Stress and Burnout: Threats to Patient Safety

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The Ubiquitous Problem of Stress

Regardless of the specific setting, the practice of pharmacy is and has always been vulnerable to stress and its effects. Stress can lead to physical, psychological and social strains that may trigger outcomes from cardiovascular ailments to deteriorating work behaviors. Patient safety can also suffer if the stress of pharmacy is not treated as the critical threat that it is. In this article, we will spend time discussing the four most common classes of stressors identified for decades in the pharmacy literature. Following this discussion, we will outline ways in which these stressors can impact patient safety and present suggestions for remediating stress in the pharmacy.

What Is Stress?

Outside of scientific circles, discussions of stress are often similar to discussions about other ideas like “love” or “faith.” Everyone in the room says that they know what those things are, but when pressed to define them explicitly, everyone has a different definition. To advance our article, we need a specific and clear definition of stress, so we propose the following:

“Stress is a function of the stressor(s) experienced, the psychological appraisal of the stressor(s), and the short-term and long-term strains stemming from the stressor(s).”
In other words, stress is a dynamic process that involves the external environment, the internal characteristics of the person, and the eventual ramifications of that stress over time. So, just like any other process, we can choose our “entry point,” if you will, for further study. In the stress process, we can choose to study individual stressors, coping responses, or strains (stress outcomes) — any of those pieces of the process can serve as a point of focus. In this article, we will begin by examining four separate stressors and finish by exploring the potential ramifications of those stressors on patient safety. A graphical depiction of our approach is below:

Note that the stressors in the leftmost box are not the only stressors that could be identified, and the strains listed are not the only ones possible. This model merely gives us a useful framework. On the next page, I have included a more comprehensive list of potential stressors in several domains of experience to illustrate the ubiquitous nature of stress in the workplace.

**Stressor #1: Workload**

Invariably, pharmacists and technicians point to workload as one of the biggest stressors that they face in their work. When I began to study pharmacy in the late 1990’s, I became aware of this very quickly. Prescription volumes are increasing yearly and staffing in many pharmacies is difficult to maintain. For some time, the field has lamented a shortage of pharmacists and has instituted remarkable incentives to lure people into the field; for example, one pharmacy chain in the U.S. was at one time offering a $30K signing
A Comprehensive View of Pharmacy Stressors

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<td>Task factors</td>
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bonus for incoming pharmacists. In light of these factors, it is not surprising that pharmacy staff can feel overwhelmed and overworked.

However, a thorough understanding of workload and its effects on pharmacy requires a deeper examination of the nature of workload beyond merely saying, “I have too much to do.” The psychological literature has much to say about what workload is and how it can affect performance at work and this information connects directly to patient safety concerns. In this section, we will present this information in the context of pharmacy.

There are two important aspects to workload. First, we can identify objective workload, which is merely the time required to do task(s) divided by the time available to do task(s). Second, we can identify subjective workload, which is a measure of how much stress the objective workload in the environment is causing. For example, an objective workload of 15 scripts/hour in a typical outpatient pharmacy will “feel” differently to an experienced pharmacist compared to a first-year technician. The objective workload would be the same, but the subjective workload would be different.

This model of workload fits nicely with the accepted model of stress that we
described previously. When humans experience stressors, they perform a two-step process of appraisal, which would be located in the “YOU” box. The purpose of appraisal is to answer two questions:

1) Primary appraisal asks, “Is this stressor causing noticeable stress that threatens to disrupt me in some important way?”
2) Secondary appraisal asks, “Do I have the ability and/or resources to handle the stressor and avoid whatever damage it threatens to inflict?”

Workload works in much the same way. We will evaluate the objective workload at a given time (primary appraisal) and then decide whether we are able to handle it (secondary appraisal).

Research suggests that both underload and overload are problematic for task performance. In the pharmacy literature, however, overload is usually targeted for intervention, whereas underload is usually ignored. This is likely a mistake, since some evidence suggests that error rates in outpatient pharmacies are highest when script volume (a measure of objective workload) is lowest. Underload can lead to boredom, poor task engagement, and decrements in sensitivity to task characteristics — consider how difficult it can be to drive long distances across relatively monotonous terrain. Similarly, overload can lead to perceptual failures, cognitive short-cutting, and fatigue, some equally problematic outcomes. Thus, with respect to workload, patient safety should be maximized when staff members are working at moderate levels of subjective workload, which would suggest that, regardless of the objective workload experienced, they are capable of handling the task(s) without being bored or overworked.

A final point to be made is that subjective workload is generally broader in its scope than objective workload is. In other words, a subjective workload assessment may take into account tasks that are not due to be completed for months, whereas an objective workload assessment will likely overlook such tasks since they are not being behaviorally addressed right now. Pharmacy management should remember this as they plan tasks for their staff for the long-term.

One question that has yet to be answered experimentally is whether some amount
of subjective workload is connected to increases in patient risk. This “breaking point” would be important to identify because beyond that point, pharmacist experience and expertise would be incapable of counteracting the stress inflicted by the experienced workload. In other words, we would have some idea about how much workload is really too much. Such a model has been extrapolated based on available data, but experimental verification needs to be carried out.

**Stressor #2: Role Expectations and Conflicts**

Twenty years ago, this stressor would not have been included in this article. Today, however, the role of the pharmacist is becoming more clinical; pharmacists make rounds in some hospitals and more pharmacists are being asked for their medical opinions than ever before. Roles are shifting for technicians, too, as the list of tasks that they are legally allowed to complete grows and more is expected of them given the new educational requirements. Thus, stress that emanates from the roles played in the pharmacy must be considered. Generally speaking, there are three types of role-related stress that can occur in the pharmacy: 1) role ambiguity; 2) role conflict, and; 3) role overload. We’ll handle each of these in turn.

**Role ambiguity** is defined as a condition where the role’s duties and responsibilities are not clear (for whatever reason) to the actor in the role. Role ambiguity can be connected to a number of maladaptive outcomes. For example, **role ambiguity can lead to uncertainty in situations where decisions must be made under time pressure**, because the actors may not know with confidence which tasks are to be done by whom. Second, **role ambiguity can lead to interpersonal conflicts**. For instance, in a personal interview, one pharmacist related a story in which he questioned the use of a particular drug as ordered by the physician’s assistant on the other end of the phone. He was berated for his question and told to “fill the ______ order!” This PA worked at the same facility that only recently had commended this pharmacist on his diligence in double-checking the orders and acting as a clinical partner. One can imagine the confusion that this role ambiguity engendered. Finally, **role ambiguity can lead to inaction**. When we are uncertain about our responsibilities, we may choose to do nothing rather than risk acting and being wrong.
Within the pharmacy process, role ambiguity could conceivably lead to an error working its way through to a patient even though several persons may have noticed something was amiss. As pharmacy moves toward an interdependent model of work, role ambiguity becomes a greater threat to patient safety.

**Role conflict** occurs when the duties and responsibilities of a particular role include those that are impossible to fulfill at the same time. The classic role conflict is the one faced by many women in our society — work or motherhood. We have had to adapt our society dramatically to alleviate the effects of this conflict, since these two roles cannot be filled comfortably by the same person at the same time. Intuitively, role conflicts increase as the individual adopts more roles in her repertoire. So, the pharmacist is probably more vulnerable to role conflict in the pharmacy, since she must play the roles of manager, business owner (in some cases), pharmacist, counselor and clinician. Role conflicts are commonly resolved by either prioritizing the affected roles or delegating certain roles to others. Pharmacy has altered its rules concerning technicians so that they are able to fill scripts legally, partially because the pharmacist was being asked to focus more on the counselor role. By delegating filling to technicians, this time becomes available to be used in other ways. Using the case of working mothers as a metaphor, it is as if the pharmacist sent the filling role to “daycare.”

Role conflicts can facilitate poor decision making and can usurp valuable cognitive resources away from important tasks. This occurs because the conflict causes aversive emotions and thoughts that we will be motivated to address. While we are spending time and effort mentally handling the conflicts, we can be distracted from the task at hand and may jeopardize patient safety in some way. Also, role conflicts can lead to emotional exhaustion, which is a precursor and contributor to burnout (which we'll discuss shortly). It is naïve to believe that role conflicts can be completely removed from pharmacy settings, but it is important for pharmacy staff to be aware of those conflicts when they occur. Stressors that catch us unaware are generally more damaging in the long run.

Finally, **role overload** occurs when too many responsibilities are added to a particular role. When this occurs, the individual in the role is forced to prioritize tasks such that, in some cases, certain behaviors may not be performed at all due to lack of time and energy. Role overload often leads to “cutting corners,” altering steps in procedures or
skipping them entirely. Since patient safety is often approached using standardized procedures and protocols, role overload can be especially damaging and can render those protocols useless.

**Stressor #3: External Factors**

These could include things like insurance companies, work environments, computer technology and automation, customers and co-workers, and regulatory duties. No one works in a vacuum, and the work environment can often make certain behaviors harder and others easier. Rewards for behaviors can change depending on the situation, and these external factors can accumulate stress over time (i.e., daily hassles, etc.). Since most of these factors are invulnerable to our attempts to change or remove them, they require coping skills that may not be natural or comfortable for some staff members. When that coping fails, stress increases and patient safety can be compromised in much the same way as we have already described.

**Stressor #4: Burnout**

Burnout has been addressed in the pharmacy literature before. The idea became popular in the 1980's, primarily fueled by research performed in California by Amy Maslach and her colleagues. Since that time, the word "burnout" has become very popular and has entered American and world vernacular as somewhat of a non-descript term for chronic stress. However, to understand its effects on patient safety, we must detail the scientific conceptualization of burnout and explore how each of its components relates to keeping medication errors at bay. The burnout model incorporates three components: emotional exhaustion, depersonalization, and reduced personal accomplishment. We will address each of these components specifically in this article using Maslach’s widely-accepted model.

Emotional exhaustion is generally considered to be the first component of burnout to develop. By emotional exhaustion, we mean a condition where emotional energy and resources are spent, concomitant with a sense that you no longer have the ability to emotionally “invest” in situations at work. Sometimes, individuals will report physical
symptoms like fatigue as well as cognitive sluggishness when mired in emotional exhaustion. It is not difficult to see how emotional exhaustion can operate in the medical arena. Patients and customers expect their medical professionals to show genuine concern for their situations. Since medicine is at its core a service industry, it is important for doctors, pharmacists, etc., to display such empathy and caring to everyone they help, but this is a difficult idea to uphold. When exhaustion sets in, it becomes more difficult to care about each customer's situation and could lead to poor decisions concerning their treatment on one end, or poor vigilance concerning the correctness of their prescription on the other. The more invested the professional is in the safety of their customers, the more safety is promoted — but, the more investment, the more chance for emotional exhaustion and burnout. It is truly a tightrope to be traversed.

After emotional exhaustion begins (and if no remediation is initiated), depersonalization can start to occur. When we depersonalize, we stop considering the customer or the patient as another human being, just as we are. Consider the surgeon who refers to his next patient as, "the appendectomy in Theater 2." It is no longer a person on that table, but a procedure — this is the essence of depersonalization. Depersonalization is not always a bad thing; in the case of our surgeon, it is a valid coping mechanism. But when it is connected to emotional exhaustion, it augments the effects of burnout. Now, the staff member not only is incapable of feeling concern for the customer, they begin to forget the "humanness" of the customer, opening the door for apathy and disinterest.

Reduced personal accomplishment is usually the last component of burnout to develop, and involves the perception that the job one is doing at work is not worth the time and effort invested in it. Doctors and nurses are vulnerable to this because the people they serve are usually sick; child abuse investigators also report this feeling. It is as if, no matter what you do, there is still more to do, and the battle just cannot be won. In this state, the job that you may have once enjoyed becomes tiresome and painful, and the work that you invest no longer produces enough benefits for the costs involved.

In sum, burnout is a gradual “pulling away” of the professional from the job they are doing. It is not difficult to imagine that this state can be very corrosive to patient safety. If medical professionals cannot invest empathy and time into a patient, if they are unable to view the person in their care as a person just like they are, and if they are becoming
convinced that their work is not amounting to any real benefit, the chances for errors and poor care should increase substantially. Because burnout usually leads to turnover (employees leaving the job), it is difficult to measures the true effects of burnout on the safety of patients and consumers, but there is little doubt that those effects exist.

The Outcomes of Stress — Strains

Strains result from stress that impinges on us to the point that we can no longer handle it effectively. In the figure previously shown, we listed three types of strain that are important for pharmacy practice: patient safety, turnover and absenteeism, and staff health. It is important to note that these strains are not independent of one another; patient safety can be affected by staff shortages, missed work, and decrements in the mental and physical health of pharmacy employees. The ways in which these factors could interact are far too numerous to list here, so instead we will offer an example.

Imagine that Jennifer, our local pharmacist, comes to work one morning and finds that there has been a power outage. All her computers must be rebooted, and the automated robot is not working properly. As she opens the store, the phone rings off the wall — before she can even put her lunch in the fridge, she has 14 scripts on her bench. The technician is not scheduled for another hour, so she is on her own. She is also having trouble blocking out last night’s fiasco — she found out that her boyfriend was stealing money from one of her credit card accounts. They had a big fight, and she is still hurting over it. She gets the scripts together and starts to fill them by hand, since the robot is not booting correctly. She’ll have to remember to call the service company later. A customer then walks in and gruffly demands service for a script he needs. As Jennifer asks him to wait, she notices her voice is harsh and curt. The man begins to get agitated, and Jennifer doesn’t want a confrontation, so she puts down what she is doing and helps him. She returns to her work, mistakenly putting the wrong medication bottle in the prescription bag. The printed safety information reads correctly, so she does not catch the error and places the finished script in the pick-up bin.

Jennifer experienced strain in her ability to keep all the tasks and streams of thought in order. The mistake made was not one of carelessness per se, but could easily be blamed
on the cognitive overload and emotional fatigue that she was experiencing at the time. It is very important to clarify, however, that another pharmacist in the same situation may not make an error — our ability to handle stress and adapt to it is unique to each one of us.

So, what could Jennifer have done differently?

**Handling Stress Effectively**

When we are confronted with stressors, we engage in a process called *coping*. There are many strategies for coping with stress — some of them are quite useful, others are not. Nevertheless, we all will attempt to deal with the stressor in our own ways. Thus, effective education concerning coping must focus at least in part on developing the individual’s repertoire of coping responses. In other words, the more tools a carpenter has, the more jobs she can do; in the same way, the more coping “tools” a person has, the more stressors he can effectively handle. In this section, we will use the stressors defined thus far in the article to organize our discussion of coping.

*Coping with workload.* As we noted, overload and underload are both potentially problematic, and they both must be handled in their own way. With respect to overload, the first response should be (if possible) to reduce the load. Delegate tasks, try to postpone others, and brainstorm new ways to keep overload from happening in the future. With respect to underload, keep your mind engaged. It is tempting to shut down when you get a moment in pharmacy because those moments are so rare. However, theory and evidence suggest that the moments when you “start up” again are the most dangerous for patients. Do inventory, clean up odd tasks, make phone calls, and stay mentally active to keep your mind alert and prepared.

*Coping with role issues.* With respect to role ambiguity, the most important thing to do is to make sure that everyone in the facility knows what their responsibilities are. Job descriptions can help in this regard, but those need to be supported with meetings from time to time where new tasks that emerge can be assigned to the proper personnel. As many of you know from experience, the job is never as simple as it looks on paper and the longer the facility is in business, the more those tasks and responsibilities tend to multiply. Role ambiguity often emerges from this “task multiplication.” Every once in a while, bring
everyone together and examine the roles that are currently in use to see if they need revision. Pharmacy managers can also help here by knowing how responsibilities should be assigned in their store and watching for situations where two or more employees are confused about “who does what.” If you are feeling role ambiguity, talk to your supervisor and explain where the ambiguity is. It is probable that your supervisor can help to clarify your role and clear up any misunderstandings right there.

With respect to role conflict, an effective coping response is to rely on the support of your co-workers, just like a single mother relies on others to fill the roles of “mother” and “breadwinner.” Some of us are fiercely independent and don’t want to enlist the help of others, which can exacerbate role conflicts. Also, pay attention to the standards that are placed on each role. When you are being expected at work to maintain inventory while you are also supposed to be filling scripts, it may not be possible to do both to the standards that have been set for each role. Discuss these standards with your supervisor and try to negotiate new ones that don’t place you in a conflict between two sets of duties.

Finally, role overload can be addressed in much the same way as overload in general. Often, role overload happens in a similar way to role ambiguity — new tasks and responsibilities emerge and certain employees are chosen to adopt those new tasks. If the same employees are continuously chosen (as is likely based on theories of leadership), role overload can result. Managers in the pharmacy should be diligent about revising the job duties and responsibilities of employees when they change them; frequently-updated job descriptions are a good way to start this habit.

Coping with external factors. Our story of Jennifer showed that stressors having nothing to do with pharmacy can still be a problem at work. Dealing with external stressors often calls for the use of what Lazarus called “emotion-focused” or “consequence-focused” coping responses. When we engage in emotion-focused coping, we realize that we cannot stop the stressor and so we mobilize our efforts to minimize the damage that the stressor can cause. Examples of this could include: exercise, social support systems, and relaxation. Note that these behaviors do not affect the presence or intensity of the stressor(s); they are inwardly focused and attempt to eliminate potential strains.

Coping with burnout. There have been several approaches to burnout remediation investigated in the literature. One idea is to focus on two factors: overload and excessive
bureaucracy. Another is to make pharmacy education more realistic, incorporating a sort of “realistic job preview” so that when young pharmacists begin their careers, they have been exposed to many of the burnout-related stressors they could experience. A third suggestion (and one we feel is quite relevant for pharmacy) is to enhance positive performance feedback. How often do pharmacy employees get feedback from customers when they do their job well, compared to the number of complaints and angry customers that come through the doors? Pharmacy supervisors should be more diligent about providing constructive, positive feedback to their staff with greater frequency. A fourth strategy is to emphasize social support in the pharmacy. This could be accomplished through safety meetings, for example, where safety-related issues that have come up recently can be discussed in a non-threatening and supportive manner. The goal of these meetings is to learn from the errors and near-errors as well as to remind staff members that they are not alone in their struggle to be accurate and effective on the job. Though it is fair to say that informal social support systems probably exist in many pharmacies, without an imposed structure on these networks, they tend to become collections of cliques that invariably leave some employees out in the cold.

A strategy that does not seem to work with burnout has to do with vacations. Though intuitively it may seem that just “getting away” can reduce burnout, the data show that it is not that simple. Studies indicate that burnout-vulnerable individuals, immediately after taking a vacation, do report feeling better about their jobs and diminished levels of the critical burnout components. However, within a few weeks’ time, they have relapsed completely and, in some cases, are even worse than when they left. Therefore, vacations may be a short-term solution, but they cannot be used for long-term burnout remediation.

It is useful to conclude this section with a brief table (displayed on the next page) that outlines the basic types of coping responses along two dimensions: whether the coping response is problem-focused or consequence (emotion)-focused, and whether the coping response is approach-related or avoidant. The table also provides some exemplars of each type.
An Overview of Coping Strategies

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<thead>
<tr>
<th></th>
<th>Problem-Focused</th>
<th>Consequence-Focused</th>
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<tbody>
<tr>
<td><strong>Approach-Related</strong></td>
<td>Eliminate stressor</td>
<td>Relaxation/meditation</td>
</tr>
<tr>
<td></td>
<td>Modify stressor</td>
<td>Prepare for outcomes</td>
</tr>
<tr>
<td><strong>Avoidant</strong></td>
<td>Leave situation</td>
<td>Repress emotions</td>
</tr>
<tr>
<td></td>
<td>Re-appraise stressor</td>
<td>Deny stress</td>
</tr>
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**Concluding Thoughts**

Despite the inevitability of stress, we are not doomed to suffer all of its ill effects. In this article, we have attempted to raise awareness concerning four typical sources of stress in the pharmacy and medical fields, and followed that with some concrete ideas for stress remediation. Patient safety is at risk when medical staff are investing most of their effort and resources in stressors that could have been much less distressing and much less frequent. But, we want to make it clear that we are **not** advocating a “stress-free” work environment (as if one were even possible). Some stress is beneficial to us — it raises our general arousal level and can in some cases increase our ability to focus on relevant tasks. For instance, there is little that can be done about objective workload — script volumes continue to increase and there is no sign that this trend will slow. The key is whether the pharmacy staff has the resources necessary to deal with that workload, or whether those resources have been stripped by unnecessary stressors, poor coping skills or badly-designed work settings.