@wunowien.ac.at	Peter Schweppe peter.schweppe@kages.at
		Guido Strunk; guido.strunk@wu.ac.at	Norbert Pateisky Norbert.pateisky@meduniwien.ac.at
		Kurt Adamer kurt.adamer@gespag.at	Brigitte Ettl brigitte.ettl@wienkav.at
		Walter Koller, walter.koller@meduniwien.ac.at	Alexander Blacky alexander.blacky@meduniwien.ac.at
	Belgium	Johan Hellings Johan.Hellings@ZOL.BE johan.hellings@uhasselt.be	Ward Schrooten Ward.Schrooten@ZOL.BE ward.schrooten@uhasselt.be
	Bulgaria	Svetlana Spassova sspasova@mh.government.bg	Mina Popova m_popova@yahoo.com
	Croatia	Jasna Mesaric jasna.mesaric@mef.hr	Ivan Sklebar aivan@net.hr
	Cyprus	Evi Missouri emissouri@mphs.moh.gov.cy	
	Czech Republic	Milena Kalvachova milena.kalvachova@mzcr.cz	

Country		Expert contact details*	
	Denmark	Peter Skjoet peter.skjoet@regionh.dk	Marlene Dyrlov Madsen madya01@heh.regionh.dk
		Carsten Biering Soerensen Carsten.bs@regionh.dk	Solvejg Kristensen solkri@rm.dk
	England & Wales	Bev Norris beverley.norris@npsa.nhs.uk	Melinda Lyons melinda.lyons@npsa.nhs.uk
	Estonia	Helen Trelin helen.trelin@sm.ee	Teele Raiend RaiendT@ph.ee
	Finland	Ritva Teräväinen ritva.teravainen@thl.fi	Pia Oedewald pia.oedewald@vtt.fi
	France	Jean-Luc jean-luc.quenon@ccecqa.asso.fr	
	Germany	Marcus Rall Marcus.Rall@med.uninotuebingen.de	Sonja Barth s.barth@aekb.de
		Barbara Hoffmann Hoffmann@allgemeinmedizin.uni-frankfurt.de	Christian Thomeczek Thomeczek@azq.de
	Greece	Tsari Giannouli tgiannouli@ekevyl.gr	
	Greenland	Turid Bjarnason Skifte tbs@gh.gl	
	Hungary	Agnes Bogнар ABognar@med.miami.edu	
	Ireland	Noeleen Devaney Noeleen.devaney@dhsspsni.gov.uk	Pedro Delgado Pedro.Delgado@setrust.hscni.net

Country		Expert contact details*	
	Italy	Alessandro Ghirardini a.ghirardini@sanita.it	Tommaso Bellandi Tommaso.bellandi@regione.toscana.it
		Poletti Piera Poletti@ceref.it	Sara Albolino sara.albolino@regione.toscana.it
		Riccardo Tartaglia riccardo.tartaglia@regione.toscana.it	
	Latvia	Kristine Klavina kristine_klavina@vm.gov.lv	
	Lithuania	Juozas Galdikas Juozas.Galdikas@vaspvt.sam.lt	
	Luxembourg	Elisabeth Heisbourg elisabeth.heisbourg@ms.etat.lu	
	Malta	Nadine Delicata nadine.delicata@gov.mt	
	Netherlands	Cordula Wagner c.wagner@nivel.nl	
	Norway	Dag Hofoss dag.hofoss@ahus.no	Espen Olsen espen.olsen@uis.no
		Ellen Tveter Deilkås ellen.deilkaas@ahus.no	
	Poland	Basia Kutryba kutryba@cmj.org.pl	

Country		Expert contact details*	
	Portugal	<p>Cristina Costa cristinacosta@dgs.pt</p> <p>Margarida Eiras Margarida.eiras@estesl.ipl.pt</p>	<p>Paulo Larcher paulo.larcher@hsmarta.min-saude.pt</p> <p>Susana Ramos susana.ramos@hsmarta.min-saude.pt</p>
	Romania	<p>Carmen Angheluta cangheluta@snspps.ro</p>	
	Scotland	<p>Rhona Flin r.flin@abdn.ac.uk</p>	<p>Kathryn J Mearns k.mearns@abdn.ac.uk</p>
	Slovakia	<p>Milan Kriska milan.kriska@fmed.uniba.sk</p>	<p>Roman Benedik roman.benedik@udzsk.sk</p>
	Slovenia	<p>Martin Mozina martin.mozina@kclj.si</p>	
	Spain	<p>Yolanda Agra yagra@msc.es</p> <p>Jose Joaquin Mira López & Jesus Maria Aranaz aranaz_jes@gva.es</p> <p>Carlos Aibar Remón caibar@unizar.es</p>	<p>Joan Carles March joancarles.march.easp@juntadeandalucia.es</p> <p>Pedro Saturno psaturno@um.es</p> <p>Emilio Ignacio García emilio.ignacio@uca.es</p>

Country		Expert contact details*	
	Sweden	Marion Lindh marion.lindh@sll.se	Michael Soop michael.soop@socialstyrelsen.se
		Anette Richardson Anette.Richardson@socialstyrelsen.se	Marianne Törner marianne.torner @ amm.gu.se
	Switzerland	Tanja Manser tmanser@ethz.ch	Yvonne Pfeiffer ypfeiffer@ethz.ch
	European Federation of Nurses	Aslaug Svavarsdottir aslaugsv@landspitali.is	Laura Sch. Thorsteinsson laura@landlaeknir.is
		Linda Watterson linda.watterson@rcn.org.uk	

*Contact information written in red refers to National Contact Points (NCPs), whereas contact information written in black refers to experts appointed through the NCPs or through alternative networks and other appointed experts. There is no limit on the number of experts from each country.

Appointed experts were chosen on the basis of their knowledge within the two areas stated below:

- Patient safety culture surveys performed in their country at a local, regional or national level
- International PSCIs translated or new PSCIs developed in their country

Appendix 2. Questionnaire used for collecting information from MS

Name of the instrument	
By	
Characteristic	Description
Origin and year of launch	Country of origin and year of launch
Language(s)	Original language: Known translations (as the original instrument and modified):
Objective	Which objective(s) is the instrument designed to fulfil?
Kind of instrument	Is the instrument qualitative or quantitative? Does the instrument have a supportive instrument kit, e.g. a manual for use, data entry and survey analysis instruments, database, other?
Setting for application	State the appropriate setting(s) for application <ul style="list-style-type: none"> - Inpatient settings - Primary care settings - Ambulatory care - Ambulance - Acute sector - Mental health services - Intensive care unit - Operating rooms - Other?
Informants	Recommended informants are:
Method of usage	How is the instrument used, in terms of application (e.g. self-completion or interview), data processing, feedback and follow-up?
Known usage	What is the identified extent of use in Europe? A search in the Pub Med database limited to publications 2004-2008 and performed in August 2008 on "XX" gave XX hits. <i>It covered a wide range of studies in patient safety in different specialties. Roughly half of the studies were non-American.</i>
Format	Please state: <ul style="list-style-type: none"> - Total number of items - Number of dimensions/scales - Nominal or numerical, possibility of providing comments in open-ended questions - Kind of scale used, e.g. x-point Likert scale (from "X" to

Name of the instrument	
By	
Characteristic	Description
	<p>“X”) or VAS</p> <ul style="list-style-type: none"> - Other?
Definition of PSC	The definition of patient safety culture used in the instrument
Subjects/scales covered	<p>State the subjects/scales (number of items per scale) covered e.g.:</p> <ul style="list-style-type: none"> - Attention and priority given to patient safety - Communication - Error management - Change management - Resistance - Flow of information and processing - Identification of causes of patient safety incidents - Job satisfaction - Leadership - Learning from patient safety incidents - Patients are involved in patient safety - Perception and recognition of stress - Perceptions of causes of patient safety incidents - Personnel management - Reporting of adverse events - Training and education - Work environment - Working as a team - Other?
Typological classification	<p>If the instrument is typological, which types of PSC does it identify?</p> <ul style="list-style-type: none"> - Pathological - Reactive - Calculative - Proactive - Generative - Other?
Developmental process	Describe the developmental process for the instrument

Name of the instrument	
By	
Characteristic	Description
Level of assessment and use of results	<p>What is the level of assessment?</p> <ul style="list-style-type: none"> - Individual - Team - Ward - Institution - Region - Nation - Cross-nation - Other? <p>Are questions directed towards how the individual experiences PSC or how he or she experiences PSC in the team/work unit?</p> <p>How are results recommended for use, e.g. locally, benchmarking, other?</p>
Assessment of feasibility	<p>Is the instrument feasible, according to:</p> <ul style="list-style-type: none"> - Practical issues regarding application - Resources; number of hours spent by informant and rater - Information gained - Economic resource issues, e.g. costs and labour intensive - Statistical processing of results - Feedback of results - Planning of improvement strategies - Follow-up - Availability - Other
Availability of the instrument, manuals etc.	<p>The availability of the instrument and related tools, e.g. manual, data processing instruments. Is the instrument free of charge or does it carry a fee?</p>
Test of the instrument	<p>The instrument has been scientifically tested:</p> <ul style="list-style-type: none"> - Test method, e.g. cross-sectional, observational - Nature of test: inter- or cross-institutional - Country and care/non-care setting - Test population, e.g. profession - Number of invitees and participants

Name of the instrument	
By	
Characteristic	Description
	- Other?
Scientific properties	<p>Results of testing:</p> <ul style="list-style-type: none"> - Number of participants - Country and care/non-care setting - Test method, e.g. cross-sectional, observational - Nature of test: inter- or cross-institutional - Test population, e.g. profession - Exploratory factor analysis and confirmatory factor analysis; item factor load, floor/ceiling effects scale reliability, inter-factor, correlation etc. - Variation - Content validity (refers to the extent to which the measure represents relevant facets of PSC) - Construct validity (the measure is related to other similar measures of PSC and not related to other characteristics) - Intra-rater reliability (degree of agreement over time; test-retest) - Is the instrument suitable for tracking changes in PSC over time?
Ability to predict an outcome associated with PSC	Criterion validity (refers to the measurement's capacity to predict an outcome associated with PSC)
Issues regarding modification and translation	State the possible implications regarding modification and translation
Main source and contact to learn more about the instrument	<p>Name</p> <p>Address</p> <p>Tel.: _____ Mail: _____</p> <p>www. _____</p>
Contact information – who filled in this questionnaire?	<p>Name</p> <p>Address</p> <p>Tel.: _____ Mail: _____</p> <p>www. _____</p>

Appendix 3. Country code abbreviations used

Austria (A)	Latvia (LV)
Belgium (B)	Lithuania (LT)
Bulgaria (BG)	Luxemburg (L)
Croatia (HR)	Malta (MT)
Cyprus (CY)	The Netherlands (NL)
Czech Republic (CZ)	Norway (N)
Denmark (DK)	Poland (PL)
England & Wales (UK)	Portugal (P)
Estonia (EE)	Romania (RO)
Finland (FIN)	Slovakia (SK)
France (F)	Slovenia (SL)
Germany (D)	Spain (E)
Greece (GR)	Sweden (S)
Hungary (H)	Scotland (UK)
Ireland (IRL)	Switzerland (CH)
Iceland (IS)	European Federation of Nurses (EFN)
Italy (I)	

References

- (1) Agency for Healthcare Research and Quality. Hospital Survey on Patient Survey Culture. Part One: Survey User's Guide & Part Two: Survey Material. <http://www.ahrq.gov/qual/hospculture/hospcult.pdf>: Agency for Healthcare Research and Quality, Rockville, MD.; 2004.
- (2) Agency for Healthcare Research and Quality. Hospital Survey on Patient Safety Culture - 2008 Comparative Database Report. <http://www.ahrq.gov/qual/hospculture/hospcult.pdf>: Agency for Healthcare Research and Quality, Rockville, MD.; 2008.
- (3) Colla JB, Bracken AC, Kinney LM, Weeks WB. Measuring patient safety climate: a review of surveys. *Qual Saf Health Care* 2005 Oct;14(5):364-6.
- (4) Ashcroft DM, Morecroft C, Parker D, Noyce PR. Safety culture assessment in community pharmacy: development, face validity, and feasibility of the Manchester Patient Safety Assessment Framework. *Qual Saf Health Care* 2005 Dec;14(6):417-21.
- (5) Kirk S, Parker D, Claridge T, Esmail A, Marshall M. Patient safety culture in primary care: developing a theoretical framework for practical use. *Qual Saf Health Care* 2007 Aug;16(4):313-20.
- (6) Sexton JB T, Thomas E.J., Helmreich RL, Nieland T.B., Rowan K, Vella K, et al. Frontline Assessments of Healthcare Culture: Safety Attitudes Questionnaire Norms and Psychometric Properties. Technical Report 04-01. www.utpatientsafety.org 2004
- (7) Sexton JB, Thomas EJ. The Safety Attitudes Questionnaire. - Guidelines for Administration. The University of Texas Center of Excellence for Patient Safety Attitudes Questionnaire; 2003 Jun 11.
- (8) Reason J, Wreathall J. Checklist for Assessing Institutional Resilience (CAIR). <http://www.rmf.harvard.edu/files/documents/Mod7doclink2.pdf>. 2000.
- (9) Carthey J, de Leval MR, Reason JT. Institutional resilience in healthcare systems. *Qual Health Care* 2001 Mar;10(1):29-32.
- (10) Weingart SN, Farbstein K, Davis RB, Phillips RS. Using a multihospital survey to examine the safety culture. *Jt Comm J Qual Saf* 2004 Mar;30(3):125-32.
- (11) Weingart SN, Price J, Duncombe D, Connor M, Sommer K, Conley KA, et al. Patient-reported safety and quality of care in outpatient oncology *Jt Comm J Qual Patient Saf* 2007 Feb;33(2):83-94.
- (12) van DC, Frese M, Baer M, Sonnentag S. Organizational error management culture and its impact on performance: a two-study replication. *J Appl Psychol* 2005 Nov;90(6):1228-40.
- (13) Hofmann DA, Mark B. An investigation of the relationship between safety climate and medication errors as well as other nurse and patient outcomes. *Personnel Psychology* 2006;59(4):847-69.
- (14) Scott T, Mannion R, Davies H, Marshall M. The quantitative measurement of organizational culture in health care: a review of the available instruments. *Health Serv Res* 2003 Jun;38(3):923-45.
- (15) Sieveking N, Bellet W, Marston RC. Employees' views of their work experience in private hospitals. *Health Serv Manage Res* 1993 May;6(2):129-38.
- (16) Flin R, Burns C, Mearns K, Yule S, Robertson EM. Measuring safety climate in health care. *Qual Saf Health Care* 2006 Apr;15(2):109-15.
- (17) Singla AK, Kitch BT, Weissman J S, Campbell EG. Assessing Patient Safety Culture: A Review and Synthesis of the Measurement Tools. *Journal of Patient Safety* 2007;2, Number 3, September 2006:105-15.

- (18) Madsen MD, Østergaard D. Udvikling af metode og værktøj til at måle sikkerhedskultur på sygehusafdelinger . Afrapportering af projekt om sikkerhedskultur og patientsikkerhed i Københavns Amt. <http://www.risoe.dk/rispubl/SYS/syspdf/ris-r-1491.pdf>. 2004.
- (19) Madsen MD. Sikkerhedskultur på sygehuse. Sundhedsvæsenet i Frederiksborg Amt; 2004 Jun 10.
- (20) Madsen MD. Improving Patient Safety: Safety Culture & Patient Safety Ethics. <http://www.risoe.dk/rispubl/SYS/syspdf/ris-phd-25.pdf>. Denmark: Roskilde University; 2006.
- (21) Madsen MD, Andersen HB, Itoh K. Assessing Safety Culture in Health Care. In: Carayon P, editor. A Handbook of Human Factors and Ergonomics in Healthcare and Patient Safety. 2006. p. 693-713.
- (22) Pronovost P, Sexton B. Assessing safety culture: guidelines and recommendations. *Qual Saf Health Care* 2005 Aug;14(4):231-3.
- (23) Pronovost PJ, Weast B, Holzmueller CG, Rosenstein BJ, Kidwell RP, Haller KB, et al. Evaluation of the culture of safety: survey of clinicians and managers in an academic medical center. *Qual Saf Health Care* 2003 Dec;12(6):405-10.
- (24) Singer S, Falwell A, Lin SH, Rathgeb T, Baker L. Relationship between hospital safety climate and outcomes. 2006. Ref Type: Slide
- (25) Singer S, Meterko M, Baker L, Gaba D, Falwell A, Rosen A. Workforce perceptions of hospital safety culture: development and validation of the patient safety climate in healthcare organizations survey. *Health Serv Res* 2007 Oct;42(5):1999-2021.
- (26) Singer SJ, Gaba DM, Geppert JJ, Sinaiko AD, Howard SK, Park KC. The culture of safety: results of an organization-wide survey in 15 California hospitals. *Qual Saf Health Care* 2003 Apr;12(2):112-8.
- (27) Kaissi A, Kralewski J, Dowd B, Heaton A. The effect of the fit between organizational culture and structure on medication errors in medical group practices. *Health Care Manage Rev* 2007 Jan;32(1):12-21.
- (28) Kaissi A. An organizational approach to understanding patient safety and medical errors. *Health Care Manag (Frederick)* 2006 Oct;25(4):292-305.
- (29) Kaissi A, Johnson T, Kirschbaum MS. Measuring teamwork and patient safety attitudes of high-risk areas. *Nurs Econ* 2003 Sep;21(5):211-8, 207.
- (30) Sexton JB, Helmreich RL, Pronovost P, Thomas EJ. Safety Climate Survey. <http://www.ihl.org/IHI/Topics/PatientSafety/SafetyGeneral/Tools/Safety+Climate+Survey.htm>. 2004. IHI Institute for Healthcare Improvement (Books).
- (31) Lin SH, Wang ZM, Tang WJ, Liang LH, Wang MZ, Lan YJ. Development of safety climate measurement at workplace: validity and reliability assessment. *Sichuan Da Xue Xue Bao Yi Xue Ban* 2007 Jul;38(4):720-4.
- (32) Kirk S, Marshall M, Claridge T, Esmail A, Parker D. Evaluating safety culture in Patient Safety. *Research into Practice*. Open University Press, McGraw Hill Maidenhead, UK; 2006.
- (33) Guldenmund F.W. The use of questionnaires in safety culture research – an evaluation. *Safety Science* 2007;45:723-43.
- (34) World Health Organization. Process of translation and adaptation of instruments. http://www.who.int/substance_abuse/research_tools/translation/en/index.html. 2009.

The European Network for Patient Safety (EUNetPaS) is a project which was funded and supported by the European Commission within the 2007 Public Health Programme.

The work described in this report was performed within Work Package 1 “Promoting Patient Safety Culture” and headed by the European Society for Quality in Healthcare, the Office for Quality Indicators, Denmark.

The report in hand provides information on recommendations for a “Validated questionnaire to measure patient safety culture in Hospitals through health care professionals at the ward level”.

This report is accompanied by a catalogue describing patient safety culture instruments used in Member States at the time of information collection in 2009.



ISBN 978-87-993779-0-9



9 788799 377909 >