

Quality Improvement in Healthcare: The Six Ps of Root-Cause Analysis

TO THE EDITOR: In the October 2008 issue of the *Journal*, Geetha Jayaram, M.D., M.B.A. and Patrick Triplett, M.D. (1) presented a thoughtful review of a case in which the suboptimal clinical outcome had multiple underlying causes. In their Clinical Case Conference, Drs. Jayaram and Triplett highlighted the need for “a comprehensive understanding of personal and systematic factors that impact the quality of care delivered” (1, p. 1260) within the emergency psychiatric setting, particularly in the evaluation of patient safety events.

To this end, I have developed a simple mnemonic, “the six Ps,” to prompt a thorough assessment of the contributing factors associated with an adverse clinical outcome. This model is an adaptation of the approach to root-cause analysis described in the widely used London Protocol for the investigation and analysis of clinical incidents (2). The six Ps represent the six perspectives needed to answer the question, “Why did this event happen?” They are as follows:

1) *Patient*: What are the patient-related factors that may have contributed to the event? Was the patient impulsive, violent, or cognitively impaired? Was he or she intoxicated or in withdrawal? Were there language barriers that limited effective communication? The goal is not to blame the patient but rather to identify risk factors that may predispose similar future patients to the same outcome.

2) *Personnel*: What are the personnel or staff-related factors that may have contributed to the event? Did they have the appropriate knowledge and skills to care for the patient in this setting? What degree of supervision was present? Was an impaired clinician involved? It is important to think beyond “bad apples” or blame in order to consider the mechanisms by which good people can create less than optimal results.

3) *Policies*: Are there written policies for this type of event? Are they accessible and known throughout the organization? Were the policies followed? If not, why not?

4) *Procedures*: Are there standard procedures that should be used in handling this type of clinical scenario? Were there deviations from this standard approach in this case? If so, why?

5) *Place*: Were there workplace environmental factors that may have contributed to this event? Is there an appropriate degree of staffing for the clinical volume? Does the physical layout of the environment contribute to consistent and safe care or its inverse?

6) *Politics*: What broader institutional or outside factors may have played a role in the event? What are the interdepartmental dynamics? Are there recent regulations that have led to a shift in care? Think about recent events, both within and outside of the institution.

As noted by Drs. Jayaram and Triplett, lapses and barriers to high-quality care are unfortunately common in healthcare settings. It is through the approaches that they described as well as the systematic application of tools such as the six Ps that front-line clinicians can begin to improve the care we provide in all mental healthcare settings.

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Dr. Jayaram Replies

TO THE EDITOR: We thank Dr. Weiss for his observations on our article. The six Ps that he recommends are indeed an easy way to analyze critical incidents. Vincent et al. (1) summarized the approach to not blaming individuals and to examining systems that permit errors to occur, with an emphasis toward improving performance by correcting organizational lapses, oversights, and policies.

The APA Patient Safety Committee has described a team approach to reviewing factors that contribute to adverse incidents (2–6). Dr. Weiss advocates such an approach with his mnemonic. The publications of the APA Patient Safety Committee are pertinent to the process of analyzing adverse events in psychiatry and may be of interest to those who are in leadership positions at psychiatric care facilities (2–6). Additionally, the APA Patient Safety Committee has developed guidelines similar to those of Vincent et al. and others and has produced a handbook of patient safety that is available to all its members on the APA website (7). In a chapter on root-cause analysis (7), the process of examining adverse events is discussed as well as various entities/variables that may impact the care process. One way to answer the “why did this happen” question and pursue possible areas for intervention is to use the root-cause analysis diagram (Figure 1), until the “why” question can no longer be asked.

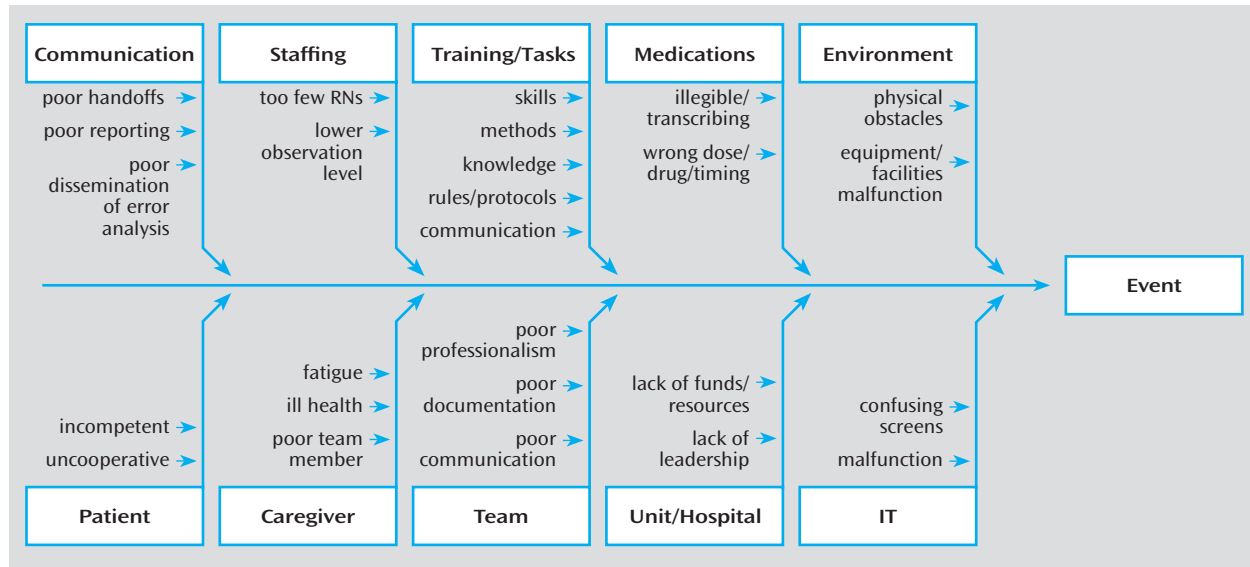
We welcome collaborative efforts by Dr. Weiss and others toward advancing patient safety in the field of psychiatry.

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FIGURE 1. Root-Cause Analysis Diagram



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Teen Behaviors Reflective of Parental Smoking

TO THE EDITOR: In their article, published in the October 2008 issue of the *Journal*, Margaret Keyes, Ph.D., et al. (1) concluded that both genetic and environmental influences increase the risk of cigarette use in the adolescent children, biological and adoptive, of parents who smoke. The authors also found an association between parents who smoke and an increased likelihood for their biological offspring (more than adopted children) to engage in disinhibited behavior (generally defined by the authors as unacceptable social behavior). I applaud Dr. Keyes et al. for these thought-provoking findings.

However, I was surprised to see little to no emphasis on home environment/family dynamics and additional psychiatric diagnoses, which is information that could have been obtained via self-report, as seen with other methods of obtaining data in the study. Examples of the former that could have been explored as possible confounding variables are the presence of neglect or abuse in the adolescents' homes or lack of parental supervision that may have contributed to disinhibited behavior (2). Examples of disinhibited behavior that could have been examined are the identification of bipolar or personality disorders. A sound effort to eliminate confounding variables was achieved by separating such disinhibited behavior from those seen in subjects with diagnoses of attention deficit hyperactivity disorder, conduct disorder, or oppositional defiant disorder and by identifying other types of substance use/misuse. It appears that a similar query of negative home influences and/or additional psychiatric diagnoses could have also been considered. Of note, socioeconomic background was taken into consideration, yet we cannot assume that a higher socioeconomic status is protective of adverse home conditions.

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Dr. Keyes Replies

TO THE EDITOR: We certainly agree with Dr. Harvey that many environmental factors may influence adolescent disinhibited behavior, including neglect or abuse in the home as well as psychiatric disorders in the parents. We also believe that adoption designs offer an especially sensitive test for the presence of family-level environmental influences. That is, studying adoptive families allows researchers to control for genetic confounding when examining between-family environmental effects. Our study presented evidence for one environmentally mediated pathway by which parental smoking increased risk for substance use in adolescent offspring. Another study, using the same sample, demonstrated that maternal depression represented an environmental liability for major depression and disruptive behavior disorders in adolescent offspring (1). We hope that these results will encourage further investigation of environmental influences on adolescent behavior within the context of a genetically informative design.

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