A Few Simple Rules: Applying SAM (Systemic [non-linear] Analytic Method)

1. Why are you doing this work?

Before you begin a safety review, remind yourself why you and your facility are involved in patient safety learning efforts. Legislation? Policy? Better understanding/learning in order to improve care?

2. What kind of event are you dealing with?

Ask yourself what kind of event you have been asked to review. Make sure you know the criteria to consider an event a critical incident [CI]. There may be specific requirements or legal issues if it is a CI in your jurisdiction. If the event is not a CI, SAM is still a powerful tool to understand the event.

3. What are you looking for during your investigation?

Remember WYLFIWYF – What You Look For Is What You Find. If you are looking for causes you will need very different methods than if you are seeking to understand what happened. There is nothing wrong with looking for causes – but you may end up with an incomplete understanding of the event. (If you are looking for someone to blame, you are definitely in the wrong business.) And while you are making sense of the event, remind yourself that everyone [including you as the reviewer] is subject to hindsight bias. One of your challenges is to limit its influence.

4. Who should be part of the review committee?

A committee can be a single person – you as the PS reviewer. Don't be shy to ask for help from colleagues, without the need to formally add them to the review committee. Remember that conflict of interest may be present whenever we ask a person to evaluate their own decisions or the care provided within their unit or department.

5. Who should the review engage with?

Always extend an invitation to the patient and family. They will be important sources of data. Make sure there is always a contact person [for support and information] for the patient and family. Clearly explain the process itself, as well as why you are doing the review and any limits on what you can share. Make sure you have a comfortable setting for your conversations. Differentiate patient safety investigations from the many other types of parallel investigations that may be ongoing. Meet with participants [especially direct care staff] as soon as possible after the event.

6. How do you engage with the participants?

This is a matter of how you enter into dialogue. The most important principle underlying dialogue is that of suspending – trying to limit the influence of hindsight bias and starting with humble curiosity. Remember Dekker's concept of getting the view from inside the tunnel as well as Cook's concept of the second story. This approach is supported by the local rationality principle [people do not come to work to create problems or to harm patients]. You are trying to re-establish their mindset, knowledge, goals, and the focus of their attention at the time of the event. Remember that the direct care providers are always operating in an under-specified environment where there may be insufficient resources, time, controls,etc.

Start the dialogue by trying to understand normal everyday work of the staff member, or the unit or department. [Tell me what a normal working day looks and feels like.]This is important in establishing the context in which work is done and in discovering how that work fits in with the broader environment of the facility. Expand your understanding with open-ended questions. [Was there anything special or different about the day in question? Or, what else was happening on your unit that day?] Remember the process of gathering data is an iterative one – you may want to talk with some participants more than once.

7. How do you create a holographic map of the event?

You are trying to do the impossible – create a three-dimensional flexible map with two-dimensional tools. You will decide, as the case evolves and sense-making emerges, how many layers are useful. These may include traditional and non-traditional elements [patient symptoms and experience, vital signs, provider assessments, diagnostic tests, therapeutic trials, contextual and human factors issues, organizational goal conflicts, etc.] You will also gain some sense of the episodes that are components of the story – and you will understand which time equivalent units [monthly, weekly, daily, hourly, even in 15 second

sub-units] are most appropriate for each episode. This will allow identification of gaps and potential non-linear relations.

8. Identifying key human factors issues

This important area is concerned with identifying gaps between work-as-imagined or work-as-designed and work-as-performed [in the real world]. This is less about the question of under-specification [always present in healthcare] and more that operators may be expected to do work beyond the capabilities of normal humans. The gaps may be at the level of individual operators [physical, perceptual, or intellectual/cognitive levels] or at the social [teamwork, communication] and organizational [goal conflicts] levels.

9. Formulating recommendations

Are recommendations the ultimate goal of a patient safety review? Do recommendations necessarily reflect learning or increased understanding? Try to produce recommendations that make SENSE [specific to the findings, effective, not necessarily time-limited, shifting the focus from sharp end individual issues to blunt end challenges, exploring systemic and organizational goal conflicts]. Sometimes you will finish a review and be unable to conceive of recommendations. You may still have learned many new and significant things about organizational resilience or lack thereof. Beware the tendency of colleagues to use a PS review to promote recommendations that are not linked to your findings. Be bold and think about three levels of recommendations [short-term locally actionable improvements, longer-term proposals, and reflective consideration]. In all cases, discuss your proposed recommendations with those who are expected to implement them [some handy reality-testing].

10. How to Evaluate your Efforts

This can be a bit scary but is essential. This can happen by looking at specific recommendations [Were they implemented? If they were not implemented, what are the barriers? What was the lived experience of various participants – patients, direct care providers, implementers – when the recommendations were implemented? Did the implementation lead to greater safety?]. The evaluation could also look at the facility level [Has there been an impact on specific types of critical incidents? Has the reporting level increased or decreased?]. And finally, it is possible to evaluate at the systemic level, by assessing the changes in organizational resilience.