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Improving hospital surge capacity: A new concept for emergency credentialing of volunteers

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## **Abstract**

In the event of a large scale terrorist attack, natural disaster, or other public health emergency, hospitals could not absorb the thousands of victims generated by the catastrophe. Even if hospitals can increase bed capacity by 20-30%, as some suggest, the solution to staffing these beds remains unresolved. One possibility is to rapidly increase hospital staff by providing emergency credentialing to volunteer health care professionals. Several organizations and systems currently exist that can deliver medical providers to a stricken area. Unfortunately, all of these have serious limitations that would make it difficult for hospitals to utilize the health care workers provided by such entities. We propose a unique concept that will allow hospitals to rapidly expand their staff with practitioners that meet their credentialing requirements. The concept is a database created by each hospital in a community that includes credentialed physicians, nurses, behavioral health professionals, and ancillary staff. The database will be limited to physicians with full privileges and all licensed hospital employees in good standing not currently facing disciplinary issues or practice restrictions. The individual databases would then be combined and stored on a single computer system housed at the county health care agency or other mutually acceptable organization, with copies sent back to participating hospitals and the state. After a large disaster, health care workers from unaffected areas, including other states, can approach impacted hospitals and volunteer their services. Practitioners listed on the database could be given privileges in their specialties for 72 hours. This process is accurate, inexpensive, efficient, sustainable, Joint Commission compliant, and permits the immediate credentialing of large numbers of medical volunteers.

## Introduction

The United States has made significant progress in improving certain aspects of its medical disaster response since the events of September 2001. Examples include state augmentation of public health programs and strengthening regional coordination through such innovations as the National Laboratory Response Network and use of the National Incident Management System. However, challenges remain. Institutions including the Health Resources and Services Administration (HRSA), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and the Society for Academic Emergency Medicine (SAEM) have identified one of these challenges, the need to rapidly expand regional medical care capacity with hospitals playing a major role.<sup>1-3</sup>

HRSA's critical benchmark #2-1:*surge capacity: beds* requires the establishment of a system that, at a minimum, can provide triage, treatment, and initial stabilization of patients in excess of current daily staffed hospital capacity. Unfortunately, data from 2003 show the U.S. hospital occupancy rate averaged 74.2% for staffed beds in urban area hospitals of 500 beds or more.<sup>4</sup> These data indicate that little hospital surge capacity exists over the capacity to deliver day-to-day services.

Even if a solution to bed capacity is found, such as that proposed by Hick et al that can potentially increase hospital bed capacity by 20-30% (Table 1), the issue of staff shortages remains<sup>5</sup>. Augmenting the number of hospital providers to staff these additional beds will remain a critical component of any hospital surge capacity solution. In the event of a catastrophic disaster or other public health emergency, the challenge for the health care system, as it is currently

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configured, will be absorbing the thousands of ill and injured victims generated by the disaster.

### **The Problem**

One of the major impediments to rapidly expanding hospital patient care staff is the credentialing process. Hospitals must credential individuals before granting them patient care privileges. The requirement applies to both hospital-based practitioners and physicians with primarily out-patient obligations who also care for in-patients. This can often require months when the process involves physicians (Table 2).<sup>6-8</sup> Healthcare workers not credentialed at a particular institution are prohibited from providing patient care at that location, regardless of whether they are credentialed at neighboring facilities.

JCAHO does permit institutions to provide emergency credentialing/disaster privileges on an individual basis to volunteers if the hospital has implemented its disaster plan and the immediate needs of patients cannot be met (Standard MS.4.110).<sup>9</sup> For physicians, the process involves at a minimum, presentation of a medical license and photo identification. JCAHO standards permit granting of privileges for 72 hours based on this information, so long as a member of the medical staff provides supervision of the volunteer and the hospital can confirm licensure directly from the granting agency, usually the state medical board (primary source verification). Hospitals do have the authority to extend privileges past 72 hours if necessary. Therefore, the process will work for either sudden impact or prolonged disasters. However, hospitals often require additional information, such as the name and phone number of the hospital at which the doctor has privileges and current malpractice information (company, policy number, amount of coverage, date of expiration, privileges covered, etc.).<sup>10</sup> The medical staff office then records all information; photocopies the documents;

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calls the hospital where the individual currently practices to verify credentials; calls the state medical board to verify current licensure; queries the National Practitioner Data Bank; and may query the Office of the Inspector General.<sup>6-8</sup>

This process can require 72 hours if the disaster occurs on a weekend and longer if communications are severely disrupted. The same JCAHO standards generally apply to emergency credentialing of other licensed or certified professionals that are important in augmenting hospital surge capacity, such as nurses, respiratory therapists, and radiology technicians (HR.1.25).<sup>11</sup> Individual institutions may have slightly different requirements but the credentialing process varies only minimally across the country, as virtually all hospitals adhere to the JCAHO standards. This is due, in part, because JCAHO hospital certification is generally required to bill for Medicare eligible services

While this may be effective for credentialing a few individuals, it does not address the issues of providing emergency credentialing during a disaster to large numbers of healthcare personnel. Under such conditions, the current activities required of hospitals to provide emergency professional credentialing are too cumbersome. The following examples illustrate the point. After the 1994 Northridge Earthquake, Granada Hills Community Hospital was receiving many more casualties than it could handle and requested additional staff. UCI Medical Center responded by sending a team of emergency department nurses, attendings and residents to Granada Hills. The standard process of emergency credentialing was so burdensome, it was abandoned. Data from this experience has been published.<sup>12</sup> After collapse of the World Trade Center structures on September 11, 2001, some hospital administrators reported that they were unable to use healthcare volunteers because they could not verify their medical or other credentials. Administrators were unable to confirm volunteer physicians'

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identities or basic licensing or credentialing information, including training, skills, competencies, and employment. Failure of communications systems prevented hospitals from contacting other sources that could have provided verification.<sup>10</sup>

Several potential solutions exist but have significant limitations. The federal government supports and endorses programs that can provide additional medical support to stricken areas. These include the Medical Reserve Corps (MRC), the National Disaster Medical System (NDMS) and its associated Disaster Medical Assistance Teams (DMAT), and the Public Health Service Commissioned Corps. While members of these organizations would meet JCAHO standards for emergency hospital credentialing, it is still not possible for hospitals to rapidly determine the skill and proficiency (competency) of these volunteers during a disaster. Research sponsored by HRSA determined that hospitals would be reluctant to utilize physicians unless they were convinced the practitioners were highly qualified and met Type 1 standards (Table 3).<sup>13</sup> Since membership in the MRC, in DMATs, and in the Commissioned Corps does not require physicians to meet these standards (as evidenced by the required documentation submitted during the application process for membership in these organizations), hospitals might avoid granting privileges to such practitioners.

States can obtain assistance from other states using the Emergency Management Assistance Compact (EMAC). Enacted by Congress in 1996 and administered by the National Emergency Management Association, this agreement permits the exchange of aid across state lines following a disaster. There are inherent delays of 6 to 24 hours in implementing the EMAC as it first requires a declaration by the governor and mobilization of state offices of emergency management. The EMAC does permit recognition of licensed health care providers across state lines and provides liability and workman's

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compensation protection. However, it does not verify the credentials of health care volunteers to the extent that many hospitals will require. The EMAC system only provides recognition for out-of-state licenses with respect to emergency credentialing. It does not provide for identification of the individuals expertise and competence (emergency physician with full hospital privileges versus a licensed general practitioner working in a free clinic that hasn't seen a critical patient in 10 years and does not qualify for hospital privileges). As such, hospitals will have the same issues utilizing these practitioners as those from federal agencies.

HRSA's critical benchmark #2-4: *Surge Capacity: Advance Registration System* has attempted to address the problem. This benchmark requires that awardees under the National Bioterrorism Hospital Preparedness Program develop a system for the advance registration and credentialing of clinicians to augment the care provided by hospitals or other medical facilities during a declared emergency. These efforts have resulted in the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP). This program is currently in the development phase with grants awarded by HRSA to establish cooperative agreements in establishing a pre-registration system for emergency volunteer health professionals. It is the expectation that the ESAR-VHP will be a state-based system, forming a national network allowing volunteers to participate in emergencies. Each state provides verifiable, up-to-date information regarding volunteer identity and credentials.<sup>14</sup>

Several flaws remain in the design of ESAR-VHP, and these will significantly limit its ultimate utility for hospitals. First, it requires the active recruiting of volunteers. Prospective professionals must be convinced to apply for membership and complete the application process. This process is labor

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intensive and means many eligible health care providers will not be included. Even after individuals volunteer, states must expend resources to continuously maintain both the credentialing information database and the enthusiasm of volunteers for ongoing participation in the program.

Second, the program is expensive. To date, HRSA has expended almost \$10,000,000 funding the concept and the system is still in the developmental stages. On-going costs will include system design, collecting health volunteer registrations, collecting credentialing information, supporting emergency verification and use, and system maintenance.<sup>15</sup> While no final cost estimate is currently available, it appears reasonable that the ultimate expense will be substantial and will continue into the foreseeable future.

Third, the program is administered by the states. It is possible that states may differ on how extensive their credentialing requirements might be. For physicians, some states may set their standards below that for Type 1 (defined by HRSA as physicians meeting the criteria listed in Table 3).<sup>13</sup> These are the only class of physicians that meet hospital credentialing criteria. Type 2 through Type 4 physicians possess progressively less documentation of credentialing elements and so do not meet all the criteria for Type 1 practitioners. This would make the use of such physicians by hospitals problematic. In addition, the location of the database at the state level introduces inevitable bureaucratic delays in utilizing the resource. Hospitals will have to get the information from the state, which takes time.

Lastly, the program is currently targeting physicians, nurses, and behavioral health professionals only. While these individuals would be adequate to support many types of medical assistance after a disaster (DMAT support of hospital evacuation, staffing of independent clinics, etc), limiting emergency



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credentialing to just these professions will provide inadequate support to significantly supplement hospital surge capacity. For hospitals to increase patient care capacity, additional radiology technicians, respiratory therapists, pharmacists and others are needed. ESAR-VHP has plans to eventually include such health care providers, but does not do so currently and it is not clear when final implementation will occur.

Although the programs listed above can deliver volunteer health care workers to a stricken area and provide some degree of emergency credentialing, an efficient system for the rapid recruitment and emergency credentialing of volunteer physicians, nurses, behavioral health professionals, and ancillary medical personnel that can reliably support hospital surge capacity remains elusive. Prior to arrival of external disaster response resources, it is important that hospitals within a local region be able to rapidly expand staff to meet a sudden rise in demand for health care. We propose an innovative solution to resolve this dilemma.

## **Proposal**

Our proposed solution creates a tool for rapidly credentialing volunteers to support the hospital's regional surge capacity program. This proposal will work with any licensed or credentialed member of a hospital staff, as long as their certification is regulated by the state. The tool is coordinated by a regional authority, such as a county medical society, nursing association, hospital association, or the county/regional health care agency.

The tool is a database created from information on the region's healthcare providers and is hospital-based. The primary component of this tool is a database created by each hospital that includes credentialed physicians,

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nurses, behavioral health professionals, and ancillary staff. The database will be limited to physicians with full privileges who are members of the medical staff and all licensed/credentialed hospital employees in good standing not currently facing disciplinary issues or practice restrictions. Most institutions already maintain this information in some form (medical staff office, nursing office, human resources, etc). Our tool would simply combine this information in one location. The database fields would include provider names, contact information, license number and date of expiration, the state licensing the individual, specialty designation and privileges, and name and phone number of the hospital providing primary credentialing. Sensitive information such as social security numbers and home addresses are not listed. Only information available publicly, such as that listed in the phone book or on state websites, will be included.

Interface issues are not a problem as each hospital would copy their information onto a standardized database using common software such as MicroSoft Excel. Each field in the database contains simple alphanumeric data that is easily entered (name, license number, specialty). Information from individual hospitals could then be easily combined by the agency maintaining the master database. Costs to individual hospitals would run approximately \$3000 (\$30/hour X 100 hours) per facility in administrative and information technology personnel time to initially establish the database. After this, the costs to institutions for updating the database yearly are minimal. Costs to the agency monitoring the database would also run approximately \$2500 (\$30/hour X 80 hours) a year in administrative personnel time (combine the databases from hospitals, contacting delinquent hospitals, sending the database out to participating hospitals).

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The individual databases would then be collectively stored on a single computer system housed at the county health care agency, the local medical society, the hospital association, or other mutually acceptable organization. This agency would be responsible for maintaining the database, with periodic updates provided by participating hospitals as they routinely re-credential their staff. Given the limited number of data fields included, a simple database system using “off-the-shelf” software and portable digital storage such as flash drives or CD-ROM discs would allow for use of the database on laptop computers if required. Security features to prevent unauthorized access are needed. However, this should not be a problem as hospitals routinely store and protect personnel data. Once all regional data are collected, the information would be sent to all the participating hospitals and the state. Thus, each participating hospital has its own copy of the database for all practitioners within its jurisdiction. Even if communications fail or the master database is destroyed, hospitals will have access to their copy stored on-site. The regional databases are a shared resource by the state and local communities.

The following example illustrates how the proposed system functions. After a large disaster, such as an earthquake, health care workers from unaffected areas of the local community can approach impacted hospitals and volunteer their services. Each volunteer will provide three pieces of information: a driver’s license or picture identification, a professional license (MD or RN) or hospital badge, and the name of hospital where they work. The first two are part of the JCAHO standard on disaster privileges.<sup>9,11</sup> The third one helps the hospital staff member providing the screening to find the volunteer in the database and confirms hospital affiliation in case the volunteer cannot produce a hospital badge. Failure to offer any of this information disqualifies an individual

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from participating. After providing this information to the hospital, the emergency credentialing database is accessed to verify these data. If the information is accurate, the individual is given disaster privileges at the impacted hospital for 72 hours in his or her specialty. This 72 hour period is chosen because it covers the duration of most acute disasters and is the time frame JCAHO gives hospitals under most circumstances to obtain direct verification of licensure. The time frame can be extended based on the hospital's needs. This process is accurate, minimizes phone calls and paperwork, and permits the credentialing of large numbers of medical volunteers. Using this system, a volunteer can be credentialed in approximately one minute. Currently, there is no evidence to suggest that any other available system can provide this level of detailed verification as rapidly.

For a more slowly evolving event, like a bioterrorist attack, hospitals might have more time to augment their staff. Hospital staff could then contact providers with special skills individually by phone, fax, etc and request their assistance. Typical specialists needed for a bioterrorist event might be those trained in infectious disease, respiratory therapy, dermatology, and ICU nursing.

In the same manner, neighboring regions within a state or other states can provide assistance. For example, if State A requests additional health care providers from State B after a disaster, it can use the database from State B to credential State B's volunteers. All providers on the database would meet hospital requirements for credentialing in their profession.

### **Advantages**

This credentialing tool has many advantages. It will work for all types of disasters, whether there is time to call in volunteers (bioterrorist event) or if one

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must rely on those who appear spontaneously after a sudden impact event (terrorist attack, hurricane). Implementation of the credentialing tool can be expanded across the country, as almost all hospitals in the United States use the credentialing standards of the Joint Commission. If this program had been fully implemented prior to September 2001, hospitals within New York City could have utilized many of the medical volunteers offering help without hesitation.<sup>10</sup>

This emergency screening of local health care providers takes advantage of the lengthy, detailed credentialing done by hospitals as part of their usual operating procedures to maintain medical, nursing, and ancillary staff. The tool maximizes the number of immediate and local potential volunteers by including almost all providers without the expense and burden of creating an entirely new system of pre-screened volunteers. It is not clear how many individuals would go through an entirely separate credentialing system for disasters. If the current level of physician participation in the NDMS system is any indication of enthusiasm for such efforts, however, one might conclude that the pool of volunteers could be less than desired.<sup>16</sup> Many health care professionals spontaneously volunteer after disasters. Unfortunately, they often interfere with first responders in the field, rather than provide assistance.<sup>17</sup> This system channels the good will of medical volunteers into appropriate activity by enlisting their support at hospitals, where they can function effectively. It is acknowledged that provider education on system use will be necessary to maximize effectiveness of the volunteer effort. However, education will be necessary regardless of the credentialing system eventually employed.

JCAHO also recognizes the importance of improving emergency credentialing of volunteers. In draft language recommending changes for the 2006 Comprehensive Accreditation Manual for Hospitals, the Joint Commission

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suggested that, “Another approach to enhancing the availability of healthcare professionals in an emergency or disaster is to include provisions for accepting the credentials maintained by other healthcare organizations as part of a state-wide emergency credentialing program”.<sup>18</sup> The final language for standards HR.1.25 and MS. 4.110 reflect this concept. In the section describing the kinds of documentation a health care provider must produce to obtain disaster privileges at another institution, the standards state, “Volunteer practitioners must at a minimum present...at least one of the following: a current hospital picture identification card that clearly identifies professional designation...”.<sup>9,11</sup> Here, JCAHO clearly recognizes the validity of another hospital’s credentialing process. These standards provide further support for alternative methods of credentialing volunteers in an emergency.

In addition, the database can be valuable in assisting other organizations in the performance of their duties. An example is the experience of the California Highway Patrol (CHP) after the 2005 La Conchita landslide. When access roads to hospitals were blocked, CHP officers were unable to verify that individuals trying to cross police lines were really health care workers trying to get to these institutions. Had such a database been in existence, they could have easily confirmed the occupations of individuals attempting to cross police lines. The CHP is currently revising its policies and procedures to accommodate such a database, should it be employed.

To fully implement this proposal, relief from liability will play a role as will the provision of workman’s compensation coverage, and either state or national intervention may be required. This will be true regardless of what type of emergency credentialing system is eventually adopted. There is precedent for this relief with respect to individuals. Waiver of liability and workman’s

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compensation coverage has already been accomplished in Connecticut, where a more limited volunteer credentialing program is under development.<sup>19</sup> These protections are activated when the hospital implements its emergency management plan, and does not require waiting for an official disaster declaration. Many states have implemented “Good Samaritan” legislation which may protect unpaid volunteers from civil (but not criminal) liability.<sup>19-21</sup> The federal government can provide liability protection to volunteers by making them temporary agents of the government.<sup>22</sup>

Liability protection for hospitals is less well defined. Most current remedies address liability for individual responders only. Explicit protection for institutions is limited.<sup>22</sup> State and federal legislation will be needed to provide hospitals with the same level of indemnification during disasters as is available to volunteers. It remains unclear whether hospitals will permit individuals to practice at their institutions without proceeding through the normal credentialing process unless they are indemnified from liability.

### **Limitations**

The hospital-based credentialing system has several limitations. It does not address medical practitioners that work in the community but do not have hospital privileges. However, the database would not prohibit these practitioners from participating in DMATs and the MRC for deployment to the field, clinics, or adjacent to hospitals. They just could not provide care within hospitals.

Critical providers not in the medical field, such as dentists, veterinarians, and psychologists are also not included. However, databases for these professions exist and it would not be difficult to incorporate these databases into the hospital

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tool.<sup>23</sup> A comparison of the ESAR-VHP and hospital-based credentialing systems is summarized in Table 4.

Another issue is the potential compatibility problems between various hospital personnel data systems. While simple downloading of raw data from multiple hospital systems will be problematic, the type of information required is limited to alphanumeric characters. Copying this information from the hospital system is not difficult and could be easily transposed to a uniform platform, such as MicroSoft Excel. Uploading information using this type of software would be relatively simple. Ongoing technology development has also improved compatibility issues. The Real-time Outbreak and Disease Surveillance system (RODS), a syndromic surveillance software package, must access hospital information systems to function. It has been successfully configured to run at multiple institutions across the United States.<sup>24</sup>

### **Other Involved Organizations**

Besides the hospitals, the county health care agencies and state offices of emergency management must be involved, as they have important responsibilities in managing disaster preparedness and response. Involvement by county and state medical societies, nursing associations, and hospital associations are also extremely desirable, whether or not they assume responsibility for maintaining the database. Leadership by such organizations will be valuable in implementing this project. Several organizations within California have reviewed this concept and submitted letters of endorsement to the state, including the California Medical Association, Orange County Medical Association, Santa Barbara County Emergency Medical Services Agency, and the Santa Barbara County Medical Society (letters available upon request).<sup>25-28</sup>



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The medical staff of the hospital in which the authors of this paper practice has also endorsed the concept and voted to participate should it be implemented.<sup>29</sup>

## **Conclusion**

We propose a hospital-based tool for the emergency credentialing of volunteer health care providers whose skills and knowledge can be immediately utilized in a disaster or large scale emergency. The database tool, comprised of practitioner information from participating hospitals, takes advantage of the extensive credentialing process for health care professionals that is required of hospital systems. This credentialing tool, if successful, could provide an inexpensive, efficient, and sustainable method for credentialing volunteers for the foreseeable future. The proposed system has not yet been implemented or tested. However, it holds out the promise of potentially improving utilization of volunteer health care expertise at the local, regional, and national levels after a disaster or public health emergency.

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**Table 1. Recommendations for increasing hospital bed capacity<sup>5</sup>**

- Clear ED of ambulatory patients
- Cancel elective procedures and admissions
- Increase the number of ED screening areas
- Acceptance of admitted patients from the ED into “hallway” beds
- Early discharge of stable in-patients
- Convert private rooms to double occupancy
- Utilize non-patient care areas (lobbies, classrooms) for patient care
- Utilize temporary external shelters (tents, mobile trailers)
- Utilize alternative care sites



**Table 2. Credentialing process for all physicians requesting hospital privileges<sup>6-8</sup>**

Current Licensure

Submit copy of photo identification

Submit copy of current state medical license

Primary source verification of licensure through direct communication with state medical board

Education and Relevant Training

Submit copy of medical school diploma

Submit copy of residency completion certificate

Submit copy of specialty board certification

Primary source verification of above certification through letters from issuing institutions. If not possible, secondary sources must be contacted. These include the American Medical Association, American Board of Medical Specialties, Educational Commission for Foreign Medical Graduates, American Osteopathic Association, and Federation of State Medical Boards

Experience, Ability, and Current Competence

Submit letters of recommendation from peers documenting applicant's medical knowledge, technical/clinical skills, clinical judgment, interpersonal skills, communication skills, and professionalism

Provide evidence of ability to perform requested privileges

Verify data on applicant from current institution

Hospital must query the National Practitioner Data Bank

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Applicant submits declaration describing challenges to any licensure or registration; voluntary and involuntary relinquishment of any license or registration; voluntary and involuntary termination of medical staff membership; voluntary and involuntary limitation, reduction, or loss of clinical privileges; any evidence of an unusual pattern or an excessive number of professional liability actions resulting in a final judgment against the applicant; documentation as to the applicant's health status; relevant practitioner-specific data as compared to aggregate data, when available; and morbidity and mortality data, when available

**Table 3. Credential Elements for Type 1 Physicians<sup>13</sup>**

<b>Required Credential</b>	<b>Status</b>
Unencumbered License	Confirmed
Degree	Confirmed
ABMS Board Certification	Confirmed
Active Clinical Practice (Patient Care) or Active Clinical Privileges (Hospital)	Confirmed
National Practitioner Databank Status	No restrictions
DEA License	Confirmed
Inspector General Status	No restrictions

**Table 4. Characteristics of ESAR-VHP<sup>a</sup> and Hospital-based system<sup>13-15</sup>**

<u>ESAR-VHP</u>	<u>Hospital-based Credentialing</u>
State-based, more difficult to activate and access	Community-based, rapid activation and simple access
Requires recruitment and active decision to volunteer. Greater complexity of effort to maintain. Not capture all eligible participants	Automatic enrollment. Simple to maintain. Captures all eligible participants.
Quality of professionals can vary state by state	Uniform quality of professionals
Expensive, requires dedicated central computer database and necessary support	Inexpensive, utilizes existing organizations
Includes non-hospital volunteers (dentists, based veterinarians, psychologists)	Does not include non-hospital practitioners

<sup>a</sup> ESAR-VHP: Emergency System for Advance Registration of Volunteer Health Care Personnel