



DEPARTMENT OF VETERANS AFFAIRS  
**OFFICE OF INSPECTOR GENERAL**

*Office of Audits and Evaluations*

VETERANS HEALTH ADMINISTRATION

VHA Needs More Reliable  
Data to Better Monitor  
the Timeliness of  
Emergency Care

AUDIT

REPORT 20-01141-145

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## Executive Summary

The VA Office of Inspector General (OIG) conducted this audit to determine whether Veterans Health Administration (VHA) oversight of emergency departments ensured patients received emergency care services in a timely manner and whether facilities made any needed improvements to the patient flow process. Emergency departments measure timeliness using software that records patient flow—the movement of patients through a facility from arrival to discharge or admission. The accurate recording of emergency data is critical to monitoring the timeliness of emergency medical care to the approximately 2.3 million patients who visit VHA’s 110 emergency departments each year, including those with life-threatening conditions. The OIG recognizes that emergency departments are, by their nature, responding to unpredictable numbers of patients with a wide range of health conditions.

This report does not assess the appropriateness of the times assigned to each stage in the emergency services process. Moreover, the OIG’s identification of wait times that exceed VHA performance thresholds for various stages in the emergency services process cannot be used as a sole determinant of performance. In some cases, as the result of putting patient care first, the complexity or severity of the case or the overall volume of patients at a particular time may require longer periods in the emergency department. The identification of lengthy wait times, however, should be seen as an indicator to further investigate whether patients are receiving prompt access to needed care and whether improvements and corrective actions are needed.

### What the Audit Found

The OIG found the data VHA used to determine how long emergency department patients waited to be seen, treated, and discharged were inconsistently entered and contained inaccuracies. These data problems in turn hindered the identification of needed improvements in the patient flow process and the effectiveness of corrective action plans. Using electronic health records to further evaluate the wait times of high-risk patients, the OIG did not always identify evidence in the patients’ records that showed VA medical facilities provided emergency care within the timeliness thresholds set by VHA. The OIG recognizes that emergency department staff may provide care first out of necessity, before documenting care electronically.

### **VHA Lacked Reliable Data to More Accurately Assess Patient Flow and Wait Times in its Emergency Departments**

Records for about 618,000 of the 4.6 million total patient visits at 110 VHA emergency departments during fiscal years (FYs) 2018 and 2019 contained potentially inaccurate data entries that impeded VHA’s monitoring of patient flow and wait times in its emergency departments. Some emergency departments had a greater risk of unreliable data than others. The team’s analyses found that 66 of the 110 emergency departments had potential data inaccuracies

of 10 percent or more of their visits during the two-year period. Three types of potential inaccuracies occurred in data entry: (1) emergency department staff recorded times that were out of sequence according to VHA's patient flow process; (2) doctors assigned themselves to three or more patients within one minute—an indicator that they were not either seeing each patient or reviewing their charts immediately before seeing them, as required; and (3) edits made to patient discharge or admission times that reduced the appearance of their overall length of stay in the emergency department. The OIG considered these visits to contain potential inaccuracies (versus confirmed inaccuracies) because the audit team did not review electronic health records for each of these visits to determine whether the wait times were inaccurately recorded or skipped for a valid reason. In some cases, the electronic health records had more accurate information than the data entered for determining wait times. The OIG also acknowledges that it may be appropriate for a patient in obvious critical condition to skip the routine triage process and to be seen immediately by an emergency department doctor.

Emergency department employees were not clear in interviews with the audit team on when they should record triage times in the Emergency Department Integration Software (EDIS). Their interpretations of VHA's guidance concerning when to record triage times varied and they were not required to take EDIS training.

Also, the audit team identified what appeared to be manipulation of the data unrelated to clinical demands by a former Baltimore VA Medical Center emergency department director, who has since been replaced. This director made more than 14,700 favorable edits that made patient discharge or admission times appear shorter than actual wait times. The edits occurred during FYs 2018 and 2019 and affected records of about 30 percent of the more than 49,600 total patient visits to that emergency department. More than half the edits were made in increments of exactly 60 minutes or otherwise decreased the patient's length of stay to below VHA's target of six hours.<sup>1</sup>

Neither the National Program Office of Emergency Medicine nor facility leaders detected these inappropriate edits because their four autogenerated data reliability metrics were not specifically designed to identify them. The program office director said he did not have the staffing and resources to conduct additional data reliability assessments to identify additional potential inaccuracies. The director made several attempts from November 2017 through September 2019 to obtain additional staff to provide more comprehensive oversight. The director's requests for additional staff either went unanswered or were rejected due to a lack of funding. Importantly, Veterans Integrated Service Network (VISN) and facility leaders relied on these autogenerated

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<sup>1</sup> In April 2020, after the audit team briefed Baltimore leaders on these inappropriate edits in February 2020, the Baltimore VA Medical Center chief of staff told the audit team that the facility had replaced the emergency department director.

metrics to ensure emergency department data was accurate and patients received emergency services in a timely manner.

Using the compiled data, the program office assessed whether facilities had “high operational vulnerability” based on seven wait-time and performance metrics.<sup>2</sup> VHA designated facilities as being highly vulnerable when they did not meet at least four of these seven wait-time thresholds during a quarter. Facilities designated as highly vulnerable were required to develop corrective action plans. Because the data were inconsistently entered and contained inaccuracies, leaders may have missed opportunities to make meaningful improvements at some facilities.

### **Evidence Indicated High-Risk Patients May Not Have Always Received Emergency Care in a Timely Manner**

Using other data sources, the audit team focused on the timeliness with which patients with the highest Emergency Severity Index (ESI) levels of one or two received emergency care. Patients with this designation of ESI levels of one or two accounted for more than 545,000 (about 12 percent) of the nearly 4.6 million patients who visited an emergency department during the review period. These patients were considered high-risk or had potentially critical conditions, and EDIS data indicated they did not always receive emergency care services within VHA timeliness thresholds. The program office director reported that it is standard practice of emergency departments to provide clinical care first to acutely ill patients rather than prioritizing real-time documentation of care. VHA’s emergency medicine improvement initiative set performance thresholds for serving all patients, regardless of ESI level, to be seen by an emergency department doctor within 50 minutes in FY 2018 and 40 minutes in FY 2019 after arrival at an emergency department.<sup>3</sup>

Because VHA’s EDIS data were not always accurate, the audit team reviewed the electronic health records for a sample of 185 ESI level one and two patient visits from a population of visits in which EDIS data indicated a door-to-doctor time of 40 minutes or more, and did not find

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<sup>2</sup> VHA’s National Program Office of Emergency Medicine evaluates facility performance based on seven wait time and performance metrics (targets and thresholds). According to VHA’s Emergency Medicine Improvement Initiative Performance Plan, “Targets are used to differentiate exemplary performance from satisfactory performance” and “Thresholds are used to differentiate satisfactory from unsatisfactory performance.” The seven wait-time and performance metrics help the program office assess patient flow, service effectiveness, and operational summary metrics at the individual emergency departments, VISNs, and national levels.

<sup>3</sup> Veterans Health Administration, *Emergency Medicine Improvement Initiative (EMI) Performance Plan*, Plan Overview and Implementation Guidance (version 2.0), June 1, 2019. The improvement initiative states that, “Thresholds are used to differentiate satisfactory from unsatisfactory performance. In general, they reflect a level of performance achieved during the previous fiscal year by 80 percent of all sites.”

evidence in the records that 114 patients saw an emergency department doctor within the thresholds.<sup>4</sup>

The audit team consulted with the OIG's Office of Healthcare Inspections whose clinicians further assessed whether emergency department staff placed first orders for the 114 patients before seeing an emergency department doctor and found staff did so for 53 of those patients.<sup>5</sup> This was an important analysis because emergency department staff often placed orders earlier than when the doctor documented that the patient was examined; for example, they started radiologic and laboratory studies.<sup>6</sup> The healthcare inspections team did not identify evidence that an emergency department doctor saw, or staff placed first orders for, the other 61 patients within 40 or 50 minutes.<sup>7</sup> The OIG clinicians did not find that any of the 114 patients experienced clinically significant adverse outcomes due to their wait for emergency care.<sup>8</sup> The OIG recognizes that an electronic health record may not reflect if patient care occurred before the time stamp or after. Emergency department staff may provide care first out of necessity, before documenting care in the electronic health record.

VHA's program office did not separately assess the timeliness of emergency care provided to ESI one and two patients, instead evaluating ESI one through five patients together. One report allowed users to assess the aggregate timeliness of access to care for ESI one and two patients. VHA could potentially use this information to identify patients who exceeded VHA's door-to-doctor or other wait-time metrics. However, emergency department directors from three facilities told the audit team they did not separately identify and assess ESI one and two patients where data indicated emergency care services did not meet VHA's timeliness targets.

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<sup>4</sup> The sample of 185 patient visits was from a population of visits in which EDIS data indicated a door-to-doctor time of 40 minutes or more; the team assessed timeliness based on VHA's door-to-doctor performance threshold of 50 minutes in FY 2018 and 40 minutes in FY 2019. When reviewing the patients' electronic health records, the OIG team considered the earliest documented time in the record. Appendix A provides additional detail on the audit team's sample review.

<sup>5</sup> The OIG clinicians reviewed the entire care for the patients, including the time between each documented patient's arrival time at the emergency department and the entry time of the first orders. Orders or nursing protocols may be initiated before a provider examines the patient, resulting in earlier care than that documented with a time stamp. The orders directed diagnostic evaluations and clinical management that *may* have occurred before the ED provider's initial documentation. Further, the circumstances of delays could only be assessed if such delays were described in the electronic health record.

<sup>6</sup> In many cases, emergency department staff acted on standing orders so that relevant bloodwork or studies could be obtained and the results made available prior to the emergency department doctor examining the patient. The program office director stated that, "In many cases, consistent with approved practices, emergency department staff placed standing/protocolized orders so that relevant laboratory and/or imaging studies could be in process or resulted at the time of a provider's evaluation."

<sup>7</sup> Time stamps that represent metrics that were above threshold would contain more context if the medical records provided documentation of the reasons for the delays. Without that documentation, care could have still occurred within the timing goals.

<sup>8</sup> For the purpose of this review, the Office of Health Inspections team defined *clinically significant adverse outcomes* to be death or increased medical complications that resulted from excessive wait times.

While the patients assessed in this audit were not found to have experienced clinically significant adverse outcomes as a direct result of their wait, opportunities exist for VHA to improve its monitoring of ESI one and two patients receiving emergency care services.

## What the OIG Recommended

The OIG issued five recommendations to the under secretary for health to improve oversight of VHA's emergency departments, including ensuring the Baltimore VA Medical Center reevaluates its corrective action plan, making certain that staff receive appropriate training on how to accurately record triage times in EDIS, strengthening data reliability reviews to improve the accuracy of emergency department data, establishing routine oversight at the VISN and facility levels for data reliability, and monitoring data of patients with the highest ESI levels of one or two receiving emergency care services.

## Management Comments

The acting under secretary for health concurred with recommendations 1–4, concurred in principle with recommendation 5, and provided responsive corrective action plans for all recommendations. The acting under secretary for health stated that the program office took immediate action to enhance the integrity of data collected through EDIS due to OIG's early feedback during the audit. He reported that VHA completed actions to address recommendation 3 to strengthen data reliability reviews and provided supporting documentation which showed that the program office developed a reliability review tool to monitor retrospective edits. The OIG will consider closing that recommendation when VHA provides additional evidence to show the program office strengthened its reviews of the additional categories of potential inaccuracies identified in finding 1. Regarding recommendation 5, VHA concurred in principle with the understanding that the recommendation is for data monitoring of patients who are assigned an ESI level one or two. The OIG agrees that is the intent of the recommendation and clarified the recommendation in this report. The OIG will monitor implementation of all planned actions and will close the recommendations when the OIG receives sufficient evidence demonstrating progress in addressing the identified issues. The full text of VHA's comments appears in appendix B.



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## Abbreviations

EDIS	Emergency Department Integration Software
EMMT	Emergency Medicine Management Tool
ESI	Emergency Severity Index
FY	fiscal year
OIG	Office of Inspector General
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network



## Introduction

The VA Office of Inspector General (OIG) conducted this audit to determine whether Veterans Health Administration (VHA) oversight of emergency departments was effective in ensuring patients received emergency care services in a timely manner, and whether facilities made improvements to their patient flow process as needed.

Providing timely emergency medical care to some 2.3 million patients who visit VHA emergency departments each year—including patients with life-threatening conditions—is critical to achieving the organization’s mission. VHA needs reliable data to ensure effective oversight of its 110 emergency departments. Emergency medicine and facility leaders use emergency department data to identify delays in the patient flow process that can affect the quality of care and to identify where improvements are needed. When patients do not receive emergency care services in a timely manner, they are at greater risk for adverse outcomes. The OIG recognizes that emergency departments are, by their nature, responding to unpredictable numbers of patients with a wide range of health conditions.

### VHA’s National Program Office of Emergency Medicine

VHA’s National Program Office of Emergency Medicine is responsible for ensuring standardized, routine delivery of emergency care across all its facilities.<sup>9</sup> Data for fiscal years (FYs) 2018 and 2019 show VHA spent about \$3.5 billion on emergency care and had about 4.6 million patient visits to emergency departments during that period.

The program office has two half-time employees, including a national program director. Other VHA employees contribute to the program as needed. According to a VHA directive, the program office director “provides national leadership to and has advisory and consultative responsibility for all VA emergency medical services programs and initiatives” and acts as the “principal advisor to the Under Secretary for Health on emergency medicine policies and procedures pertaining to delivery of services.”<sup>10</sup>

### Patient Flow through VHA’s Emergency Departments

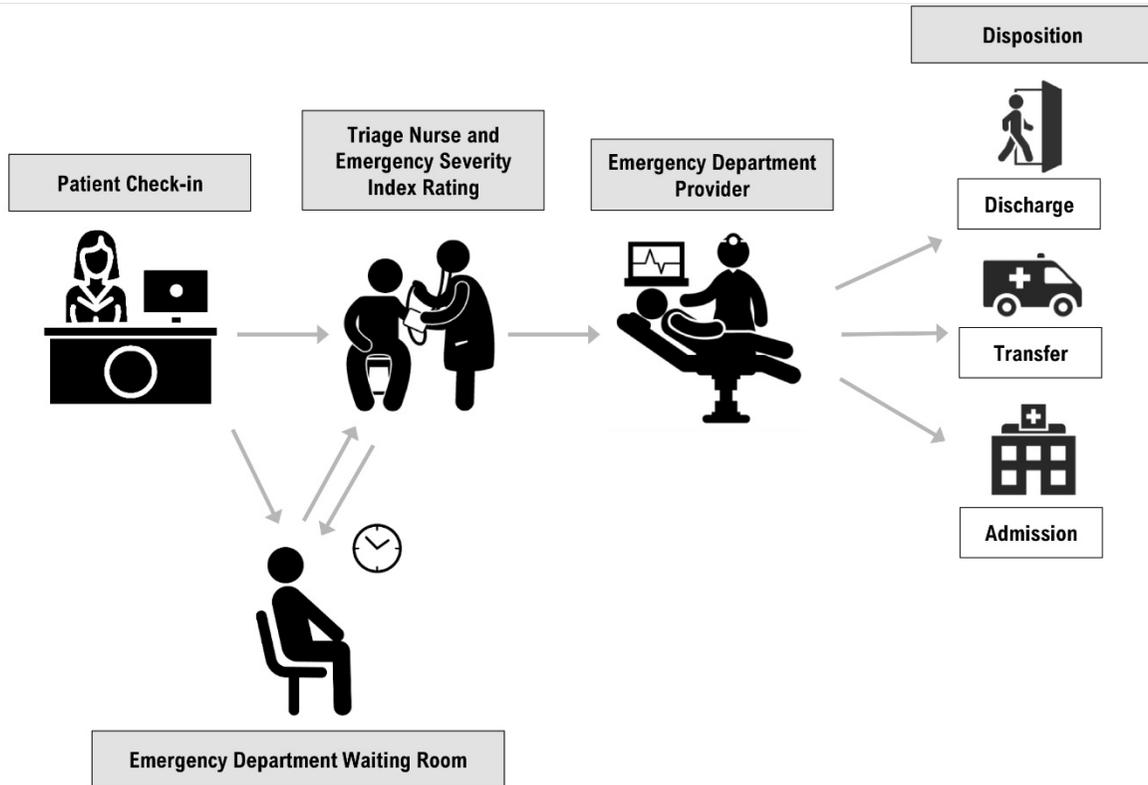
When patients arrive for emergency care at a VHA facility, they register or check in. Upon check-in, a nurse generally conducts a quick visual assessment to determine if the patients have life-threatening conditions requiring immediate care from emergency department doctors. The other patients may be sent to the waiting room or immediately referred to a triage nurse to determine the expected level of care required based on the patient’s symptoms, using a five-point

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<sup>9</sup> VHA Directive 1101.05(2), *Emergency Medicine*, September 2, 2016, amended March 7, 2017. This directive “established the minimum requirement to ensure all enrolled Veterans have access to quality emergency care.”

<sup>10</sup> VHA Directive 1101.05(2).

scale known as the Emergency Severity Index (ESI).<sup>11</sup> Using the ESI, doctors prioritize the order of when they see those patients. Importantly, doctors evaluate and treat the patients before determining whether they should be discharged, transferred to another medical facility, or admitted to an inpatient ward for additional care or observation. Emergency department employees collaborate with nonemergency department doctors in their facility to determine when inpatient beds will be available for those admitted. Figure 1 shows how the process generally works for patients who come to the emergency department with noncritical conditions.



**Figure 1.** Emergency department patient flow.  
 Source: OIG analysis of VHA’s emergency department patient flow documents.

## Emergency Department Integration Software

A VHA emergency medicine directive requires that all emergency departments use its Emergency Department Integration Software (EDIS), an electronic system that tracks patients’ care in real time throughout their stay.<sup>12</sup> It is important to note that emergency department

<sup>11</sup> Based on the Emergency Nurses Association ESI Implementation Handbook, emergency departments use the ESI to organize patients into five groups from one (most urgent) to five (least urgent) based on acuity and resource needs. The Handbook also stated patients who are assigned ESI levels one or two are generally considered to be high-risk or have life-threatening conditions. Additionally, VHA’s emergency medicine directive states the ESI evaluation categorizes patients into five groups by both acuity and resource needs.

<sup>12</sup> VHA Directive 1101.05(2).

employees input data, including times, into EDIS manually. VHA uses data from the system to track emergency department workload, evaluate patient care outcomes, and identify bottlenecks that may cause unnecessary delays in emergency care services. The OIG recognizes that emergency department staff may provide care first out of necessity, before documenting care electronically.

## **Emergency Medicine Management Tool**

VHA's Emergency Medicine Management Tool (EMMT), launched in 2013, is used by the program office to analyze the performance of emergency departments. EMMT receives daily transfers of data from EDIS and generates reports that include metrics related to patient flow, length of stay, data reliability, and summary operational metrics at the national, Veterans Integrated Service Network (VISN), and local levels.<sup>13</sup> EMMT is the tool used by VHA to manage compliance with EDIS requirements and track how each emergency department within VHA is performing; weaknesses in performance create what is known as operational vulnerability.

According to VHA's Emergency Medicine Improvement Initiative Performance Plan, facilities were designated as having unreliable EDIS data when they did not meet at least two of VHA's four data reliability metrics during a quarter. The four data reliability metrics were developed to assess whether facilities complied with the EDIS directive. Facilities were designated as having high operational vulnerability when they did not meet at least four of the seven wait-time and performance thresholds during a quarter that relate to patient flow and service effectiveness at individual emergency departments. These seven wait-time and performance metrics were generally developed to evaluate whether emergency departments were providing timely emergency services throughout the patient flow process.

Table 1 shows VHA's wait-time and data reliability metrics and performance thresholds. According to VHA's Emergency Medicine Improvement Initiative Performance Plan, VHA defines targets and thresholds in the following ways:

- Targets are used to differentiate exemplary performance from satisfactory performance. In general, they reflect a level of performance achieved during the previous fiscal year by the top 20 percent of all sites.
- Thresholds are used to differentiate satisfactory from unsatisfactory performance; therefore, performance is unsatisfactory if it exceeds the threshold. In general, they reflect a level of performance achieved during the previous fiscal year by 80 percent of all sites.

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<sup>13</sup> VHA is organized into 18 regional networks called Veterans Integrated Service Networks that manage and oversee medical facilities in their specified geographic areas.

**Table 1. VHA Emergency Department Metrics and Thresholds**

<b>Metric</b>	<b>Type of metric</b>	<b>Measurement</b>	<b>Performance threshold</b>
Emergency department arrival to triage (median time)	Operational vulnerability	Patient arrival to the first assignment of an ESI rating by a triage nurse.	≤ 15 minutes
Emergency department arrival to doctor (median time)	Operational vulnerability	Patient arrival to the first assignment of an emergency department doctor.	≤ 40 minutes
Emergency department arrival to admit decision (median time)	Operational vulnerability	Patient arrival to the emergency department doctor's decision to admit the patient.	≤ 210 minutes
Discharged patient length of stay (median time)	Operational vulnerability	Patient arrival to patient departure for patients being discharged home from the emergency department.	≤ 180 minutes
Admitted patient length of stay (median time)	Operational vulnerability	Patient arrival to patient admission to an inpatient unit.	≤ 360 minutes
Percent left without being seen	Operational vulnerability	An emergency department patient left before being seen by an emergency department doctor.	≤ 3.5 percent
Percent boarded is greater than four hours	Operational vulnerability	Visits when patients waited in an emergency department for more than four hours before being transferred to an inpatient ward. This period is measured from an emergency department doctor's decision to admit a patient.	≤ 25 percent

Metric	Type of metric	Measurement	Performance threshold
Appointment Manager system used	Data reliability	Emergency department employee established the patient's visit in the Appointment Manager system.	≤ 75 percent
Provider entry of assignment	Data reliability	Visits where the initially assigned provider matches the name of the person entering the initial provider assignment.	≤ 75 percent
Doctor entry of disposition	Data reliability	The same doctor who entered the first admission disposition was also assigned to the patient.	≤ 75 percent
Correct disposition	Data reliability	When the time difference between the doctor's decision to admit the patient and the departure time from the emergency department is greater than 15 minutes.	≤ 75 percent

Source: VHA's Emergency Medicine Management Tool User Manual V3, February 2019.

## Emergency Medicine Improvement Initiative Performance Plan

In October 2017, VHA implemented the Emergency Medicine Improvement Initiative Performance Plan. The key objectives are to improve patient flow, improve productivity, and increase standardization. Under the improvement initiative, emergency department leaders are expected to evaluate operational performance and EDIS data reliability quarterly to determine what, if anything, needs to be corrected. To make corrections, facility staff develop corrective action plans. The oversight is to increase based on the number of consecutive quarters VHA deems emergency departments to have unreliable data or high operational vulnerability. Figure 2 shows the increasingly demanding corrective action plan requirements and the responsibilities of the program office, VISN, and facilities, given the length of time thresholds are exceeded. The goal of the improvement initiative is to identify and assist emergency departments that did not meet VHA's data reliability or wait-time metrics. Facilities that exceeded four or more of the seven wait-time or performance thresholds were considered to have high operational vulnerability.

First quarter	Two consecutive quarters	Three consecutive quarters	Four consecutive quarters
<ul style="list-style-type: none"> <li>• <b><u>Level of Escalation*</u></b></li> <li>• Emergency department/ urgent care center medical director and nurse manager, VISN emergency medicine lead</li> <li>• <b><u>Actions Required</u></b></li> <li>• Corrective action plan and analysis submitted to Emergency Medicine program office</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Level of Escalation*</u></b></li> <li>• Facility director, chief of staff, associate director for patient care services</li> <li>• <b><u>Actions Required</u></b></li> <li>• Corrective action plan and analysis submitted by facility leaders to program office</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Level of Escalation*</u></b></li> <li>• VISN chief medical officer and VISN director</li> <li>• <b><u>Actions Required</u></b></li> <li>• Facility / VISN review and update of action plan</li> <li>• Submission of action plan to program office by VISN</li> <li>• VISN virtual / onsite consultation</li> </ul>	<ul style="list-style-type: none"> <li>• <b><u>Level of Escalation*</u></b></li> <li>• Central office clinical operations</li> <li>• <b><u>Actions Required</u></b></li> <li>• Program office virtual/onsite consultation</li> <li>• Site consideration of VHA-wide improvement effort</li> <li>• Ongoing communication with program office</li> </ul>

**Figure 2.** The program office’s quarterly review and escalation process.

Source: The audit team’s analysis of VHA’s Emergency Medicine Improvement Initiative Performance Plan.

\*The level of escalation refers to the person(s) who should help identify causes and develop corrective actions.

This report does not assess the appropriateness of the times assigned to each stage in the emergency services process. Moreover, the OIG’s identification of wait times that exceed VHA performance thresholds for various stages in the emergency services process cannot be used as a sole determinant of performance. In some cases, as the result of putting patient care first, the complexity or severity of the case or the overall volume of patients at a particular time may require longer periods in the emergency department. The identification of lengthy wait times, however, should be seen as an indicator to further investigate whether patients are receiving prompt access to needed care and whether improvements and corrective actions need to be taken.

## Results and Recommendations

### **Finding 1: VHA Lacked Reliable Data to More Accurately Assess Patient Flow and Wait Times in Its Emergency Departments**

Emergency medicine and facility leaders use emergency department data to identify wait times and opportunities to improve the patient flow process. The audit team analyzed EDIS data for 110 emergency departments and found that about 618,000 of the 4.6 million total emergency department patient visits during FYs 2018 and 2019 (about 14 percent) contained potentially inaccurate data entries that can impede VHA's monitoring of patient flow and wait times. Some emergency departments had a greater risk of unreliable data than others. The team's analyses found that 66 of the 110 emergency departments had potential data inaccuracies of 10 percent or more of their visits during the two-year period. Potentially inaccurate entries included times that were recorded out of sequence according to VHA's patient flow process, doctors' assignments to themselves of multiple patients almost simultaneously, and inappropriate edits to patient departure times made by one emergency department director that made patients' stays appear shorter. The OIG considered these visits to contain potential inaccuracies (versus confirmed inaccuracies) because the audit team did not review electronic health records for each of these visits to determine whether the wait times were inaccurately recorded or skipped for a valid reason. The OIG acknowledges that it may be appropriate for a patient in obvious critical condition to skip the routine triage process and to be seen immediately by an emergency department doctor.

Potentially inaccurate entries may have occurred in part because emergency department staff were unclear on VHA's guidance on when to record patient triage times, and emergency department staff may not have been properly trained on EDIS.<sup>14</sup> The program office used four autogenerated data reliability metrics to determine whether facilities had reliable EDIS data. The program office designated facilities as having unreliable EDIS data when they did not meet at least two of VHA's four data reliability metrics during a quarter. The types of potential inaccuracies and inappropriate edits found in this audit went undetected by the program office's data quality reviews because the autogenerated metrics were not designed to identify them. The program office director said the office did not have enough staff to conduct additional data reliability assessments. VISN and facility leaders relied on the autogenerated data quality metrics to ensure their data were accurate. VHA did not require VISN and facility leaders to conduct additional data reliability assessments.

The accuracy of patient flow data is important for emergency medicine and facility leaders to identify delays in the process that can affect timely care, and to identify where corrective action

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<sup>14</sup> EMMT User Manual, *Emergency Medicine Management Tool*, Version 1.0, February 2014.

is needed. As a result of the unreliable data, leaders did not always have an accurate understanding of how long patients waited to receive care. Moreover, at some facilities, corrective action plans based on unreliable data may not improve patient access to emergency services, as intended.

## **What the OIG Did**

The audit team reviewed EDIS data from all of VHA's 110 emergency departments to assess the accuracy of their patient flow information. The audit team interviewed leaders in VHA emergency medicine, VISNs, facilities, and emergency departments, as well as other staff, and visited three VA medical facilities in Baltimore, Maryland; Biloxi, Mississippi; and San Diego, California.

To assess VHA's emergency department data, the audit team performed several analyses of the EDIS data from FY 2018 through FY 2019 for key steps in the patient flow process. These analyses were conducted to identify wait-time data recorded out of sequence, doctors who assigned themselves three or more patients within one minute, and revised patient departure times to shorten the duration of stay. To further assess the departure-time edits, the audit team reviewed a statistical sample of 30 individual EDIS records from the Baltimore VA Medical Center to determine whether information in the patients' electronic health record supported the revised times entered. The audit team focused their sample review on Baltimore because the emergency department director made more edits to patient departure times than any other facility and because the audit team identified patterns with how the edits were made, such as in exact increments of 60 minutes or 120 minutes.

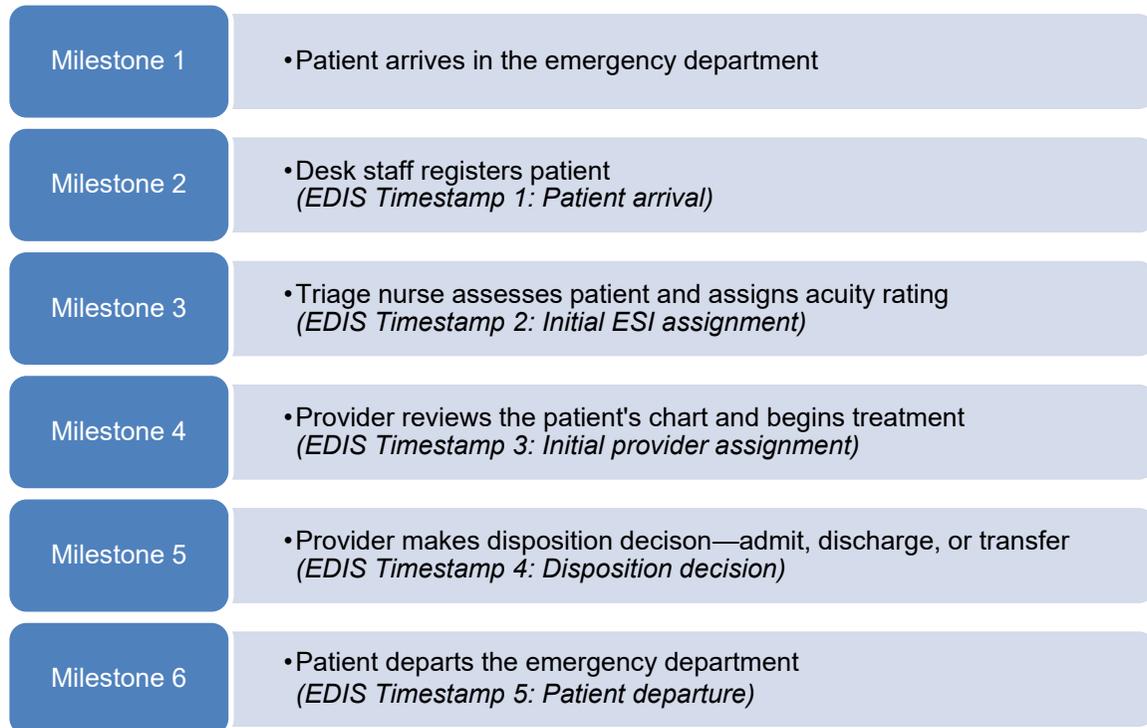
The audit team also sought corrective action plans from facilities that were required to complete them based on VHA's Emergency Medicine Improvement Initiative Performance Plan. The audit team reviewed these plans to assess whether the facilities included key elements, such as schedules for implementing their goals. The audit team also interviewed leaders and staff to assess oversight of the action plans.

The following issues are discussed in support of finding 1:

- Emergency medicine and facility leaders used patient flow data to monitor wait times.
- Employees inaccurately recorded times in EDIS.
- EDIS guidance was unclear and training on the system was not required.
- VHA's data reliability reports did not detect inaccurate entries.
- VISNs and facilities did not ensure tracking system data were accurate.
- Emergency departments developed corrective action plans but may have missed opportunities to make additional improvements at some facilities.

## Emergency Medicine and Facility Leaders Used Patient Flow Data to Monitor Wait Times

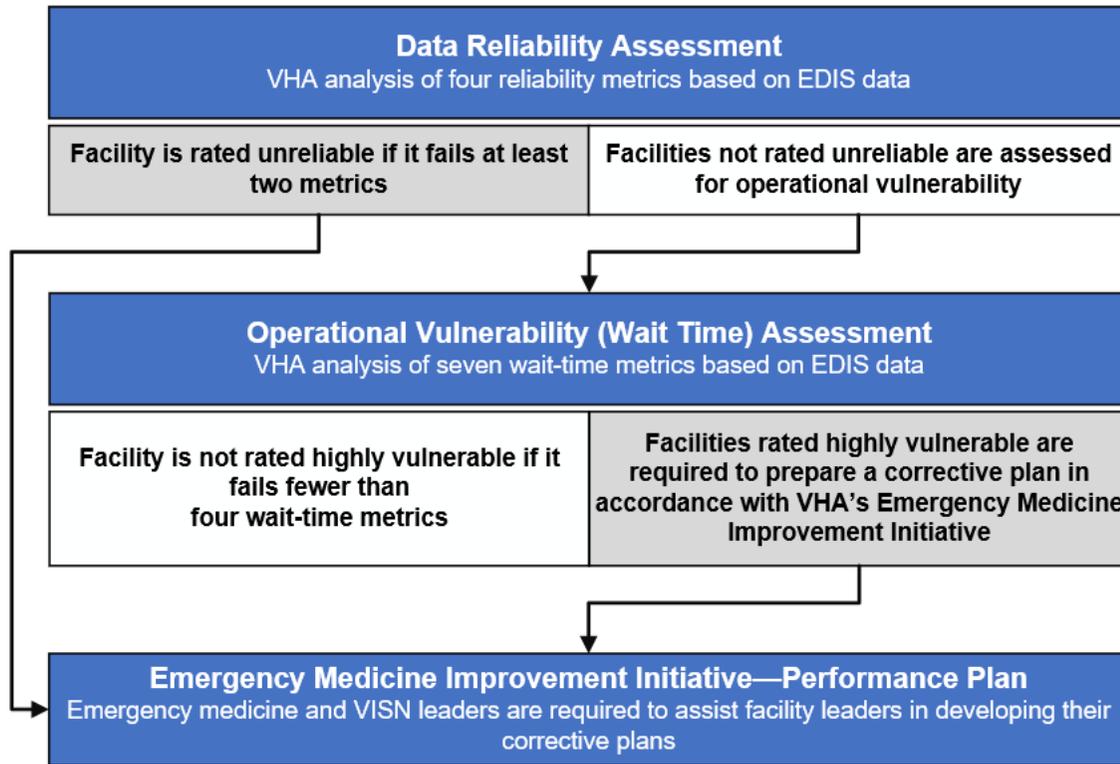
Emergency medicine and facility leaders relied on recorded data to determine whether patients received emergency care services in a timely manner throughout the emergency department. Figure 3 shows the order of patient flow through an emergency department and identifies points in the process where employees should record times in EDIS.



**Figure 3.** Emergency department patient care milestones and key EDIS time stamps.  
Source: OIG analysis of emergency department patient flow and data capture through EDIS.

EDIS data was transferred to EMMT daily. The program office captured EMMT data in quarterly reports to identify facilities that exceeded wait-time and data reliability metrics. According to the improvement initiative, the emergency medicine director used EMMT as a tool to assess the overall operational vulnerability of VHA’s emergency departments. When EMMT data reliability metrics indicated an emergency department had reliable data based on four criteria, the program office assessed whether the department had “high operational vulnerability”

based on seven wait-time and performance metrics.<sup>15</sup> Facilities designated highly vulnerable, defined as not meeting performance thresholds on four or more wait-time metrics in one quarter, were required to develop corrective action plans. When EMMT data reliability metrics indicated an emergency department had unreliable data, the program office could not effectively assess the department’s operational vulnerability, and instead required the department to develop an action plan to improve the reliability of its data. Figure 4 summarizes a portion of the program office’s oversight of emergency departments through EMMT metrics.



**Figure 4.** VHA’s Quarterly Emergency Medicine Performance Monitoring Process  
 Source: OIG analysis of VHA’s Emergency Medicine Improvement Initiative Performance Plan and VHA’s Emergency Medicine Management Tool.

The program office relied on EMMT reports to ensure facilities provided emergency care services to patients in a timely manner. Because EMMT reports were based on EDIS data, it was

<sup>15</sup> According to the improvement initiative, facilities were designated as having unreliable EDIS data when they did not meet at least two of VHA’s four data reliability metrics during a quarter. The four data reliability metrics were developed to assess whether facilities complied with the EDIS directive. Facilities were designated as having high operational vulnerability when they did not meet at least four of the seven wait-time and performance thresholds during a quarter that relate to patient flow and service effectiveness at individual emergency departments. These seven wait-time and performance metrics were generally developed to evaluate whether emergency departments were providing timely emergency services throughout the patient flow process.

important for VHA to ensure facilities accurately recorded times in EDIS and that the data were sufficiently reliable for its oversight purposes.

### Employees Inaccurately Recorded Times in EDIS

The audit team analyzed EDIS data and discovered that records for about 618,000 (about 14 percent) of the nearly 4.6 million patient visits during the review period contained potentially inaccurate data entries that skewed VHA’s patient flow and wait times.<sup>16</sup> While the audit did not determine the accuracy of data entries for all of the approximately 618,000 visits, VHA should be aware of these potential inaccuracies so that it can investigate them further and determine if corrective actions are needed to help staff accurately record emergency department times in EDIS and properly oversee emergency care. Table 2 shows the 10 facilities with the highest percentage of visits with potential EDIS data inaccuracies.<sup>17</sup>

**Table 2. Facilities with the Highest Percentage of Potential Data Inaccuracies**

Facility location	Visits	Triage and doctor assign times out of sequence	Doctor assigned to three or more patients within one minute	Patient departure times edited*	Visits with potential inaccuracies (OIG data)		Quarters rated unreliable (VHA data)
					Number	Percent	
White River Junction, VT	10,918	6,100	510	1	6,355	58	0
Fort Wayne, IN	21,032	9,881	250	90	10,125	48	0
Cheyenne, WY	16,101	7,539	139	0	7,654	48	0
Omaha, NE	32,486	14,698	1,173	0	15,313	47	0
Iowa City, IA	19,048	7,818	802	8	8,482	45	0

<sup>16</sup> The OIG determined that about 618,000 visits contained at least one potential inaccurate data entry. A single visit could include multiple inaccuracies; therefore, the number of inaccuracies does not add up to the total number of visits with inaccuracies.

<sup>17</sup> The OIG considered these visits to contain potential inaccuracies (versus confirmed inaccuracies) because the audit team did not review electronic health records for each of these visits to determine whether the times were inaccurately recorded or skipped for a valid reason.

Facility location	Visits	Triage and doctor assign times out of sequence	Doctor assigned to three or more patients within one minute	Patient departure times edited*	Visits with potential inaccuracies (OIG data)		Quarters rated unreliable (VHA data)
					Number	Percent	
Fort Meade, SD	14,044	5,881	473	14	6,237	44	0
Sioux Falls, SD	15,670	6,660	231	0	6,830	44	0
Palo Alto, CA	36,018	14,542	661	3	15,038	42	0
Baltimore, MD	49,572	3,828	4,916	14,715	20,496	41	0
Topeka, KS	17,727	6,712	514	0	7,100	40	0

Source: *OIG analysis of electronic health records and EDIS data from FY 2018 and FY 2019.*

Note: *All of the edits in the “patient departure times edited” column were made to reduce the wait times. The OIG did not find that emergency department staff made these edits to increase the wait times.*

While the audit team’s analysis identified potential inaccuracies ranging from 40 percent to 58 percent of visits at the 10 facilities listed in table 2, the final column shows that VHA’s metrics did not identify any of these 10 facilities as having unreliable data during the two-year period. Furthermore, VHA’s metrics did not identify nine of the 10 facilities as being highly vulnerable during the same period as the OIG’s audit. These inaccuracies can hinder VHA’s efforts to identify facilities that need to improve patient access to emergency services. Overall, the audit team’s analyses showed that 66 of the 110 emergency departments had these data issues present in at least 10 percent of their visits, including the 10 facilities shown in table 2.

The audit team reviewed EDIS activity logs and wait times to evaluate whether emergency department staff complied with EDIS guidance or made inappropriate edits to improve their wait times. The audit team noted three general categories of potential inaccuracies:

- Patient triage times were recorded during varying phases of the patient flow process.
- Doctor assignment times were recorded before triage times, indicating emergency department staff may have inaccurately recorded at least one of those times.<sup>18</sup> Also,

<sup>18</sup> The audit team acknowledges that it may be appropriate for a patient in obvious critical condition to skip the routine triage process and to be seen immediately by an emergency department doctor.

doctors assigned themselves multiple patients at once, indicating they likely did not comply with VHA's guidance for this metric.<sup>19</sup>

- Patients' departure times were retroactively edited at the Baltimore VA Medical Center, indicating emergency staff may have inappropriately changed them to improve their wait-time performance measures.<sup>20</sup>

The following results detail these specific inaccuracies, identified through the audit team's data analyses and through interviews and observations.

### **Patient Triage Times Were Recorded at Different Phases of the Patient Flow**

According to the EMMT user manual, the triage time should be recorded once the patient's ESI rating is determined. It is important to note, however, that VHA does not require nurses to take a patient's vitals before assigning an ESI level. Still, the director of the program office said emergency department staff should take vitals on most patients. Given this flexibility, emergency department employees had different understandings as to when it was appropriate to assign a patient an ESI rating and recorded triage times in EDIS at different points in the patient flow:

- Nurses at the Baltimore and Biloxi VA Medical Centers said they assigned patients an ESI rating after they took their vitals and then recorded their triage time in EDIS.
- At the San Diego VA Medical Center, the audit team observed nurses assigning patients an ESI rating after taking a "first look" at them, and then recording the triage time in EDIS before taking patients' vitals. Patients would then generally go back to the waiting room until a triage nurse was ready to take their vitals. Patients' ESI ratings may change based on their vitals.
- The Omaha VA Medical Center emergency department nurse manager said the center sometimes experienced delays in adding patients to EDIS when the emergency department was busy. The audit team determined this may cause triage times to be recorded after the doctor assignment time.
- The Palo Alto VA Medical Center emergency department director said the center did not have any standardized practices for ensuring the timely entry of the triage time stamp when the emergency department was crowded.

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<sup>19</sup> According to the EMMT user manual, the doctor assignment time should be recorded "immediately prior to a Provider's review of the patient chart and/or seeing the patient."

<sup>20</sup> The "patient departure times edited" column in table 2 represents edits made to reduce the wait times. The audit team did not find that emergency department staff made these edits to increase the wait times.

- The White River Junction VA Medical Center emergency department director said the center did not have a triage nurse until FY 2020, and that patients were not generally triaged until after they were assigned to a doctor and taken to their assigned bed.

According to VHA’s emergency medicine directive, one of the program office’s objectives was to standardize operations to maximize efficiency across VHA by improving the ability to compare performance and share best practices.<sup>21</sup> The accuracy of this metric is important to ensure patients are assigned an ESI rating in a timely manner. Emergency department doctors generally prioritize care based on the ESI rating to ensure patients with the most severe conditions are seen before patients with mild conditions. Delays in determining and recording a patient’s ESI rating in EDIS could put the patient at greater risk of experiencing an adverse outcome.<sup>22</sup>

### **Patient Triage Times Were Recorded Out of Sequence, and Doctors Assigned Themselves Multiple Patients at Once**

The audit team identified a risk that emergency department staff inaccurately recorded doctor assignment times in EDIS. Specifically, the audit team determined emergency department doctors’ recorded assignment times were before the nurse triage time for more than 449,000 of the nearly 618,000 visits that contained potentially inaccurate data entries. Based on the audit team’s review of VHA’s EMMT user manual, these times were recorded out of sequence.<sup>23</sup> This may occur when a nurse does not record a patient’s ESI rating in EDIS in a timely manner or when the doctor assigns himself or herself a patient before the patient is triaged. Based on the audit team’s interviews and observations and VHA’s patient flow, the team determined that an emergency department nurse should generally triage patients before doctor assignment so that patients with the most severe conditions are seen first. Exceptions may be appropriate for patients with an ESI rating of one or two—this was the case for about 70,500 (about 16 percent) of the 449,000 visits.

The audit team also determined that doctors assigned themselves three or more patients within one minute for about 152,000 of the nearly 618,000 visits, including over 19,100 instances when doctors assigned themselves to five or more patients within one minute. According to the EMMT user manual, the doctor assignment time should be recorded “immediately prior to a Provider’s review of the patient chart and/or seeing the patient.” A VISN emergency medicine lead said he would be concerned to find a doctor who assigned himself or herself three or more patients

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<sup>21</sup> VHA Directive 1101.05(2).

<sup>22</sup> For the purpose of this review, the Office of Health Inspections team defined *clinically significant adverse outcomes* to be death or increased medical complications that resulted from excessive wait times.

<sup>23</sup> EMMT User Manual, *Emergency Medicine Management Tool*, Version 2.0, November 2018. EMMT User Manual, *Emergency Medicine Management Tool*, Version 3.0, February 2019.

within a short period. The Baltimore VA Medical Center chief of staff said this method of assigning patients was not appropriate.

Yet several providers acknowledged they had made multiple, nearly simultaneous assignments. During the team's site visit to the Baltimore VA Medical Center, in response to the audit team asking the emergency department director about assigning himself to up to eight patients at a time, he said he occasionally assigned himself to multiple patients at once after talking to patients while they were still in the waiting room. A Biloxi VA Medical Center doctor said that he assigns himself two patients at a time when he plans to see them back-to-back. He also said he has seen patients before they were assigned to him in EDIS. The Palo Alto VA Medical Center emergency department director said doctors assigned themselves patients prematurely, before reviewing their charts or providing care to the patients to distribute the workload. The Palo Alto emergency department director said he would clarify guidance to facility staff. Emergency department leaders agreed doctors assigning multiple patients to themselves simultaneously was risky behavior.

### **One Emergency Department Director Inappropriately Edited Patient Departure Times**

The audit team determined that emergency department staff may have inaccurately recorded patient departure times in EDIS for about 37,600 of the nearly 618,000 visits.<sup>24</sup> This included about 24,900 edits to patient discharge times and about 12,800 edits to inpatient admission times. These edits generally occurred at only a few facilities, such as the Baltimore VA Medical Center, and enabled facilities to decrease their discharged patient length of stay metric to remain below the performance threshold. Because the Baltimore VA Medical Center accounted for over 39 percent of the total patient departure-time edits, the audit team conducted additional analyses to determine whether the patients' electronic health record showed evidence that supported the edits. While the audit team identified other facilities with a higher percentage of potential inaccuracies, as indicated in table 2, the team conducted a more comprehensive review of the Baltimore VA Medical Center because the departure-time edits showed patterns that indicated they were intentional and inappropriate. The Baltimore VA Medical Center also had the highest number of potential data inaccuracies in two of the three categories shown in table 2. The audit team did not identify any obvious intent to edit wait-time data to improve the appearance of patients' overall length of stay at other facilities.

The audit team identified over 14,700 favorable edits (to meet performance thresholds and decrease patient wait times) to patient discharge or admission times at the Baltimore VA Medical Center during the review period. This number was out of about 49,600 total patient visits (about

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<sup>24</sup> The audit team did not assess the appropriateness of all these edits. A patient "depart" from the emergency department means they were discharged home, transferred to another facility, or admitted to an inpatient ward.

30 percent). The edits made the patients’ length of time in the emergency department appear shorter. Of the over 14,700 edits, about 7,100 were made in increments of 60 minutes, and about 3,700 moved the patient’s total length of stay to under six hours—VHA’s overall patient length-of-stay performance threshold.<sup>25</sup> The audit team determined that the former Baltimore VA Medical Center emergency department director made about 99.5 percent of the favorable edits to patient departure times. The audit team reviewed a statistical sample of 30 of the departure-time edits made by the emergency department director and found that 22 edits were unsupported and inappropriate edits of at least 15 minutes. Table 3 shows the inappropriate edits by the number of minutes the emergency department director decreased the patient departure times.

**Table 3. Sample Review Results—Inappropriate Patient Departure-Time Edits at the Baltimore VA Medical Center**

Extent of the departure-time edits	Number of visits
15 to 30 minutes	3
31 to 59 minutes	2
Exactly 60 minutes	12
61 to 119 minutes	2
Exactly 120 minutes	2
Greater than 120 minutes	1
<b>Total</b>	<b>22</b>

*Source: OIG analysis of electronic health records and EDIS data from FY 2018 and FY 2019.*

Baltimore VA Medical Center leaders said they were unaware of these edits and did not know why the emergency department director inappropriately edited these discharge and admission times. The emergency department director said he could not explain the edits. In response to these inappropriate edits, the Baltimore VA Medical Center chief of staff wrote the emergency department director, stating, “Such alterations of this data impact the metrics used to monitor the quality and safety of patient care. Such actions raise significant concerns about your professional conduct, honesty and integrity in your practice and puts our facility at risk.” The audit team did not find evidence that the emergency department director received performance-based financial benefits as a result of the inappropriate edits or the seemingly improved wait times—behavior that could be associated with potential fraud.

<sup>25</sup> These two different analyses—7,100 edits and 3,700 edits—may involve the same EDIS records and are not mutually exclusive.

These inappropriate edits significantly improved all the facility's length-of-stay metrics, especially the door-to-patient discharge time, and made it appear to VHA that patients were seen in a timelier fashion. VHA considered the Baltimore VA Medical Center to be highly vulnerable during five of eight quarters during this period. The audit team determined the Baltimore VA Medical Center could have been considered a high operational vulnerability site during more than five quarters in FYs 2018 and 2019, had the emergency department director not inappropriately edited the departure times.

Editing patient discharge or admission times may sometimes be appropriate. Emergency department leaders indicated that discharge or admission times could be corrected in EDIS when the patients' electronic health records showed that the patient was discharged or admitted before the time recorded in EDIS. The audit team found evidence that officials at facilities other than the Baltimore VA Medical Center made edits to patient departure times to align them with entries in patients' records. Facility leaders should evaluate patient departure-time edits to ensure they are appropriate and not made without merit to improve the appearance of the patient's overall length of stay.

The audit team determined that the edits at the Baltimore VA Medical Center dated back to 2012, following a VA OIG healthcare inspection of the facility.<sup>26</sup> The same emergency department director edited approximately 53,600 discharge and admission times in EDIS from December 2012 through September 2019.

In April 2020, after the audit team's site visit, the Baltimore VA Medical Center chief of staff told the audit team that the facility had replaced the emergency department director. In the same month, the team briefed VHA emergency medicine leaders on the frequency with which these edits occurred during the review period, and the departure-time edits made by the Baltimore VA Medical Center from FYs 2013 through 2017. VHA emergency medicine leaders said they were not aware of the inappropriate edits made by the facility. In response, in July 2020, the program office director updated the improvement initiative to include a quarterly review of edits made to patient departure times. Furthermore, the program office director reported that his office clarified the appropriate use of the departure-time edit function to all emergency department leaders in April 2020. In April 2021, the program office director reported that based on their new quarterly monitor, no emergency departments are using the departure-time edit function for more than 0.1 percent of the records.

Recommendation 1 is for VHA to ensure Baltimore VA Medical Center leaders reevaluate their corrective action plan and adjust it as needed.

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<sup>26</sup> VA OIG, *Inadequate Staffing and Poor Patient Flow in the Emergency Department VA Maryland Health Care System Baltimore, Maryland*, Report No. 12-03887-319, September 18, 2013.

## **EDIS Guidance Was Unclear and Training on the System Was Not Required**

Interviews with emergency department employees from three facilities that most frequently recorded triage and doctor assign times out of sequence indicated the employees were inconsistently or inaccurately recording triage times in EDIS. One of these facilities said it did not have standardized practices for ensuring staff accurately recorded triage times in EDIS when the emergency department was crowded. VHA should ensure facilities record triage times as consistently as possible throughout the process so leaders can compare facilities and accurately identify those facilities that need to triage their patients in a timelier manner.

VHA's EDIS guidance stated that the triage time is the "elapsed time between the patient's time in and his or her initial acuity assessment."<sup>27</sup> However, the guidance does not state when emergency department staff should record the ESI rating in EDIS, nor does it explain what actions need to occur before assigning a patient an ESI rating. Some facility staff assigned the initial ESI rating based on an initial discussion with and "first look" at the patient, and then updated the ESI rating after taking the patient's vitals. Staff at other facilities waited to assign the initial ESI rating until after a triage nurse took the patient's vitals.

Furthermore, VHA did not require emergency department staff to take any EDIS training. Additionally, of the 13 corrective action plans reviewed by the audit team, 10 identified a need for emergency department staff to receive EDIS training.

In April 2021, the program office director reported that the office developed and distributed field-based guidance to increase consistency and accuracy of EDIS use for nurses and providers in November 2020.

Recommendation 2 calls on VHA's program office to make certain that relevant staff receive appropriate training on recording wait times in EDIS to lessen the risk of inaccurate entries.

## **VHA's Data Reliability Reports Did Not Detect Inaccurate Entries**

According to the EMMT user manual, "data reliability metrics serve as an internal control mechanism for data validity and reflect the fidelity with which EDIS is used appropriately." As described earlier, VHA used four autogenerated EMMT data reliability metrics. VHA's autogenerated EMMT data reliability metrics were not effective on their own to assess whether emergency department employees accurately and consistently recorded times throughout the patient flow. These reports did not identify any of the categories of potential inaccuracies discussed earlier.

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<sup>27</sup> EMMT User Guide, *Emergency Medicine Management Tool*, ver. 3.0, February 2019.

The four data reliability metrics were not designed to identify inaccurate recording of several EDIS data points used to assess patient wait times. For example, the EMMT data reliability metrics do not evaluate the accuracy of patient arrival or triage times. The audit team identified 10 facilities that were at risk of having the highest rate of data reliability inaccuracies and determined that VHA's metrics did not designate any of those 10 facilities as having unreliable data during the review period, as shown in table 2.

Significantly, VHA's metrics did not identify the Baltimore facility as having data reliability concerns despite the inappropriate editing of about 14,700 discharge or admission times. The VHA data reliability tests were generally ineffective to mitigate the risk of inappropriate recording practices of patient flow times in EDIS.

Recommendation 3 is for VHA's program office to strengthen data reliability reviews of EDIS data to mitigate the risk of inaccurate records.

### **VISNs and Facilities Did Not Ensure EDIS Data Were Accurate**

The program office director stated the office did not have the resources to conduct additional data reliability assessments. The director made several attempts from November 2017 through September 2019 to obtain additional staff to provide more comprehensive oversight. The director sought staff to do the following:

- Focus improvement efforts on the core process of providing care in the emergency department and work with hospital staff to improve the transition of emergency department patients into an inpatient bed.
- Provide improvement support to high-vulnerability sites.
- Combine EMMT operational vulnerability data with National Patient Safety Office data (e.g., adverse events, patient safety incidents) to strengthen EMMT as a tool.

In an August 2018 email to Office of Specialty Care Services leaders, the emergency medicine director said, "In no way would we be able [to] continue supporting our currently expanded workload without support." In a December 2018 memo to the VHA executive in charge, the emergency medicine director made the following statement to justify the need for additional emergency medicine staff:

As the front door to the VA, our Emergency Departments (ED) and Urgent Care Centers (UCC) are helping to solve more problems regarding Veterans access to medical care than arguably any single program within the agency. Our 111 EDs and 30 UCCs saw over 2.5 million Veterans in FY17. An increase of over 30% from 2006 1.9 million Veterans. During this time, VA Emergency Medicine has functioned with only a .50 FTE [half-time] National Director. Through continual growth and expansion in volume and clinical practice, we are at a pivotal point for

VA Emergency Medicine. Our foot print as a specialty service within VA, validates the need for program office staff... To continue the status quo, or keep on our projected growth path will be a fruitless endeavor that will ultimately lead us to missing valuable opportunities in meeting the needs of our Veteran population.

The director's requests for additional staff either went unanswered or were rejected due to a lack of funding. Furthermore, the director said he was unable to assign routine emergency department oversight responsibilities to VISN leaders because he did not have that level of authority. The director of the Office of Specialty Care Services also said that the program office did not have the authority to delegate additional oversight responsibilities to VISNs and facilities. According to VHA's emergency medicine directive, VISN directors are required to ensure "each facility in the VISN is appropriately designated as having or not having an [emergency department] and/or a [urgent care clinic] and for appointing a VISN lead for [emergency medicine]" and states the VISN emergency medicine leader is the point of contact for issues pertaining to emergency medicine in the VISN.<sup>28</sup> However, the improvement initiative does not require VISN or facility leaders, other than emergency medicine directors, to conduct routine oversight to ensure emergency department data are accurately recorded and improvements are made as needed.

VISN and facility leaders relied on the autogenerated data quality metrics to ensure emergency department staff completely and accurately recorded times in EDIS. In addition to strengthening data reliability assessments, recommendation 4 calls on VHA to establish routine oversight responsibilities for VISN and facility leaders of emergency departments' efforts to improve the reliability of their emergency department data.

## **Emergency Departments Developed Corrective Actions Plans but May Have Missed Opportunities to Make Additional Improvements at Some Facilities**

The OIG found that VHA required, and facilities developed, action plans based on VHA's emergency department data metrics, in accordance with its improvement initiative.<sup>29</sup> This improvement initiative required that facilities submit corrective action plans to the program office when they were designated as having unreliable data or being highly vulnerable. According to EMMT data, VHA required 14 facilities to submit action plans after being designated as highly vulnerable during the review period. The audit team reviewed these action plans and determined they were developed in accordance with the improvement initiative and were generally in line with the Government Accountability Office's *Standards for Internal*

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<sup>28</sup> VHA Directive 1101.05(2).

<sup>29</sup> Veterans Health Administration, *Emergency Medicine Improvement Initiative (EMI) Performance Plan*, Plan Overview and Implementation Guidance (ver. 1.0 and 2.0).

*Control in the Federal Government.* Additionally, facility and emergency department leaders were generally involved in the development and implementation of the action plans. The audit team reviewed EMMT metrics at these facilities through the first half of FY 2020 to determine whether they improved their emergency department wait times following a highly vulnerable designation. According to EMMT metrics, 10 of the 14 facilities that developed action plans had improved their emergency department wait times.

Although facilities developed corrective action plans, the data shortcomings presented the risk of some facilities having undetected patient flow problems and missing opportunities to improve access to emergency care for veterans. Inconsistent or inaccurate EDIS data may cause facility leaders to develop ineffective corrective action plans and make ineffective improvement decisions, such as where to dedicate additional resources or implement better controls. Additionally, and most importantly, inaccurate data lead to a flawed understanding of how long patients waited to receive care at emergency departments.

## **Finding 1 Conclusion**

Emergency department employees at facilities across VHA inconsistently or inaccurately recorded data in EDIS in FYs 2018 and 2019—66 emergency departments had data issues in 10 percent or more of their patient visits. This occurred because emergency department staff were unclear on VHA’s guidance on recording triage times, VHA did not require emergency department staff take EDIS training, and VHA’s data reliability reviews did not effectively identify potential inaccuracies. Because the data were unreliable, emergency medicine and facility leaders did not always have a clear understanding of how long patients had to wait to receive care at emergency departments or what specific functions within the patient flow process needed to be improved, and thus may have missed opportunities to help facilities provide emergency care services to veterans in a timelier manner.

## **Recommendations 1–4**

The OIG recommended the under secretary for health

1. Ensure Baltimore VA Medical Center leaders reevaluate their corrective action plan and adjust as needed.
2. Make certain relevant staff receive appropriate training on recording wait times in the software.
3. Strengthen reliability reviews of Emergency Department Integration Software data to mitigate the risk of inaccurate records.
4. Establish routine oversight responsibilities for Veterans Integrated Service Network and facility leaders of emergency departments’ efforts to improve the reliability of their emergency department data.

## Management Comments

The acting under secretary for health concurred with recommendations 1–4. The acting under secretary said the program office took immediate action to enhance the integrity of data collected through EDIS due to OIG’s early feedback during the audit. Management comments appear in appendix B.

To address recommendation 1, the acting under secretary said the Baltimore VA Medical Center determined they needed to take additional actions after reevaluating their original corrective action plan. He further reported that the facility hired a new emergency department director effective March 4, 2020, and removed users’ ability to retrospectively update EDIS on March 6, 2020.<sup>30</sup> The Baltimore facility will review EDIS data from January 2021 through June 2021 to identify any edited departure times, and report findings to its executive council.

For recommendation 2, the acting under secretary reported that VHA is updating its directives relevant to emergency medicine and urgent care and will include added responsibilities to ensure staff receive training on the correct use of EDIS.

The acting under secretary reported that VHA completed actions to address recommendation 3 based on early feedback from the audit team. The program office in April 2020 clarified the appropriate use of EDIS, and then developed a reliability review tool to monitor retrospective edits. VHA’s ongoing monitoring shows that no facility is modifying more than 0.1 percent of encounters.

To address recommendation 4, the acting under secretary said VHA’s updates to its emergency medicine directive will also include an expectation that VISNs review emergency department operational data for their facilities. Further, he indicated that VHA’s Healthcare Operations Center will also incorporate a review of emergency department data in their work.

## OIG Response

The corrective action plans provided are responsive to the recommendations. Regarding recommendation 3, the OIG reviewed the documentation which supports that the program office implemented a reliability review tool to monitor retrospective edits. The OIG will consider closing recommendation 3 when VHA provides additional evidence to show the program office strengthened its reviews of additional categories of potential inaccuracies identified in finding 1. The OIG will monitor implementation of all planned actions and will close the recommendations when the OIG receives sufficient evidence demonstrating progress in addressing the intent of the recommendations and the issues identified.

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<sup>30</sup> The OIG notes that these actions occurred the week following the audit team’s site visit and presentation of findings to the facility leaders.

## **Finding 2: Evidence Indicated High-Risk Patients May Not Have Always Received Emergency Care in a Timely Manner**

Of the nearly 4.6 million patients who visited an emergency department during FY 2018 and FY 2019, VHA's EDIS data showed that more than 545,000 (about 12 percent) were assigned an ESI level of one or two. These patients were considered high-risk or had potentially critical conditions, and EDIS data indicated they did not always receive emergency care services in a timely manner. VHA's target performance threshold for all patients—regardless of ESI level—was to be seen by an emergency department doctor within 50 minutes of arrival in FY 2018, and 40 minutes of arrival in FY 2019.<sup>31</sup> The OIG acknowledges that being seen in less than 40 or 50 minutes of entering an emergency department may not necessarily be indicative of acceptable care commensurate with the condition of the patient.

Because VHA's EDIS data were not always accurate, the audit team reviewed the electronic health records of emergency department visits by 185 ESI level one and two patient visits (from a population of visits in which EDIS data indicated a door-to-doctor time of 40 minutes or more) and did not find evidence that 114 patients saw an emergency department doctor within thresholds.<sup>32</sup> Further, clinicians with the OIG's Office of Healthcare Inspections assessed the electronic health records of the 114 patients, and found that emergency department staff placed first orders within the prescribed time for 53 of those patients.<sup>33</sup> The healthcare inspections team did not identify evidence that an emergency department doctor saw, or staff placed first orders, for the other 61 patients within 40 or 50 minutes. The Office of Healthcare Inspections team did not find that any of the 114 patients experienced clinically significant adverse outcomes due to their wait for emergency care.<sup>34</sup>

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<sup>31</sup> *Emergency Medicine Improvement Initiative (EMI) Performance Plan, Plan Overview and Implementation Guidance* (versions 1.0 and 2.0). The improvement initiative states that, "Thresholds are used to differentiate satisfactory from unsatisfactory performance. In general, they reflect a level of performance achieved during the previous fiscal year by 80 percent of all sites."

<sup>32</sup> The sample of 185 patient visits was from a population of visits in which EDIS data indicated a door-to-doctor time of 40 minutes or more; the team assessed timeliness based on VHA's door-to-doctor performance threshold of 50 minutes in FY 2018 and 40 minutes in FY 2019. The audit team and Office of Healthcare Inspections clinicians determined that the other 69 patients saw an emergency department doctor in under the 50- or 40-minute threshold (depending on fiscal year). The clinicians did not identify evidence to determine whether the two other patients were seen by an emergency department doctor before they left the department, based on their review of the electronic health records.

<sup>33</sup> Orders or nursing protocols may be initiated before a provider examines the patient, resulting in earlier care than that documented with a time stamp. The orders directed diagnostic evaluations and clinical management that *may* have occurred before the emergency department provider's initial documentation. Further, the circumstances of delays could only be assessed if such delays were described in the electronic health record.

<sup>34</sup> As noted in the previous finding, for the purpose of this review, the Office of Health Inspections team defined *clinically significant adverse outcomes* to be death or increased medical complications that resulted from excessive wait times.

VHA's program office did not separately assess the timeliness of emergency care provided to ESI one and two patients and did not require it of emergency departments; instead, it evaluated ESI one through five patients as a whole. Emergency department directors from three facilities told the audit team they also did not separately identify and assess ESI one and two patients where data indicated they did not receive emergency services in a timely manner. While the patients assessed in this audit were not found to have experienced clinically significant adverse outcomes due to their wait, opportunities exist for VHA to improve its monitoring of ESI one and two patients receiving emergency care services.

## **What the OIG Did**

The audit team conducted a review of a sample of visits by patients who had been assigned an ESI rating of one or two by VHA staff and who, according to EDIS data, did not see an emergency department doctor in a timely manner.<sup>35</sup> The team assessed 185 patients' EDIS records to determine whether these patients were seen by an emergency department doctor within the target thresholds. Because EDIS data were not always accurate, the team also reviewed each patient's electronic health record to identify any ordered tests or medical notes that indicated the patients received emergency care services sooner than indicated.

Of the 185 sample cases, the audit team did not find evidence that 114 patients saw an emergency department doctor within the target period (beyond 50 minutes in FY 2018 and 40 minutes in FY 2019). When reviewing the patients' electronic health records, the OIG team considered the earliest documented time in the record. The audit team coordinated with OIG's Office of Healthcare Inspections clinicians for further assessment of the 114 patient visits. The clinicians reviewed the electronic health records for these 114 patients using CAPRI, Joint Legacy Viewer, and Vista Imaging Advanced Web Image Viewer. The clinicians also reviewed the entire care for the patients, including the time between each documented patient's arrival time at the emergency department and the entry time of the first orders. The healthcare inspection clinicians did not review non-VA medical records unless they were scanned and available in the patients' electronic health record or Joint Legacy Viewer.

## **High-Risk Patients Potentially Did Not Receive Emergency Care within VHA's Performance Thresholds**

VHA's emergency departments may not have always provided timely care to patients who had potentially life-threatening or critical conditions during FYs 2018 and 2019. The audit team

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<sup>35</sup> Based on the Emergency Nurses Association ESI Implementation Handbook, emergency departments use the ESI to organize patients into five groups from one (most urgent) to five (least urgent) based on acuity and resource needs. The Handbook also stated patients who are assigned ESI levels one or two are generally considered to be high-risk or have life-threatening conditions. Additionally, VHA's emergency medicine directive states the ESI evaluation categorizes patients into five groups by both acuity and resource needs.

consulted with the OIG’s healthcare inspection clinicians who conducted the record review and did not find evidence that 114 of the 185 patients who had an ESI level of one or two saw an emergency department doctor within 40 or 50 minutes. Of these 114 patients, 11 died in an emergency department, as shown in table 4. The Office of Healthcare Inspections did not find that the 11 deaths or any of the other 103 patients experienced clinically significant adverse outcomes *due to* their wait for emergency care.

**Table 4. Delays in Emergency Department Care**

Outcome	Patients	Patients who did not see an emergency department doctor within VHA’s door-to-doctor threshold metric (less than 40 or 50 minutes), based on evidence in the health records	Patients who did not have their first orders placed within VHA’s door-to-doctor threshold metric (less than 40 or 50 minutes), based on evidence in the health records
Death	55	11	8
Transfer	65	50	23
All other	65	53	30
<b>Totals</b>	<b>185</b>	<b>114</b>	<b>61</b>

*Source: OIG analysis of EDIS data and the patients’ electronic health care records from FY 2018 and FY 2019.*

*Note: The OIG clinicians did not find that any of these patients experienced clinically significant adverse outcomes due to their wait for emergency care.*

OIG clinicians did find that emergency department staff placed first orders for 53 of these 114 patients while they were waiting to see an emergency department doctor. This statement indicates that the clinicians did not find evidence that an emergency department doctor saw, or staff placed first orders, for the other 61 patients within 40 or 50 minutes.<sup>36</sup> Emergency department staff often placed orders earlier than when the doctor documented that the patient was examined; for example, they started radiologic and laboratory studies.<sup>37</sup> This analysis was important because the OIG recognizes that an electronic health record may not reflect if patient care occurred before the time stamp or after. Emergency department staff may provide care first out of necessity, before documenting care in the electronic health record. Further, time stamps

<sup>36</sup> The OIG clinicians reviewed electronic health records to determine the time between each documented patient’s arrival time to the emergency department and the entry time of the first orders (door to first order).

<sup>37</sup> In many cases, emergency department staff acted on standing orders so that relevant bloodwork and/or studies could be obtained, and the results made available prior to the emergency department doctor examining the patient. The program office director stated that, “In many cases, consistent with approved practices, emergency department staff placed standing/protocolized orders so that relevant laboratory and/or imaging studies could be in process or resulted at the time of a provider’s evaluation.”

that represent metrics that were above threshold would contain more context if the medical records provided documentation of the reasons for the delays. Without that documentation, care could have still occurred within the timing goals.

The Office of Healthcare Inspections clinicians assessed how long the evidence indicated that these 61 patients waited for emergency department staff to place their first orders, and found these wait times:<sup>38</sup>

- Sixteen patients waited from 40 or 50 minutes to 59 minutes.
- Thirty-four patients waited from one hour to one hour and 59 minutes.
- Eight patients waited from two hours to three hours and 59 minutes.
- One patient waited more than four hours.

The OIG's Office of Healthcare Inspections referred one of the transfer patients to the OIG Hotline triage team for appropriate review and disposition. The patients' electronic health records did not reveal the cause of the delays.

### **VHA's Metrics Did Not Separately Assess Wait Times for High-Risk Patients**

VHA did not separately assess whether facilities provided timely emergency services to high-risk (ESI level one or two) patients. Emergency medicine and facility leaders relied on EMMT reports to evaluate whether their emergency departments provided services within the target timelines to patients of all ESI levels, and the wait-time thresholds were the same for all ESI levels. Emergency department directors from three facilities told the audit team they did not separately identify and assess wait times for high-risk patients as a group. As a result, facilities missed opportunities to determine whether emergency service improvements are needed for patients who need them most urgently.

Of the FY 2018 and 2019 emergency department data used to determine wait-time averages, about 12 percent came from visit records for patients with ESI level one and two triage ratings; the other 88 percent came from patients with ESI levels of three, four, and five.<sup>39</sup> Analyzing emergency department wait-time data for all these patients in the aggregate limited emergency medicine and facility leaders' ability to monitor and improve access to emergency care for ESI one and two patients.

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<sup>38</sup> OIG clinicians did not identify orders placed for two of these 61 patients.

<sup>39</sup> Based on EDIS data, there were about 26,300 patients visits where the ESI levels were unknown. This unknown amount is less than one percent of the population of nearly 4.6 million patient visits that occurred during FY 2018 and FY 2019.

The audit team analyzed EDIS data to disaggregate the data to help identify the facilities at greatest risk of not providing timely care to patients with life-threatening or critical conditions. Table 5 identifies those facilities with the highest percentage of ESI level one or two patients with door-to-doctor wait-time metrics that exceed target times. Importantly, five of these 10 facilities were never identified as having high operational vulnerability, a designation that would have required them to complete corrective action plans. That fact, in addition to facilities not separately evaluating the timeliness of care provided to ESI level one and two patients, presents a risk that emergency medicine and facility leaders may not identify facilities that need to improve timely provision of emergency care to high-risk patients, particularly in the door-to-doctor phase.

**Table 5. Facilities with the Highest Percentage of ESI Level One and Two Patients with Door-to-Doctor Wait Times Exceeding VHA’s Performance Thresholds**

Facility	Number of visits involving ESI level one and two patients (VHA data)	Number of ESI level one and two patient visits that exceeded the door-to-doctor wait-time thresholds (VHA data)	Percentage of ESI level one and two patient visits that exceeded the door-to-doctor wait-time thresholds	Quarters rated as high operational vulnerability by VHA metrics
Atlanta, GA	10,106	4,801	48%	8
Tucson, AZ	5,118	2,339	46%	3
Amarillo, TX	865	383	44%	0
Montgomery, AL	2,046	886	43%	0
Columbia, SC	8,110	3,477	43%	0
Loma Linda, CA	6,477	2,735	42%	3
Long Beach, CA	3,031	1,241	41%	1
Little Rock, AR	9,597	3,829	40%	0
Philadelphia, PA	3,797	1,495	39%	0
San Diego, CA	15,592	5,901	38%	8

*Source: OIG analysis of EDIS data from FY 2018 and FY 2019.*

Being seen in less than 40 or 50 minutes of entering an emergency department may not necessarily be indicative of acceptable care commensurate with the condition of the patient. For example, a patient who comes in with airway obstruction needs immediate attention, not just less than 40 or 50 minutes. Conversely, waiting more than 40 or 50 minutes for clinical evaluation may be acceptable in an emergency department that deals with highly urgent and complex issues or high volume. For example, a patient who comes into the emergency department with cold symptoms may have to wait longer than a patient who is bleeding profusely.

VHA has an EMMT report that allows users to assess wait times for high-risk patients as a group and could use it to identify patients who exceeded VHA's door-to-doctor or other metrics. Recommendation 5 calls on VHA to improve its monitoring of the data for patients with the highest ESI levels of one or two receiving emergency care services.

## **Finding 2 Conclusion**

VHA's data and evidence in patients' electronic health records indicated that emergency departments may not have always provided timely care to high-risk patients. VHA did not separately assess whether emergency departments provided timely emergency care to their ESI level one and two patients. While the patients assessed in this audit were not found to have experienced clinically significant adverse outcomes as a direct result of their lengthier-than-targeted wait times, VHA can improve its monitoring of the data for ESI level one and two patients.

## **Recommendation 5**

The OIG recommended the under secretary for health

5. Improve the monitoring of data for patients with the highest Emergency Severity Index levels of one or two receiving emergency care services.

## **Management Comments**

The acting under secretary for health concurred in principle with recommendation 5, with the understanding that the recommendation is for data monitoring of patients who are assigned an ESI level one or two. To address this recommendation, the acting under secretary said the program office is developing an implementation plan to improve data monitoring of these patients, with a target completion date of October 2021. Management comments appear in appendix B.

## **OIG Response**

The OIG agrees that the intent of the recommendation is to improve the monitoring of data for ESI levels one and two patients and clarified the recommendation in this report. The corrective action plan is responsive to the recommendation, and the OIG will monitor implementation of the planned action and will close the recommendations when the OIG receives sufficient evidence demonstrating progress in addressing the intent of the recommendation and the issue identified.

## Appendix A: Scope and Methodology

### Scope

The audit team performed audit work from January 2020 through April 2021. The audit scope was nationwide and covered all emergency department episodes of care during FYs 2018 and 2019. The audit objective was to determine whether VHA's oversight of emergency departments was effective in ensuring patients received emergency care services in a timely manner, and whether facilities made appropriate improvements to their patient flow as needed.

### Methodology

The audit team identified and reviewed VHA's emergency department data, applicable laws and regulations, VA policies and procedures, internal email communications, and guidelines related to VHA's management of its emergency departments. The audit team also interviewed leaders from emergency medicine, VISNs, facilities, and emergency departments, as well as staff from several facilities, to gain an understanding of the processes, risks, internal controls, and general governance structure used to manage VHA's emergency departments.

The audit team also conducted site visits to VHA emergency departments in the following locations:

- Baltimore, Maryland
- Biloxi, Mississippi
- San Diego, California

The audit team analyzed EDIS data from all of VHA's 110 emergency departments to assess the accuracy of their patient flow information. The audit team obtained and analyzed EDIS data to identify instances when emergency department employees might have inaccurately recorded times in EDIS. This involved identifying emergency department records where key EDIS wait-time data were recorded out of sequence, the timing of events during the visit was unrealistic, or patient departure times were manually edited to appear more favorable. To further assess the departure-time edits, the audit team reviewed a statistical sample of 30 individual EDIS records from the Baltimore VA Medical Center to determine whether information in the patients' electronic health record supported the times entered. The audit team focused their sample review on Baltimore because the emergency department director made more edits to patient departure times than any other facility, and because the audit team identified patterns with how the edits were made (in exact increments of 60 minutes or 120 minutes). The audit team also reviewed EMMT reports to identify facilities that were required to develop corrective action plans, and then requested and reviewed these action plans.

Based on EDIS data, the audit team identified that about 545,000 patient visits during FYs 2018 and 2019 had an ESI rating of one or two. Of those 545,000 patient visits, the team determined based on EDIS data that about 110,000 patient visits did not meet the FY 2019 door-to-doctor performance threshold of 40 minutes. The OIG audit statisticians identified a statistical stratified sample of 185 patients from the population of about 110,000 patient visits. This sample contained three strata—55 patients who died in an emergency department, 65 patients who were transferred to another facility after receiving care at a VA emergency department, and 65 patients who did not fit these other two strata.

The audit team reviewed the electronic health records of the statistical sample of 185 patients to determine whether they waited more than 50 minutes in FY 2018 or more than 40 minutes in FY 2019 to see an emergency department doctor on arrival. When reviewing the patients' electronic health records, the audit team considered the earliest documented time in the record. For example, if emergency department providers documented their visit with the patient at 3:00 pm, but noted that they saw the patient at 1:00 pm, the team used 1:00 pm for the purposes of their wait-time analysis. The audit team then collaborated with OIG's Office of Healthcare Inspections to review patients' electronic health records.

The healthcare inspections team reviewed the electronic health records using CAPRI, Joint Legacy Viewer, and Vista Imaging Advanced Web Image Viewer for 118 patients in which the audit team did not find evidence of the patient seeing an emergency department doctor in a timely manner.<sup>40</sup> The healthcare inspections team reviewed the entire care for the patients included in the electronic health records and confirmed the time between each documented patient's arrival time to the emergency department and the entry time of the first orders. They did not review non-VA medical records unless those records were scanned and available in the patients' electronic health record or Joint Legacy Viewer.

## Internal Controls

The audit team determined that internal controls were significant to the audit objective. The team assessed the internal controls of VHA applicable to the audit objective. This assessment of the five internal control components included control environment, risk assessment, control activities, information and communication, and monitoring:

- Control Environment—to assess VHA's oversight structure, responsibility, and authority over its emergency departments, and its ability to hold these emergency departments accountable.

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<sup>40</sup> For the purposes of this report, the OIG team discussed the results of 114 patients in which the team did not find evidence in the records that the patients saw an emergency department doctor within the thresholds. For the other four patients, OIG clinicians determined two saw an emergency department provider timely, one left against medical advice before being treated by a provider, and one was undeterminable.

- Risk Assessment—to assess VHA’s ability to identify, analyze, and respond to risks related to patient access to emergency services.
- Control Activities—to assess VHA’s controls to ensure emergency department data was accurately and completely recorded in a system of record.
- Information and Communication—to assess the quality of information (i.e., reliable and free from error) that VHA used to make improvements and other emergency department decisions.
- Monitoring—to assess VHA’s monitoring activities of emergency departments.

In addition, the team reviewed the principles of internal controls associated with the audit objective.<sup>41</sup> The team identified all five components and related principles as significant to the audit objective, identified internal control weaknesses, and proposed recommendations 1–5 to address oversight controls and operating procedures to monitor patient access to emergency services.

## **Fraud Assessment**

The audit team assessed the risk that fraud and noncompliance with provisions of laws, regulations, contracts, and grant agreements, and abuse, significant in the context of the audit objectives, could occur during this audit. The team exercised due diligence in staying alert to any fraud indicators within its data analysis, interviews, and survey responses.

The audit team communicated with OIG’s Office of Investigations and an OIG attorney advisor after identifying inappropriate edits made by the Baltimore VA Medical Center emergency department director to patient departure times. The team did not identify evidence that the emergency department director received financial benefits as a result of the inappropriate edits. The team did not identify any other instances of fraud or potential fraud during this audit.

## **Data Reliability**

The audit team obtained EDIS data from VHA’s Corporate Data Warehouse. To test data reliability, the team reconciled the number of patient visits in total and by facility, quarter, and disposition to corresponding standardized quarterly “Process Analysis Tool” reports from VHA’s EMMT, which VHA managers use to monitor emergency department performance. In doing so, the audit team determined that the data used did not have missing elements from key fields, contain any significant calculation errors, include records from outside the time requested, contain obvious duplication of records, or have alphabetic or numeric characters in incorrect fields or other illogical relationships, or other irregularities or errors that could have any material impact on the audit. The audit team

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<sup>41</sup> Government Accountability Office, *Standards for Internal Control in the Federal Government*, GAO-14-704G, September 2014.

concluded that the data obtained and relied on were sufficiently reliable for the purposes of this audit.

## **Government Standards**

The OIG conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that the OIG plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions based on audit objectives. The OIG believes the evidence obtained provides a reasonable basis for the findings and conclusions based on the audit objectives.

## Appendix B: Management Comments

### Department of Veterans Affairs Memorandum

Date: May 17, 2021

From: Acting Under Secretary for Health (10)

Subj: OIG Draft Report, VHA Needs More Reliable Data to Improve Access to Emergency Care (VIEWS 05089225)

To: Assistant Inspector General for Audits and Evaluations (52)

1. Thank you for the opportunity to review and comment on the Office Inspector General (OIG) draft report: VHA Needs More Reliable Data to Improve Access to Emergency Care. The Veterans Health Administration (VHA) concurs with the recommendations 1-4 and concurs in principle with recommendation 5. The attached action plan addresses all 5 recommendations. We are pleased that the OIG did not find any evidence of adverse outcomes in their review.
2. While OIG audited a sample of VHA's emergency departments, we appreciate the insights brought forward as an opportunity to make improvements at all 110 emergency departments nationwide.
3. Due to OIG's early feedback during the audit period, VHA's National Emergency Medicine Program took immediate action to enhance the integrity of data collected through the Emergency Department Integration Software (EDIS) package. EDIS is a tool designed to facilitate clinical process improvement. While data collection of process timestamps is important to monitor the efficiency of ED operations, this does not provide a comprehensive assessment of care quality. Data entry into EDIS must, at times, be de-prioritized in order for clinicians to focus on the delivery of high-quality emergency care to our nation's Veterans. We will continue to evaluate traditional outcome measures to help us improve quality of care in ED's across the country.

*The OIG removed point of contact information prior to publication.*

(Original signed by)

Richard A. Stone, M.D.

Attachment

**VETERANS HEALTH ADMINISTRATION (VHA)**

**VHA Needs more Reliable Data to Improve Access to Emergency Care**

**Action Plan**

**Recommendation 1. The Under Secretary for Health ensure Baltimore VA Medical Center leaders reevaluate their corrective action plan, and adjust as needed.**

**VHA Comments:** Concur

The Baltimore VA Medical Center (VAMC) leaders re-evaluated their original corrective action plan and determined that they need to take additional actions. Baltimore VAMC hired a new Emergency Department Director effective March 4, 2020.

Baltimore VAMC will re-educate staff who are required to enter data into the Emergency Department Integration Software (EDIS) on proper data entry requirements and standards into the EDIS system.

Baltimore VAMC removed access to retrospectively update EDIS data from all users, with a security key (lock) associated with it. The Application Service Line Point of Contact and Information Technology, Area Manager completed this on March 6, 2020. Prior to May 10, 2021, the only person with a key was an Information Technology Analyst, Clinical Imaging Development, Security, and Operations employee. Baltimore VAMC leadership reclaimed the key and now no employees have access to this key.

Baltimore VAMC Quality Management will review a 6-month audit of EDIS data from January 1, 2021- June 30, 2021 to determine if there were any edited departure times and if the electronic health record supports the revised departure time entered. Baltimore VAMC will use the Joint Commission sample size to determine the sample size. Baltimore VAMC Quality Management staff will present the audit findings to Executive Council of the Medical Staff.

To complete this recommendation, Baltimore VAMC will provide:

1. Evidence that 90% (or above) of required staff have been re-educated.
2. Results of the 6-month EDIS data audit and six consecutive months showing zero revised patient departure times to shorten the duration with no medical record support and zero edits found after May 10, 2021.

Status: In progress

Target Completion Date: September 2021

**Recommendation 2. The Under Secretary for Health make certain that relevant staff receive appropriate training on recording wait times in the software.**

**VHA Comments:** Concur

VHA's National Emergency Medicine Program (NEMP) Office is updating VHA Directive 1101.13 Urgent Care and VHA Directive 1101.14 Emergency Medicine. The two Directives include added responsibilities to ensure relevant staff receive appropriate training on the correct use of the Emergency Department Integration Software (EDIS) software package.

NEMP will develop training materials with definitions that outline when to make entries that determine key process flow timestamps into the EDIS software. NEMP will ensure the training is disseminated through all appropriate channels at the Veterans Integrated Service Network and facility level.

Status: In progress

Target Completion Date: October 2021

**Recommendation 3. The Under Secretary for Health strengthen reliability reviews of Emergency Department Integration Software data to mitigate the risk of inaccurate records.**

**VHA Comments:** Concur

In response to early feedback from the OIG audit team, VHA's National Emergency Medicine Program (NEMP) Office sent a communication to the field in April 2020 clarifying the appropriate use of the Emergency Department Integration Software (EDIS) package.

Further, VHA's NEMP Office developed a reliability review tool to monitor the frequency of retrospective record corrections at the facility level. NEMP encouraged sites with a higher risk of inaccurate records to institute corrective action plans.

Since October 2020 to May 2021, no VHA Emergency Departments or Urgent Care sites have a frequent rate of modification of completed EDIS encounters. Currently, no site has a modification rate of more than 0.1% of completed encounters.

VHA provided OIG with the field communication regarding appropriate use of the EDIS software package as well as information from the reliability review tool intended to monitor the rate of completed EDIS record correction. VHA has completed actions on this recommendation and asks OIG to consider closing it.

Status: Completed

Completion Date: May 2021

**Recommendation 4. The Under Secretary for Health establish routine oversight responsibilities for Veterans Integrated Service Network and facility leaders of emergency departments' efforts to improve the reliability of their emergency department data.**

**VHA Comments:** Concur

To clarify expectations and responsibilities for ensuring reliability of emergency department data, VHA's National Emergency Medicine Program (NEMP) Office is updating VHA Directive 1101.05, Emergency Medicine, to include an expectation that Veterans Integrated Service Networks (VISN) are reviewing Emergency Department (ED) operational data regarding high vulnerability/unreliable sites with facilities in their purview. To support ongoing monitoring, VHA's Healthcare Operations Center will also incorporate ED operational data review as a rotating topic in a monthly data-focused cluster call with all VISNs.

Status: In progress

Target Completion Date: October 2021

**Recommendation 5. The Under Secretary for Health improve the monitoring of patients with the highest Emergency Severity Index levels receiving emergency care services.**

**VHA Comments:** Concur in Principle

VHA concurs in principal with the understanding that the recommendation speaks to *data* monitoring (as opposed to "monitoring" which may be misconstrued as physiologic monitoring) of Emergency Department/Urgent Care (ED/UC) patients who are assigned an Emergency Severity Index (ESI) 1 and 2 (clarifying that "highest" ESI levels refer to ESI 1 and 2).

NEMP is developing an implementation plan to improve data monitoring of patients with the highest ESI, defined as ESI 1 and 2 patients.

Status: In progress

Target Completion Date: October 2021

*For accessibility, the original format of this appendix has been modified to comply with Section 508 of the Rehabilitation Act of 1973, as amended.*

## OIG Contact and Staff Acknowledgments

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<b>Contact</b>	For more information about this report, please contact the Office of Inspector General at (202) 461-4720.
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