



# Nurse Advise-ERR®

Educating the healthcare community about safe medication practices

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## Ohio government plays Whack-a-Mole with pharmacist

**O**n August 14, 2009, Ohio pharmacist Eric Cropp was sentenced to 6 months in prison, 6 months of home confinement with electronic monitoring, 3 years of probation, 400 hours of community service, a \$5,000 fine, and payment of court costs, for his role in a fatal medication error. (See ISMP President Michael Cohen's posted comments regarding the sentencing at: [www.ismp.org/pressroom/injustice-jail-time-for-pharmacist.asp](http://www.ismp.org/pressroom/injustice-jail-time-for-pharmacist.asp).) Eric made a human error that tragically led to the death of a child—the fodder of nightmares that plague many health professionals who perpetually fear making that one fatal error. During manual inspection of a compounded chemotherapy solution, Eric failed to recognize that a pharmacy technician had made the base solution using too much 23.4% sodium chloride. The child received the chemotherapy solution and developed severe hyponatremia, which led to her death.

Human factors research confirms that manual checking systems are not 100% reliable. Under *ideal* conditions, we—meaning all human beings—fail to perform a check correctly about 5%<sup>1,2</sup> of the time, and we fail to detect an error during the checking process between 5%<sup>2</sup> and 10%<sup>3</sup> of the time. While under *moderate stress*, our failure to detect an error during an inspection or verification process increases to about 20%.<sup>4,5</sup>

According to news media<sup>6-8</sup> and personal conversations with Eric's defense attorneys, conditions under which Eric was working on the day of the event were far from ideal and outside his control:

- The pharmacy computer system was down in the morning, leading to a backlog of physician orders

- The pharmacy was short-staffed on the day of the event
- Pharmacy workload did not allow for normal work or meal breaks
- The pharmacy technician assigned to the IV area was planning her wedding on the day of the event and, thus, highly distracted
- A nurse called the pharmacy to request the chemotherapy, so Eric felt rushed to check the solution so it could be dispensed (although, in reality, the chemotherapy was not needed for several hours).

We don't have details regarding how verification of IV admixtures occurred in this hospital, but we have observed unsafe variations of the checking process in other hospitals—from a jumble of vials and syringes pulled back to the supposed volume of additives, to vials and syringes from different admixtures together on a cluttered surface awaiting verification. We also know little about why the technician made the compounding error, other than press reports stating she was highly distracted that day. However, we know that compounding a chemotherapy base solution from scratch is error-prone and often unnecessary; such exactness of base solutions is frequently not required from a clinical standpoint.

The price of this medication error was ever so costly: a beautiful 2-year-old child named Emily Jerry lost her life; Emily's family will forever suffer the pain of her loss; healthcare practitioners who were involved in the error and/or Emily's care are forever changed by the event; and Eric Cropp, who will never practice again (the Ohio board of pharmacy permanently revoked his license), will forever feel the weight of his human fallibility and how it

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## Readers' comments on ADCs

We would like to thank the many readers who submitted stories about their experiences with automated dispensing cabinets (ADCs) in response to comments published in *Message in our mailbox: A nursing perspective on ADCs* in our June 2009 newsletter. The "Message in our mailbox" was in



response to our April 2009 article on ADCs.

In many ways, your stories echoed the "Message" regarding workflow disruptions with ADCs, but we also learned a few new things to share with our readers.

While many respondents noted that ADCs make them feel safer when retrieving medications to administer to their patients, they also expressed frustration because it often feels like no one really considered how frequently nurses need to access the ADC, how long they may have to wait in line during standard drug administration times, and how much time the whole process takes. Many readers also suggested that nursing staff was not consulted regarding the best location for the cabinets; in many cases, they had been placed in small medication rooms that don't provide the space to safely use the ADC or in high traffic areas, allowing distractions and interruptions from patients, visitors, and staff. Several nurses suggested other problems that result in lost time, including locating the correct ADC if stock medications are only stored in selected cabinets, and unplanned equipment downtime, which can cause a backlog and delay treatment.

New issues not previously mentioned in our newsletter included the difficult clean-up that follows occasional breakage of ampuls, vials, or medication cups in

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**Whack-a-mole** continued from page 1 played out on that fateful day—this while serving an undeserved term of incarceration and other criminal and civil penalties.

**David Marx**, CEO of Outcome Engineering, likens such a punitive response to human error to a child's game of **Whack-a-Mole**. The game is played by lying in wait until a mole (the adverse event) pops up, and then trying to whack the exposed mole with a hammer (to punish the person closest to the event) before it retreats back into the safety of its hole. In his profoundly moving new book on this topic, *Whack-a-Mole: The Price We Pay for Expecting Perfection*<sup>9</sup> (available at Barnes & Noble), Marx notes that this child's game is a telling depiction of how we set unrealistic expectations of perfection for each other and then unjustly respond to our fellow human beings who inevitably make mistakes. We play the game at work by writing disciplinary policies that literally outlaw human error. Our legislators play the game by writing laws that make human error a felony punishable by prison. We take the easy route with a “no harm (no visible mole), no foul (no whack required)” policy. We turn a blind eye to those imposing unnecessary risk as long as the outcome is good (no mole pops up). But we push our need for perceived “justice” to the point that every harmful adverse outcome must have an accompanying blame-worthy person to punish.

According to Marx, the **Whack-a-Mole** game is simple and addicting: a healthcare professional makes a harmful error and the healthcare system in which he works fires him—**whack!** The professional licensing board takes his license away—**whack!** The newspapers and online news media demonize the dedicated professional who has made the mistake—**whack!** The civil court demands payment from the professional for the bad outcome—**whack!** The criminal court sends him to jail—**whack!** Leaders in the healthcare system who employed him stand

by silently, without uttering a single word about the system-based causes of the error to help defend the individual—**whack-whack!** Society is poised to pounce, to swing the hammer when someone is injured. Punish the person most visibly involved in the error and the game is won. Problem solved. Mole whacked. As Marx writes, the “if we all just do our jobs correctly and follow the rules” club tends to view all bad outcomes as blameworthy incidents—even in the presence of poorly designed systems and performance shaping factors outside the control of involved workers; even in the absence of an intent to harm or an evil-meaning mind.

No matter how hard we try, human endeavors carry inherent risks. We can try to do everything possible to make it safe for patients, but we often fail to plan for the unexpected—a computer system that is nonfunctional when you arrive at work, causing a serious backlog of work; an inadequate level of staff on duty because of unexpected absences; a distracted technician working in a hectic high-risk IV area—just a few of the unexpected conditions in Eric's case on the day of the event. As Marx notes in his book, civil, criminal, and regulatory systems are increasingly obscuring the differences between intentional, risky choices and inadvertent human fallibility. Thus, the net cast to catch criminals is now catching those whose only crime is that they are human, trying to do their job under difficult circumstances beyond their control. The criminal courts are playing the most extreme version of **Whack-a-Mole** with the lives of all healthcare professionals, for who among us cannot say, “It could have been me” when thinking about the plight of Eric Cropp and Emily Jerry?

Marx makes it clear in his book that playing the **Whack-a-Mole** game costs us dearly, in lives that will continue to be lost due to our failure to learn from mistakes, and in resources that could

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**As We See It** continued from page 1 ADC pockets, which can also contaminate other medications, and the problem with pilferage that results when nurses forget to log off the ADC system after accessing medications for their patients. We also received many comments about student nurses' lack of access to ADCs or the need to constantly interrupt students who are accessing an ADC to “just get something quickly”—neither condition is conducive to learning and error-prevention.

You can read many more of the comments we received in blinded excerpts posted on our website at: [www.ismp.org/newsletters/nursing/articles/AdcComments200906.asp](http://www.ismp.org/newsletters/nursing/articles/AdcComments200906.asp). We plan to use these responses to encourage better alignment of ADCs with nursing workflow when designing and implementing this technology.

### Readership Survey

#### Patient safety and the economy

Many healthcare providers are feeling the pinch—more of a painful blow, really—from trying to make do with even less than usual—less money, less staff, less time, less technology, less knowledge. Substantial improvements in patient safety during the past decade did not happen by accident; they occurred because leaders chose to pay attention to patient safety and channel resources into improving it. In today's economic climate, will our gains during the past 10 years crumble without continued support? Will financial considerations again trump safety? Are we destined to again drop the ever-fragile “safety” ball as we try desperately to juggle all the dimensions of quality in an economic drought?

We are interested in learning how the economy is affecting you and your patients, and how you are attempting to maintain patient safety and quality during medication use. **Please take a few minutes to take our survey on page 4.** We will publish the results in a future newsletter and offer examples of how healthcare leaders are attempting to keep patients safe during these trying times.



**Whack-a-mole** continued from page 2  
 be put to better use. When we play the game, it does nothing to enable us to learn what we might do differently the next time to avoid a similar tragedy. In fact, ISMP is unaware of steps to help other Ohio hospitals learn from this event and redesign their systems accordingly. We have not heard about any visits by state surveyors to detail expectations regarding prevention strategies in all Ohio hospitals. If nothing has changed in Ohio hospitals, as well as in other hospitals in the US, the death of this little girl is a heart-breaking commentary on healthcare's inability to truly learn from mistakes so we are not destined to repeat them. On a positive note, though, the Ohio legislature passed and implemented Emily's Law (<http://sc.state.oh.us/analyses/analysis127.nsf/c68a7e88e02f43a985256dad004e48aa/443d752e6fc207bb852575050053b835>), which requires all pharmacy technicians to be trained, tested, and certified via a state board of pharmacy approved course, as they are in 26 other states.

There is another insidious flip side to the **Whack-a-Mole** game; it prevents learning by driving errors underground and discourages students from becoming healthcare professionals. Some will ask, "Why disclose errors and risk punishment, loss of a hard-earned license, going to jail?" Thus, some risks will not be addressed to prevent harm. High school and college students may not be drawn to legally "risky" healthcare professions, and professionals working in healthcare may try to avoid risky tasks, such as compounding IV solutions.

Marx makes a compelling argument that the **Whack-a-Mole** approach is ineffective, inefficient, unsafe, and wholly unjust. There is a better way of dealing with human error and promoting the behavioral choices that best support safety. We spend far too much time reacting to the severity of the outcome and punishing the unfortunate soul closest to the harm, and far too little time addressing the system design that got us to the bad

outcome and the behavioral choices that might have contributed to the outcome. A bad outcome should never automatically qualify a practitioner for blame and punishment. We will never be able to design a perfect healthcare system because it is predominantly a human-based system despite our ever-increasing use of technology. Likewise, we cannot and should not expect perfection from each other, no matter how critical the task may be. We are fallible human beings destined to make mistakes along the way, as well as to drift away from safe behaviors as perceptions of risk fade when trying to do more in resource-strapped professions. Our real power to protect patients is in the systems we build around imperfect human beings.

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## to the point

**We live at a time when blame and retribution are prominent in media coverage of what has gone wrong. It is important that there should be proper accountability, but we also have to ask whether the climate of blame and retribution can go too far.**

---Sir Liam Donaldson

## Special Announcements

### ISMP teleconferences

#### October 6:

#### Beyond the 5 Rights: A Safety Bolus for Nursing Leadership:

Learn where risk is present but "hidden" in your medication administration system and the high-leverage error-reduction strategies that can reduce the risk of harmful errors.

#### October 15:

#### Preventing Errors with Insulin: A Multidisciplinary Approach:

Learn about the current trends in insulin therapy, barriers to optimal therapy and safety, common errors that occur with insulin and insulin pens, and error-prevention strategies.

For details on both teleconferences, visit: [www.ismp.org/educational/teleconferences.asp](http://www.ismp.org/educational/teleconferences.asp).

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**Report medication errors to ISMP at 1-800-FAIL-SAF(E).**



## ISMP Survey on Impact of Economic Crisis on Medication Safety

We are interested in learning how today's economy is affecting patient safety at your healthcare organization. Please take a few minutes to take our survey and submit your responses to ISMP by **October 16, 2009**, at [www.ismp.org/survey/Survey200909.asp](http://www.ismp.org/survey/Survey200909.asp) or by fax (215-914-1492) if you don't have access to the Internet. Thank you!

Please give us your opinion regarding these questions using this key: **1=No Bad Effect, 5=Large Bad Effect; DK=Don't Know; NA=Not Applicable**

Questions	No Bad Effect . . . . . Large Bad Effect							Comments/Examples
	1	2	3	4	5	DK	NA	
<b>1</b> Overall, to what degree in your organization has the following been <b>negatively</b> affected by the economy?								
Patient safety								
Medication safety								
<b>2</b> For the following general categories, to what degree in your organization has each been <b>negatively</b> affected by the economy?								
Culture (e.g., tolerance of risk)								
Staffing (e.g., staff reductions, unfilled positions)								
Update of existing technology								Specify:
Implementation of new technology								Specify:
Other capital equipment expenditures								Specify:
Provision of services								Specify:
Physical environment additions/remodeling								
Leadership support for safety								
Patient volumes (inpatient)								
Patient volumes (outpatient)								
Staff education/certification								
Staff morale								
Staff willingness to report errors								
<b>3</b> For the following categories associated with medication use, to what degree in your organization has each been <b>negatively</b> affected by the economy?								
Reduction in staff (or time of staff) who are dedicated to addressing medication errors (e.g., medication or patient safety officer, risk/quality)								Specify:
Drug purchasing decisions (e.g., vials vs. prefilled syringes, reuse of single-use vials, pharmacy-compounded vs. premixed, drug shortages)								Specify:
Availability of medications (drugs/strengths/dosage forms)								
Unit-dose dispensing (e.g., less patient-specific doses; more bulk supplies)								
Pharmacy-preparation of parenteral products/solutions								
Clinical presence of pharmacists in patient care units								
Independent double-checks (e.g., completed less consistently)								
Drug administration practices								
Patient education about medication therapy (oral/written)								
Other effects: Please describe in enough detail to be understood (use extra page if needed).								

**4** Are you aware of any medication errors in the past year in which changes due to the economic downturn were a contributing factor?  Yes  No  DK  
If yes, please describe in enough detail to be understood (use extra page if needed). \_\_\_\_\_

**5** Have your leaders developed a plan to minimize backslide on patient safety during the economic downturn?  Yes  No  DK  
If yes, please describe the most important attributes in enough detail to be understood (use extra page if needed). \_\_\_\_\_

**6** Please select the categories that best describe **YOU, YOUR POSITION** in the organization, and **YOUR ORGANIZATION**.

- YOU:**  Physician  Pharmacist  Pharmacy Technician  Nurse  Other
- YOUR POSITION:**  Administration  Clinical Director  Clinical Manager  Staff  Quality/Risk/Safety  Educator  Other
- YOUR ORGANIZATION:**  Hospital  Community Pharmacy  Ambulatory Care  Long-term Care  Homecare  Academic  Other