Medical emergencies may not be common in the office setting, but that's precisely why you need to practice your response to them.

A PRACTICAL GUIDE TO EMERGENCY PREPAREDNESS FOR OFFICE-BASED FAMILY PHYSICIANS

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Certain emergencies elicit an immediate, conditioned response. When someone yells "Fire!" for example, most people look for an emergency exit or a fire extinguisher. However, emergency situations in medical offices do not engender the same type of Pavlovian reaction. Although most medical training, including family medicine training, involves learning how to deal with emergency situations, that education has a tendency to wane after graduation. Once physicians are in private practice, with the demands of seeing patients, maintaining emergency certification becomes a lower priority than dealing with day-to-day issues. Many primary care physicians do not invest time in maintaining active certification in cardiopulmonary resuscitation (CPR), much less advanced life support. However, medical emergencies do occur in physicians' offices, including asthma exacerbations, chest pain, hypoglycemia, anaphylaxis, and impaired consciousness, among others.[1] Outpatient facilities must be prepared to deal with these situations.

This article describes the emergency preparedness program that our practice, Community Volunteers in Medicine, designed and implemented. Our practice is a busy, mostly volunteer-staff clinic providing medical and dental care as well as ancillary services such as nutrition and diabetes education, and last year we conducted 26,000 visits. Given this patient volume, we felt that everyone on our staff needed to be prepared to deal with medical emergencies. In addition, because we have many volunteer staff who have retired from previous careers, are more than 60 years of age, and have medical issues, we felt it prudent to have measures in place to care for those who help us care for patients.

We recognize that our model may require adaptation for use in other offices depending on the number of staff (including physicians, other providers, and nursing staff), role assignment, proximity to an emergency department (ED), response times of local emergency medical services (EMS), the level of care providers are capable of administering (basic versus advanced life support), and state laws regarding who may provide emergency services. Still, we offer an emergency preparedness model befitting a family medicine office.

Condition C: An emergency preparedness program

We named our emergency preparedness program "Condition C" to avoid the popularized term "code blue," which could alarm patients in the office and waiting room. The algorithm on page 14 summarizes the steps involved in our program, which has two major components. ➤

Medical emergencies do occur in the physician office, including asthma exacerbations, chest pain, hypoglycemia, anaphylaxis, and impaired consciousness.

A scavenger hunt format engages staff members in the process of reviewing supplies that might be needed in an emergency.

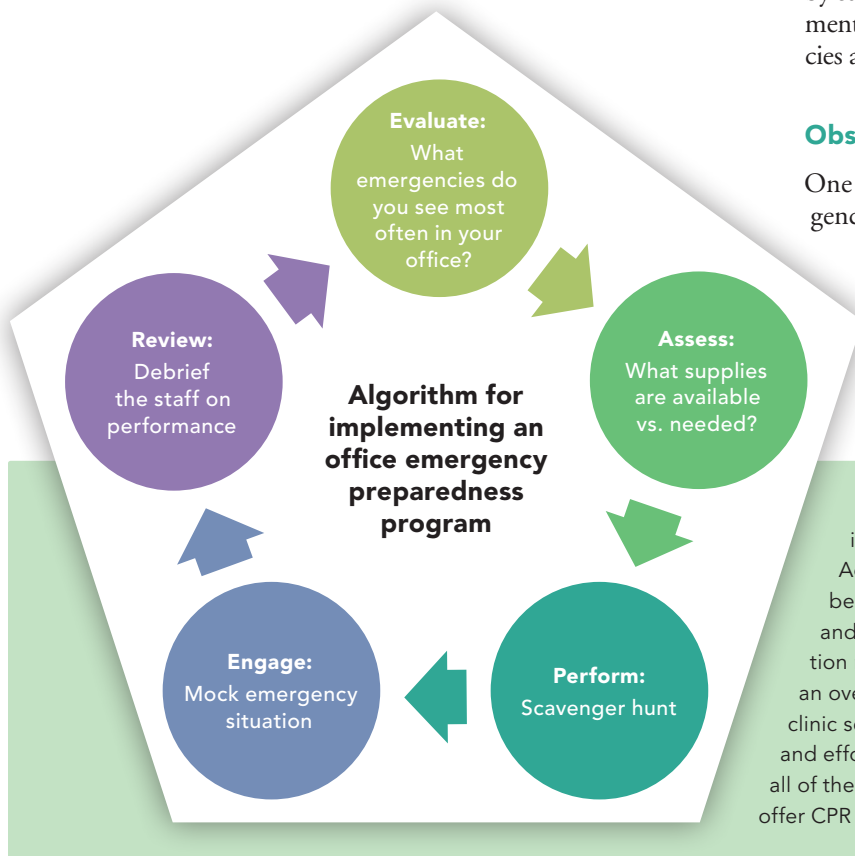Mock code situations allow physicians and staff members to practice their emergency response.

Scavenger hunt. The program begins with a review of all available emergency equipment in the office utilizing an engaging scavenger hunt format. Both nursing and medical staff participate in finding and reviewing the medications and equipment that might be needed in an emergency situation (see the checklist of recommended emergency supplies). Because our office is staffed mostly by volunteers and not all items can be stored within a crash cart or emergency box, the scavenger hunt helps ensure that all staff members are able to access these items in an expedient manner and that the practice is fully equipped. Once staff identify the items, they inspect medications to make sure none have expired and review equipment use. It is imperative that staff know how to use oxygen tanks, injectable epinephrine, and other equipment correctly.

Additionally, Condition C cards with common emergency situations and the appropriate interventions are located in each exam room and stored with the emergency equipment. The scavenger hunt confirms the presence of these cards.

Mock codes. The program also involves mock code situations followed by a debriefing to discuss staff members' roles and potential issues that arose during the exercise. We do not inform staff ahead of time that a Condition C is going to be simulated. To mimic the most likely scenario in an office setting, we plant a volunteer in the waiting room or exam room and ask him or her to simulate shortness of breath or acute chest pain. This tests whether our office staff is alert to patients' needs. The goal is to have someone call a Condition C in a timely manner, followed by a rapid response by staff with the appropriate emergency equipment. We try to perform these mock emergencies at least two times per year.

Obstacles addressed

One of the main obstacles to effective emergency care that we identified through our mock code situations was a lack of awareness by front office staff of patients in the waiting area. This was because of the layout of our physical space. To combat this issue, we installed surveillance cameras throughout the area,

Algorithm for implementing an office emergency preparedness program

Evaluate: What emergencies do you see most often in your office?

Assess: What supplies are available vs. needed?

Perform: Scavenger hunt

Engage: Mock emergency situation

Review: Debrief the staff on performance

Our emergency preparedness program involves five key steps, depicted here. Additionally, we orient all new staff members to our emergency procedures upon hire, and we review staff members' CPR certification regularly. Although this may seem like an overwhelming task to introduce into a busy clinic schedule, we believe it is worth the time and effort. An alternative would be to incorporate all of these steps into a half-day session and to offer CPR certification on-site.

allowing the front office staff to see patients who are not directly visible from their desk.

Additional issues identified through our mock code exercises included slow response times among staff, difficultly finding necessary items, poor documentation of the episode, and slow-downs in patient flow in other parts of the practice. We created the scavenger hunt to improve the ability to find needed items. To improve documentation, we introduced an "Emergency Nursing Record" (see page 16). This flow sheet includes patient information, emergency type, vital signs, review of systems, necessary interventions, and medications. In the event a patient

requires transfer to the ED, we send a copy of this sheet with the patient. In general, this sharing of information helps streamline and improve patient care.

Immediately following mock emergencies, staff members meet to debrief and discuss problems in how the team responded. This allows all those involved to voice concerns and suggest improvements. Utilizing a debriefing form (see the "Mock Trial Evaluation Form," page 18), we analyze each situation individually. These debriefing sessions help us troubleshoot the program. During a recent mock emergency, we discovered that multiple medications in our emergency box were expired. As a result,

CHECKLIST: EMERGENCY SUPPLIES FOR FAMILY MEDICINE OFFICES

The following checklist of recommended emergency supplies includes many expected items, such as oxygen and nitroglycerin, as well as several items not commonly found in family medicine offices, such as an automated external defibrillator (AED). In deciding whether to include a particular item in your practice, consider your staff members' ability to use the item appropriately and your office's access and proximity to emergency services.

Equipment	Cost
☐ Automated external defibrillator (AED)	$2,300
☐ Bag mask ventilator (two bag sizes and three mask sizes for adult, pediatric, and infant)	$19-$22 per mask and bag
☐ Blood pressure cuff (all sizes)	$55-$236
☐ Glucometer	$10-$40
☐ Intravenous catheter/butterfly needles (18 to 24 gauge)	$40
☐ Intravenous extension tubing and T-connectors	$1-$2
☐ Nasal airways (one set)	$7-$15
☐ Nasogastric tubes	$9-$25
☐ Nasal cannula for oxygen	$28
☐ Nebulizer or metered dose inhaler with spacer and face mask	$30-$80
☐ Non-rebreather mask (three sizes)	$2.49 per mask
☐ Oxygen mask (three sizes)	$1-$2
☐ Oxygen tank and flow meter	Tank: $65 (empty) Flow meter: $50-$150
☐ Portable suction device and catheters, or bulb syringe	$3
☐ Pulse oximeter for child and adult usage	$179
☐ Resuscitation tape (color-coded)	$120 for a package of five
☐ Universal precautions (latex-free gloves, masks, and eye protection)	$12 per kit
☐ CPR barrier device	$9
☐ Blood spill cleanup kit	$6
☐ Eye wash	$2
☐ Cardiac board	$68

Medications
☐ Acetaminophen (rectal suppositories)
☐ Albuterol
☐ Aspirin, chewable
☐ Ceftriaxone (Rocephin)
☐ Corticosteroids, parenteral
☐ Dextrose 25% and 50%
☐ Diazepam, parenteral (Valium)
☐ Diphenhydramine, oral and parenteral (Benadryl)
☐ Epinephrine injection (EpiPen and EpiPen Jr.)
☐ Flumazenil (Romazicon)
☐ Lorazepam, sublingual (Ativan)
☐ Morphine (MS Contin)
☐ Naloxone (Narcan)
☐ Nitroglycerin spray
☐ Saline, normal
☐ Glucagon
☐ Atropine
☐ Lidocaine

Other
☐ ECG machine
☐ Condition C cards
☐ Fire extinguisher
☐ Panic button

Note: Prices may vary depending on make, model, quantity ordered, and relationships with medical supply companies or hospitals. Medications are not priced here as quantities will vary based on needs assessment, office size, and proximity to an emergency department.

EMERGENCY NURSING RECORD

Date _____   Time _____   Time EMS called _____   Time EMS arrived _____

Name of patient _____   DOB _____   Male _____   Female _____

Allergies _____

Describe events leading to emergency _____

_____

Historian/accompanied by _____

What type of emergency? (circle or check)

1. Chest pain   How pain started _____   Nausea/vomiting | Shortness of breath

    Pressure | Tightness | Indigestion | Burning

    Pain: Sharp | Dull | Stabbing | Aching | Numbness | Location _____

    Pain radiates to: Jaw | Arm | Back

2. Shortness of breath

3. Asthma exacerbation

4. Allergic reaction   Hives | Rash | Facial swelling | Difficulty breathing

5. Diabetic shock

6. Seizures   Time _____   Length _____

    Unresponsive | Visual disturbance | Headache | Incontinent

    Tremors | Tonic-clonic seizure involving _____ extremities

    Eye gaze R | L

7. Other _____

Vital signs

Time	BP	Pulse/RR	Pulse ox	Blood glucose	Pain
					/10
					/10
					/10
					/10
					/10

General appearance

_____ No acute distress   _____ Mild | Moderate | Severe distress

_____ Alert   _____ Anxious | Decreased level of consciousness

_____ No barriers   _____ Learning barriers: Cognitive | Language | Emotion | Other

Respiratory

_____ No respiratory distress   _____ Mild | Moderate | Severe distress

_____ Normal breath sounds   _____ Wheezing | Crackles | Stridor

                                     _____ Decreased breath sounds

CVS

_____ Regular rate   _____ Tachycardia | Bradycardia | Irregular rhythm

_____ Pulses strong   _____ Pulse deficit

_____ Skin warm and dry   _____ Cool | Diaphoretic

                                     _____ Pale | Cyanotic | Flushed

An obstacle to running mock emergencies in a busy practice is pushback from staff who say it interrupts patient flow.

we revised our system of monitoring medications used for emergencies and assigned a staff member to this task.

An additional obstacle to running mock emergencies in a busy practice is pushback from staff who say it interrupts patient flow and disrupts those working in the clinic. This was the case at our practice, and getting buy-in was difficult at first. Attitudes changed, however, after a true medical emergency transpired, and our staff witnessed that things went smoothly. In this instance, a patient presented with chest pain and was having an acute myocardial infarction. Condition C was called. The patient was given aspirin, nitroglycerin, and oxygen. The electrocardiogram and flow sheet were copied and sent with the patient to the ED. The emergency physician subsequently called to compliment our clinic for the pre-hospital care. By the time the patient reached the ED, the ST elevations were already resolving.

Worth the effort

Although implementing an emergency preparedness program is challenging, we believe it is a worthwhile and necessary addition to all family medicine offices. While infrequent, emergency situations do occur in office settings, and this program equips us to provide the best possible care for our patients. Implementing an office emergency preparedness program removes the anxiety of dealing with unusual issues, keeps necessary medications and equipment current and in working condition, and identifies problems prior to an actual emergency so that

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Neuro

_____ Oriented

_____ Cooperative

_____ Speech appropriate

_____ Moves all extremities

_____ Disoriented to Person | Place | Time

_____ Agitated | Confused | Memory loss

_____ Nonverbal | Speech slurred | Facial droop

_____ Weakness | Sensory loss | Which extremity _____

Time/Procedures

_____ ECG

_____ AED used

_____ O2 at 2L-nasal cannula

_____ CPR started

_____ CPR stopped

_____ Assisted ventilation with bag valve mask

_____ IV access _____

Medications

Time	Medication	Dose	Route	Site

Discharge instructions _____

_____

Signature of person in charge of record keeping _____

Medical provider _____

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MOCK EMERGENCY EVALUATION FORM

Date of mock emergency: _____

	Yes	No	Comments and other information
Placed mock call to EMS immediately			
Airway assessed			
Breathing assessed			Respiratory rate: Description of respiration:
Oxygen started for respiratory distressed			
Circulation assessed			BP: Pulse:
Any other initial interventions used			
Patient reassured frequently until mock EMS arrived			At 5 min: At 10 min:
Head to toe examination			
All supplies required for management of the patient were available			
Supplies requested were found quickly			
Emergency nursing record form was available and/or used			
Personnel knew how to use equipment properly			
Condition C cards were available and/or used			
Leader communicated effectively and roles were assigned			
Events were recorded accurately			
Other:			

A mock emergency evaluation form can help practices identify problems in their response prior to an actual emergency.

Creating an emergency preparedness program takes time but is worth the effort.

Having a program in place can reduce the anxiety associated with emergency situations and ultimately improve patient care.

they can be resolved. It also reduces the risk of malpractice suits arising from poor emergency care in an office setting.

The old adage "practice makes perfect" seems applicable. Though perfection is impossible, all clinicians and staff members must practice their response to medical emergencies in the outpatient setting so they are prepared should an actual emergency arise. Your patient's life may someday depend on it. FPM

1. Toback SL. Medical emergency preparedness in office practice. *Am Fam Phys*. 2007;75(11):1679-1684.

Send comments to **fpmedit@aafp.org**, or add your comments to the article at **http://www.aafp.org/fpm/2013/0300/p13.html**.

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