Draft

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Assessing Safety Culture in Health Care Organizations

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Near miss event reporting systems have proven to be effective in a number of industries including aviation (Reyanard 1985), nuclear power (Ives 1991), petrochemicals (van der Schaaf, 1991, 1992) and steel (van Vuuren 1998). There has been a growing interest in the development of similar systems in the medical domain (Gambino 1991, Runicmen 1993, Shea 1996, van der Schaaf 1997, van Vuuren 1998, Battles 1996, 1998, and Kaplan 1998). Lucas (1991) has pointed out that organizational management factors and institutional culture can greatly influence the success or failure of a near miss reporting system. It is the structure of an organization and it's associated social/cultural parameters that influences how organizations approach change and the adoption of new ideas and innovations (Rogers 1995). Patterns of organizational structure and safety culture in industries such as the chemical processing and aviation can vary from that health care institutions (van der Schaaf 1997 and van Vuuren 1998).

Vaughan (1996) stresses the importance of organizational culture and its influence on the normalization of deviance that occurred at the National Aeronautics and Space Administration (NASA) in her work on the loss of the space shuttle, *Challenger*. It is the prevailing culture of an organization, that creates what Vaughan and others refer to as a "world view," that shapes safety decisions.

Westrum (1988) has presented a safety culture continuum with three different types ranging from pathological, through calculative to generative. A *pathological* safety culture will tend to deny or suppress information on hazards and actively circumvent safety regulation. The

calculative culture organizations use *"by the book"* methods but have few contingencies for unseen events or exception on the rules. The *generative* organization accepts that a problem may be global in character and appropriate action is taken to reconsider and reform the operational system.

Assessing the current safety culture is an appropriate first step in establishing a near miss event reporting system. By determining the antecedent safety culture, it should be possible to measure any changes in that culture that may result from the adoption of a near miss reporting system as an error management tool. The table below lists the three levels of safety culture expressed by Westrum and lists the expected organizational behaviors that one would expect to find in each category.

Table 1

Safety Culture Categories

Pathological	***Calculative***	***Generative***
Actions: Tend to deny errors occur All errors are human induced Discourage reporting Punishment and motivation are most commonly used error management approaches Has a low event discovery level Has a high event severity level Reporting system exists only to meet external regulations or accrediting requirements Incident reports are often included in personnel records	*Actions:* Stresses adherence to procedures "by the book" Limit reporting to severe events with harm to patients If it doesn't cause harm it doesn't count Limit distribution of information on errors for fear of discovery Blame and training and procedures modified most commonly used error management approach Has increased discovery level Trending of events but no root cause analysis Looks for ***single*** root cause if at all	*Actions:* Encourages reporting Uses a no-fault no fear policy Investigates events to determine root cause Errors are viewed as system problems Searches for latent errors and things that set the human up for failure Has an increasing discovery sensitivity level Has a declining event severity level Information and feedback provided to employees about changes resulting from errors reported Individuals are rewarded for reporting Emphasis on reporting near miss and benign events
**Expected causes reported:* Human error (85%) Technical (10%) Organizational (5 %)	* *Expected causes reported:* Human error (75%) Technical (10%) Organizational (15%)	* *Expected causes reported:* Human error (45%) Technical (25%) Organizational (30%)

** The expected causal distributions are based on the root cause categories that are contained in the Eindhoven Classification Model (ECM) by van der Schaaf (1992) and results of its application in medicine by Kaplan (1998)*

The *Health Care Safety Culture Attitude Assessment Instrument* has been designed to assess individual health care professionals' attitude toward safety culture in three different dimensions. These dimensions are:

- Perceptions of the safety culture of the organization where the individual works or practices
- Inter-professional interaction and teamwork
- Individual attitudes toward error.

Within each of the three dimensions there are two extreme characterization that set the scale for assessment. The characterizations for safety culture are based on the work of Westrum (1988) using his characterizations of organization safety culture range from the negative *Pathological* to the positive *Generative*. The characterizations of teamwork are based on the work of Helmreich (1998) using the characterization of attitudes to teamwork and inter-professionals interaction using the extremes of *Individualistic* and *Cooperative*. The characterizations of individual attitude toward error are based on the construct developed by Battles (1997) with the extremes from the negative *Perfectionism* to the positive *Holistic*. Table 2 is a listing of the constructs of the instrument.

Table 2

Constructs for the Health Care Safety Culture Attitude Assessment Instrument

Organizational Culture *(- Pathological + Generative)*	**Teamwork** *(- Individualistic + Cooperative)*	**Individual Error Attitude** *(- Perfectionism + Holistic)*
Institution Satisfaction/Reputation	Work Values	Causes of Error
Job Satisfaction	Command Scale	Reporting Errors
Management/Leadership	Stress	Learning from errors
Communication & Information	Rules and Order	Procedures
Event Reporting		Work
Training		Communication and Authority
Resources & Procedures		Patient Outcome

The *Health Care Safety Culture Attitude Assessment Instrument* is intended to assess an organization's antecedent safety culture prior to the implementation of a near miss reporting

system such as MERS-TM. The instrument will be administered after implementation of the near miss reporting system to measure changes to the prevailing safety culture. Survey results can be compared with both archival records and observational data to establish both base line safety cultures as well as to document changes that have occurred after implementing a near miss event reporting system.

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Health Care Safety Culture Attitude Assessment Instrument

Part I - Management

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For the following items, please indicate your level of agreement by marking in the bubbles completely.

SD = Strongly disagree D = Disagree N = Neutral A = Agree SA = Strongly agree

1. Senior staff should encourage questions from junior medical and non-medical staff during discussions about work processes.	O SD	O D	O N	O A	O SA
2. Even when fatigued, I perform effectively during critical phases of work.	O SD	O D	O N	O A	O SA
3. We should be aware of and sensitive to the personal problems of other team members.	O SD	O D	O N	O A	O SA
4. My decision-making ability is as good in emergencies as in routine situations at work.	O SD	O D	O N	O A	O SA
5. A regular debriefing of procedures and decisions after the shift and other discussions about work processes is an important part of teamwork.	O SD	O D	O N	O A	O SA
6. Junior team members should not question the decisions made by senior team members.	O SD	O D	O N	O A	O SA
7. I try to be a person with whom others will enjoy working.	O SD	O D	O N	O A	O SA
8. The only people qualified to give me feedback are others with similar professional training.	O SD	O D	O N	O A	O SA
9. It is better to agree with other team members than to voice a different opinion.	O SD	O D	O N	O A	O SA
10. A briefing of team members involved in a procedure prior to the procedure is important for safety and effective teamwork.	O SD	O D	O N	O A	O SA
11. The supervisor's responsibilities include coordination between his or her team and other support areas.	O SD	O D	O N	O A	O SA
12. Team members share responsibility for prioritizing activities in high workload situations.	O SD	O D	O N	O A	O SA
13. As long as the work product is not affected, I don't care what others think of me.	O SD	O D	O N	O A	O SA
14. I let other team members know when my workload is becoming (or about to become) excessive.	O SD	O D	O N	O A	O SA
15. I enjoy working as part of a team.	O SD	O D	O N	O A	O SA
16. I am ashamed when I make a mistake in front of other team members.	O SD	O D	O N	O A	O SA
17. Successful work outcome is primarily a function of the supervisor's medical an technical proficiency.	O SD	O D	O N	O A	O SA
18. Team members from other professional disciplines do not interfere with my work.	O SD	O D	O N	O A	O SA
19. Team members should not question the decisions or actions of senior staff.	O SD	O D	O N	O A	O SA
20. I am less effective when stressed or fatigued.	O SD	O D	O N	O A	O SA
21. It is insulting to wait unnecessarily for other members of the team.	O SD	O D	O N	O A	O SA
22. My performance is not affected by working with an inexperienced or less capable team member.	O SD	O D	O N	O A	O SA
23. Team members should monitor each other for signs of stress or fatigue.	O SD	O D	O N	O A	O SA
24. It bothers me when team members from other specialties critique my performance.	O SD	O D	O N	O A	O SA

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25. A truly professional team member can leave personal problems behind when at work.	O SD	O D	O N	O A	O SA
26. There are no circumstances where a junior team member should assume control of work processes.	O SD	O D	O N	O A	O SA
27. Team members should feel obligated to mention their own psychological stress or physical problems to other unit personnel.	O SD	O D	O N	O A	O SA
28. Personal problems can adversely affect my performance.	O SD	O D	O N	O A	O SA
29. Effective team coordination requires members to take into account the personalities of other team members.	O SD	O D	O N	O A	O SA
30. I like my job.	O SD	O D	O N	O A	O SA
31. Team members in our work unit know and understand each other's respective responsibilities.	O SD	O D	O N	O A	O SA
32. When my workload becomes excessive, my ability to concentrate is impaired.	O SD	O D	O N	O A	O SA
33. I feel that I receive appropriate feedback about my performance.	O SD	O D	O N	O A	O SA
34. Disagreements in our work unit are appropriately resolved, i.e., it is not "who" is right, but what is best for the quality of the product.	O SD	O D	O N	O A	O SA
35. The culture in our work unit makes it easy to ask questions when there is something I don't understand.	O SD	O D	O N	O A	O SA
36. I know the proper channels to direct questions regarding safety practices.	O SD	O D	O N	O A	O SA
37. I am provided with adequate training to successfully accomplish my job.	O SD	O D	O N	O A	O SA
38. During discussions about work processes, I know the first and last names of every team member participating in the discussions.	O SD	O D	O N	O A	O SA
39. I have the support I need from other team members to carry out my tasks.	O SD	O D	O N	O A	O SA
40. My department provides adequate, timely information about events that might affect my work.	O SD	O D	O N	O A	O SA
41. This institution encourages teamwork and cooperation among its team members.	O SD	O D	O N	O A	O SA
42. Team members in leadership positions verbalize their plans for procedures/actions and make sure that the information is understood and acknowledged.	O SD	O D	O N	O A	O SA
43. I am encouraged by my leaders and colleagues to report any safety concerns I have.	O SD	O D	O N	O A	O SA
44. Working for this institution is like being part of a large family.	O SD	O D	O N	O A	O SA
45. My department does a good job of training new personnel.	O SD	O D	O N	O A	O SA
46. Institution management never compromises the safety of the product, donor, or patient.	O SD	O D	O N	O A	O SA
47. The leadership of our department listens to staff and cares about our concerns.	O SD	O D	O N	O A	O SA
48. The equipment at our institution is adequate.	O SD	O D	O N	O A	O SA

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49. The culture of our work unit makes it difficult to speak up if I perceive a problem with product production or donor/patient management.	O SD	O D	O N	O A	O SA
50. All the necessary information for operational decisions is available.	O SD	O D	O N	O A	O SA
51. Morale in our work unit is high.	O SD	O D	O N	O A	O SA
52. Morale in my department is high.	O SD	O D	O N	O A	O SA
53. This institution constructively deals with problem staff.	O SD	O D	O N	O A	O SA
54. I am proud to work for this institution.	O SD	O D	O N	O A	O SA
55. Decision-making in our work unit should include more input from team members than it does now.	O SD	O D	O N	O A	O SA
56. The concept of a work unit team does not work in our institution.	O SD	O D	O N	O A	O SA
57. Procedures and policies are strictly followed in our work unit.	O SD	O D	O N	O A	O SA
58. The supervisor(s) in our work unit is/are doing a good job.	O SD	O D	O N	O A	O SA
59. The leadership in my work unit is doing a good job.	O SD	O D	O N	O A	O SA
60. Senior management in this institution is doing a good job.	O SD	O D	O N	O A	O SA
61. Institution management supports my daily efforts in the work unit.	O SD	O D	O N	O A	O SA
62. Team members frequently disregard rules or guidelines (e.g. hand washing, procedures, etc.)developed for our work unit.	O SD	O D	O N	O A	O SA
63. Our staffing levels are sufficient to handle the workload.	O SD	O D	O N	O A	O SA
64. When our team is too busy, there are clear ways to ask for additional help.	O SD	O D	O N	O A	O SA
65. Trainees in my profession (e.g. nursing, medical technologist, physician, etc.) are adequately supervised.	O SD	O D	O N	O A	O SA
66. This institution is a good place to work.	O SD	O D	O N	O A	O SA
67. I would be perfectly comfortable receiving blood products from this institution.	O SD	O D	O N	O A	O SA

Part II: Error in Medicine

1. I rarely witness an error where one or more team members lack the knowledge to perform a needed action.	O SD	O D	O N	O A	O SA
2. Errors committed during product manufacture are not important, as long as the product quality and donor safety are not harmed.	O SD	O D	O N	O A	O SA
3. I make errors.	O SD	O D	O N	O A	O SA
4. Errors are discussed to prevent recurrence.	O SD	O D	O N	O A	O SA
5. Errors are handled appropriately in this work unit.	O SD	O D	O N	O A	O SA

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6. A confidential reporting system that documents errors is important for safety.	O SD	O D	O N	O A	O SA
7. I am more likely to make errors in tense or hostile situations.	O SD	O D	O N	O A	O SA

Many errors are neither acknowledged nor discussed. Please indicate your level of agreement or disagreement with each of the possible reasons given below:

8. Threat of malpractice lawsuit	O SD	O D	O N	O A	O SA
9. Personal reputation	O SD	O D	O N	O A	O SA
10. High expectations of patient's family / society	O SD	O D	O N	O A	O SA
11. Threat to job security	O SD	O D	O N	O A	O SA
12. Personalities / Egos of other team members	O SD	O D	O N	O A	O SA
13. Expectations of other team members	O SD	O D	O N	O A	O SA
14. Possible disciplinary actions by my certifying board	O SD	O D	O N	O A	O SA
15. It is not difficult to discuss mistakes	O SD	O D	O N	O A	O SA

Other reason(s) _____

_____

16. What are the three most frequently occurring errors in my work unit (that you have observed): _____

_____

_____

17. In your experience, what strategies have you seen to be effective for managing error? _____

_____

_____

18. Goal setting at this institution includes reducing the number of event reports generated.	O SD	O D	O N	O A	O SA
19. This institution is only interested in major events that cause serious harm.	O SD	O D	O N	O A	O SA
20. This institution is interested in events that have the potential for serious harm.	O SD	O D	O N	O A	O SA
21. Health professionals must have perfect performance all the time.	O SD	O D	O N	O A	O SA
22. Most mistakes are due to negligent performance.	O SD	O D	O N	O A	O SA
23. I am willing to report my errors.	O SD	O D	O N	O A	O SA
24. When I make an error, I do not want anyone else to know about it.	O SD	O D	O N	O A	O SA

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25. I lose respect for my coworkers when I see them make an error.	O SD	O D	O N	O A	O SA
26. If I see something on the job that does not seem safe, I will alert somebody.	O SD	O D	O N	O A	O SA
27. When my coworkers make errors, they usually tell me about them.	O SD	O D	O N	O A	O SA
28. Other people's errors are none of my business.	O SD	O D	O N	O A	O SA
29. If I am unsure of how to carry out a procedure, I will figure it out on my own, rather than ask questions about it.	O SD	O D	O N	O A	O SA
30. Because of my training as a professional, I am responsible for my own procedures and protocols.	O SD	O D	O N	O A	O SA
31. I take care to follow procedures at this institution.	O SD	O D	O N	O A	O SA

Demographics

1. Profession

2. Certification / License

3. How long have you worked at this institution?

O Less than 1 year O 1-3 years O 3-5 years O 5-10 years O Greater than 10 years

4. Department

Thank you very much for taking the time to complete this survey!

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