



October 2019

# VA HEALTH CARE

## Additional Training Could Improve Organ Transplant Referral and Evaluation Processes

## Why GAO Did This Study

As of June 2019, over 113,000 people in the United States—including veterans—were waiting for an organ transplant. In 2018, more than 36,000 organ transplants were performed at transplant centers across the country, including those within the Department of Veterans Affairs' (VA) Organ Transplant Program.

GAO was asked to review how VA administers and oversees its organ transplant program. This report, among other things, examines the process and timeliness with which VA reviews referrals and completes evaluations for organ transplants.

GAO reviewed data from VHA's Transplant Referral and Cost Evaluation Reimbursement database, documents related to VA's transplant program, and federal internal control standards. GAO conducted site visits to three of the 12 VATCs, selected to obtain diversity in geography and types of organs transplanted. At the selected VATCs, GAO reviewed facility data and documents related to organ transplants and interviewed officials. GAO also collected and reviewed information from the remaining nine VATCs.

## What GAO Recommends

VHA should provide additional training for staff at VHA medical centers that refer patients for organ transplants on (1) submitting complete referrals and (2) understanding and communicating the veteran's role related to timely completion of transplant evaluations.

VA concurred in principle with the recommendation and described actions the department will take to address the recommendation.

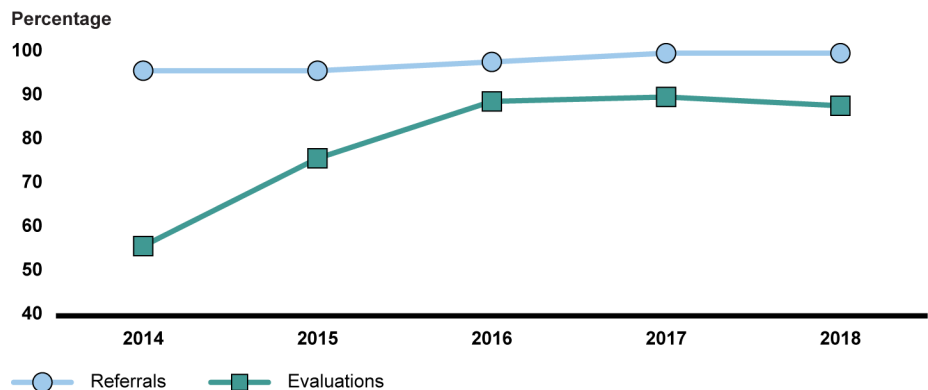
## VA HEALTH CARE

### Additional Training Could Improve Organ Transplant Referral and Evaluation Processes

## What GAO Found

The 12 Veterans Affairs' transplant centers (VATC), which are overseen by the Veterans Health Administration (VHA), almost always met the referral timeliness standard from fiscal years 2014 through 2018. When a veteran is determined to be a potential candidate for an organ transplant, he or she can receive a formal referral to a VATC. Depending on the type of referral, the VATC must meet specific timeliness standards for reviewing the referral and deciding if the veteran should receive a full evaluation. Likewise, VATCs have timeliness standards for conducting the full evaluation, and generally showed improvement in meeting that standard from fiscal years 2014 through 2018. For those delays in conducting full evaluations that did occur, GAO found they varied by organ type and VATC. Specifically, in fiscal year 2018, transplant evaluation timeliness ranged from 60 percent at two VATC kidney programs to 100 percent at kidney, liver, heart or lung programs across seven different VATCs.

**Percentage of Timely Referral Reviews and Evaluations by Department of Veterans Affairs Transplant Centers from Fiscal Years 2014 through 2018**



Source: GAO analysis of Veterans Health Administration data. | GAO-20-4

According to VATC officials, transplant evaluation delays are caused when patients or caregivers are not available or not aware that they are required to be evaluated within 30 days of being referred. Although veterans may prefer to be seen at a later date, untimely evaluations can delay veterans' placement on the national organ donation waitlist. According to VHA data, 192 of the 1,617 transplant evaluation appointments completed in fiscal year 2018 did not meet the 30-day requirement. VATC officials said this was because veterans were not available or not aware of the requirement. GAO found that staff at referring VHA medical centers lacked a full understanding of the transplant referral and evaluation process. For example, VATC providers told GAO that transplant referrals are sometimes incomplete, requiring providers to spend extra time searching for information that should have been readily available. GAO found that additional training for medical center staff would help to improve the efficiency of the transplant referral process and the timeliness of transplant evaluations provided to veterans, a critical factor affecting veteran outcomes.

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### Abbreviations

OPTN	Organ Procurement and Transplantation Network
TRACER	Transplant Referral and Cost Evaluation/Reimbursement
VA	Department of Veterans Affairs
VATC	Department of Veterans Affairs transplant center
VHA	Veterans Health Administration
VERA	Veterans Equitable Resource Allocation

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October 2, 2019

The Honorable Neal Dunn, M.D.  
Ranking Member  
Subcommittee on Health  
Committee on Veterans' Affairs  
House of Representatives

The Honorable Jack Bergman  
Ranking Member  
Subcommittee on Oversight and Investigations  
Committee on Veterans' Affairs  
House of Representatives

The Honorable Bill Cassidy, M.D.  
United States Senate

Organ transplantation is a life-saving procedure for many Americans and is the leading form of treatment for patients with severe organ failure. In 2018, individuals at transplant centers across the United States received 36,527 transplanted organs, including veterans receiving treatment through the Department of Veterans Affairs (VA). However, as of June 2019, over 113,000 individuals remained on the waiting list to receive an organ and an average of more than 20 people died each day waiting for an organ.

To serve veterans in need of an organ transplant, VA established the VA Organ Transplant Program in 1961.<sup>1</sup> VA's Veterans Health Administration (VHA) administers the program, through which VHA refers, evaluates, and provides solid organ transplant services to veterans through a network of 12 VA transplant centers (VATC).<sup>2</sup> More broadly, the Health Resources and Services Administration, within the Department of Health and Human Services, oversees the Organ Procurement and

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<sup>1</sup>VA refers to this program as the "VA National Transplant Program."

<sup>2</sup>VATCs are VHA medical centers that have the specialty care and expertise to evaluate veterans referred from other VA medical centers to determine if they are candidates for a transplant, and to provide the transplant services. The VA Organ Transplant Program offers both solid organ and bone marrow transplant services. For the purpose of this report, our analysis considers only solid organ transplants such as heart, lung, kidney, and liver. We excluded pancreas and small bowel transplants due to the low volume of these procedures and because transplants of these organ types are not performed at VATCs.

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Transplantation Network (OPTN), which develops national policies for organ allocation, maintains the waiting list of individuals seeking organ transplants, and tracks data on individuals awaiting and receiving donated organs in the United States, including veterans in the VA Organ Transplant Program.

Media reports have raised concerns about barriers to care for veterans needing an organ transplant; specifically, providing veterans with reasonable access to transplant care. To address some of these concerns, in June 2018, the VA MISSION Act of 2018 was enacted and expands the agency's ability to authorize community care for covered veterans requiring an organ transplant and who have a medically compelling reason to travel outside of the region in which they reside to receive the transplant.<sup>3</sup>

You asked us to provide an overview of the VA Organ Transplant Program, including VHA's management and oversight of the program. This report

1. describes how VHA provides organ transplants for veterans;
2. provides information on the volume, outcomes, and associated spending for organ transplants VHA provided from fiscal years 2014 through 2018; and
3. examines the process and timeliness with which VHA provided referrals and evaluations for organ transplants from fiscal years 2014 through 2018.

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<sup>3</sup>Pub. L. No. 115-182, § 101(a)(1), 132 Stat. 1393 (2018), codified, as amended, at 38 U.S.C. § 1703(l) (hereafter, "VA MISSION Act").

The VA MISSION Act established the Veterans Community Care Program, which allows eligible veterans to receive care in the community when, among other things, VHA does not offer the care or services that the veteran requires or does not operate a full-service medical facility in the state in which the veteran resides. Under this program, some veterans may be authorized to obtain a transplant at a transplant center in the community.

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To describe how VA provides organ transplants for veterans, we reviewed relevant VA and VHA policies and procedures, and prior GAO reports.<sup>4</sup> The VHA policies included the VHA directive that contains guidance on how the program operates, and VHA tools and criteria for managing transplant care.<sup>5</sup> To obtain the perspectives of those overseeing and operating within the VA Organ Transplant Program, we interviewed officials from VHA's National Surgery Office, which oversees the organ transplant program, and gathered information from all 12 of the VATCs that provide solid organ transplants.<sup>6</sup> We conducted site visits to three VATCs—located in Madison, Wisconsin; Nashville, Tennessee; and Richmond, Virginia—to understand the overall transplant process; how the program is administered, overseen, and assessed; how and where transplant care is provided; and how lodging and transportation are provided to veterans.<sup>7</sup> To collect similar information from the nine VATCs we did not visit, we used a structured question set to gather written responses and documentation. Finally, we interviewed officials from the Health Resources and Services Administration and the United Network for Organ Sharing to understand their roles in the national organ allocation and transplant systems.<sup>8</sup>

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<sup>4</sup>See GAO, *Veterans Choice Program: Improvements Needed to Address Access-Related Challenges*, [GAO-18-281](#) (Washington, D.C.: Jun 4, 2018); *VA Health Care: Need for More Transparency In New Resource Allocation Process and for Written Policies on Monitoring Resources*, [GAO-11-426](#) (Washington, D.C.: Apr 29, 2011); *Organ Transplant Programs: Federal Agencies Have Acted To Improve Oversight, But Implementation Issues Remain*, [GAO-08-412](#) (Washington, D.C.: Apr 29, 2008); and *Department of Health and Human Services, Centers for Medicare and Medicaid Services: Medicare and Medicaid Programs; Conditions for Coverage for Organ Procurement Organizations*, [GAO-06-841R](#) (Washington, D.C.: Jun 14, 2006).

<sup>5</sup>See Veterans Health Administration Directive 2012-18, *Solid Organ and Bone Marrow Transplantation* (July 9, 2012); *Veterans Health Administration Handbook*. 1102.01.

<sup>6</sup>VA has an additional VATC in San Antonio, Texas, that is not included in the scope of this audit since it performs only bone marrow transplants.

<sup>7</sup>We selected this judgmental sample of VATCs to obtain a diverse mix of perspectives, based on variations in geographical location, and the number and types of organ transplants performed. Specifically, we considered (1) the number and types of organs transplanted by the VATC in calendar year 2017 (the most recent year for which complete data were available at the time this audit was designed), (2) the number of referrals for organ transplantation the VATC received in 2017, and (3) whether the VATC had sharing agreements in place with academic medical institutions for its organ transplant programs.

<sup>8</sup>The OPTN is managed under a contract with the United Network for Organ Sharing.



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To provide information on the volume, outcomes, and associated spending for organ transplants provided by VHA from fiscal years 2014 through 2018, we collected and analyzed related VHA and publicly reported data. Specifically, we reviewed documentation assessing the quality of contracted transplant services from all VATCs that have contracts with academic affiliates. We also analyzed mortality data from VHA's Transplant Referral and Cost Evaluation/Reimbursement (TRACER) database for veterans who obtained a transplant from fiscal years 2014 through 2018 and publicly reported data from the Scientific Registry of Transplant Recipients to determine health outcomes and transplant survival rates for the general population, including veterans who received transplants during this time period.<sup>9</sup> We assessed the reliability of the data by reviewing relevant documentation, interviewing knowledgeable United Network for Organ Sharing officials, and reviewing the data for missing values. We concluded that the data were sufficiently reliable for analyzing survival rates for the general population, but were not sufficiently reliable for identifying veterans who received transplants through VHA. As a result, we could not compare health outcomes, including survival rates, between veterans in the database and the general population. We also interviewed officials from VHA's National Surgery Office and Office of Finance. In addition, we interviewed VATC staff at our site visit locations to gather information and perspectives on the outcomes of solid organ transplants, and the contracts for transplant services with academic affiliates.

To examine the process and timeliness with which VATCs provided referrals and evaluations for veterans seeking organ transplants from fiscal years 2014 through 2018, we reviewed policies outlining VA's process for preparing and reviewing transplant referrals and timeliness standards related to transplant referrals and evaluations. We also analyzed data from the TRACER database on organ transplant patient referrals, evaluations, and transplants for fiscal years 2014 through

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<sup>9</sup>National Scientific Registry of Transplant Recipients data is managed by the OPTN under contract with the United Network for Organ Sharing and is organized by candidate, donor, transplant, and transplant follow-up. All transplant facilities across the United States, including VATCs, contribute patient data to the National Scientific Registry of Transplant Recipients.

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2018.<sup>10</sup> To assess the timeliness of VATC referral reviews, we calculated the number of business days or the number of hours—between the referral submission date/time and the decision date/time—and compared them to the timeliness standards. To assess the timeliness of VATC evaluations, we calculated the number of calendar days between the referral submission date and the evaluation date and compared them to the timeliness standards.<sup>11</sup> We assessed the reliability of the data by reviewing relevant documentation, interviewing knowledgeable VHA officials, and reviewing the data for missing values and outliers. We determined that these data were sufficiently reliable for the purposes of our audit objectives. Additionally, we interviewed VHA officials from the National Surgery Office and from VATCs where we conducted site visits, as well as those located in Birmingham, Alabama; Pittsburgh, Pennsylvania; and Houston, Texas, about reasons for delays in referral reviews and evaluations.<sup>12</sup> Further, we interviewed officials from five VHA medical centers that refer veterans for transplant services to hear their perspectives on the training and education provided on the referral process.<sup>13</sup> We evaluated VHA’s process for sharing information with VHA medical center transplant coordinators on submitting referrals and scheduling evaluations for transplant candidates against federal internal control standards.<sup>14</sup>

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<sup>10</sup>VATCs conducted some evaluations and performed some transplants between fiscal year 2014 and fiscal year 2018 that were not included in our analysis, because those referrals were submitted prior to TRACER being established in July 2013. For the purposes of this report, we have included dual-organ transplants as follows: liver-kidney grouped with liver; kidney-pancreas grouped with kidney; heart-kidney grouped with heart; heart-liver grouped with liver, heart-lung grouped with lung; and liver-small bowel grouped with liver. Generally, dual-organ transplants comprise a small number of the total transplants VHA performs each year.

<sup>11</sup>VHA’s timeliness standard for referral review is measured in business days, while its timeliness standard for evaluations is measured in calendar days.

<sup>12</sup>These VATCs were selected to represent a range of timeliness for referrals and evaluations over the 5-year period.

<sup>13</sup>These VHA medical centers are located in Charleston, South Carolina; Columbia, Missouri; Danville, Illinois; Fresno, California; and Las Vegas, Nevada, and were selected to include a range of referral volumes.

<sup>14</sup>See GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 10, 2014). Internal control is a process effected by an entity’s oversight body, management, and other personnel that provides reasonable assurance that the objectives of an entity will be achieved.

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We conducted this performance audit from April 2018 to October 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions on our audit objectives.

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## Background

VA administers one of the largest health care systems in the United States and is charged, through the VHA, with providing health care services to the nation's eligible veterans. VHA expects to provide care to more than 7 million veterans in fiscal year 2019 at health care facilities across the country through a system of 18 regional networks known as Veterans Integrated Service Networks.<sup>15</sup> VHA has 172 medical centers that offer a variety of inpatient and outpatient services, ranging from routine examinations to complex surgical procedures. VHA's health care system also includes community-based outpatient clinics and other facilities that generally limit services to primary care and some specialty care. When veterans need services that are not available at VHA medical facilities or within required driving distances or time frames, VHA may purchase care from non-VHA providers through one of its community care programs.<sup>16</sup>

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## VA Organ Transplant Program

VHA's National Surgery Office is charged with overseeing the VA Organ Transplant Program, including the 12 VATCs that have established specialty services to provide solid organ transplant surgery and post-

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<sup>15</sup>A VHA regional network office provides management and oversight to the medical centers and clinics within its assigned geographic area.

<sup>16</sup>Established under the Veterans Access, Choice, and Accountability Act of 2014, the Veterans Choice Program authorizes care for eligible veterans through eligible non-VHA providers under certain circumstances. Pub. L. No. 113-146, § 101, 128 Stat. 1754, 1755-65 (2014). The VA MISSION Act requires VA to consolidate the Choice Program and several other community care programs into one permanent community care program—the Veterans Community Care Program. The new program began serving veterans on June 6, 2019. Pub. L. No. 115-182, § 101(b), 132 Stat. 1393 (2018). Although the authority to provide care through the Veterans Choice Program sunset on June 6, 2019, it was available during fiscal years 2014 through 2018—the time period within the scope of this audit.



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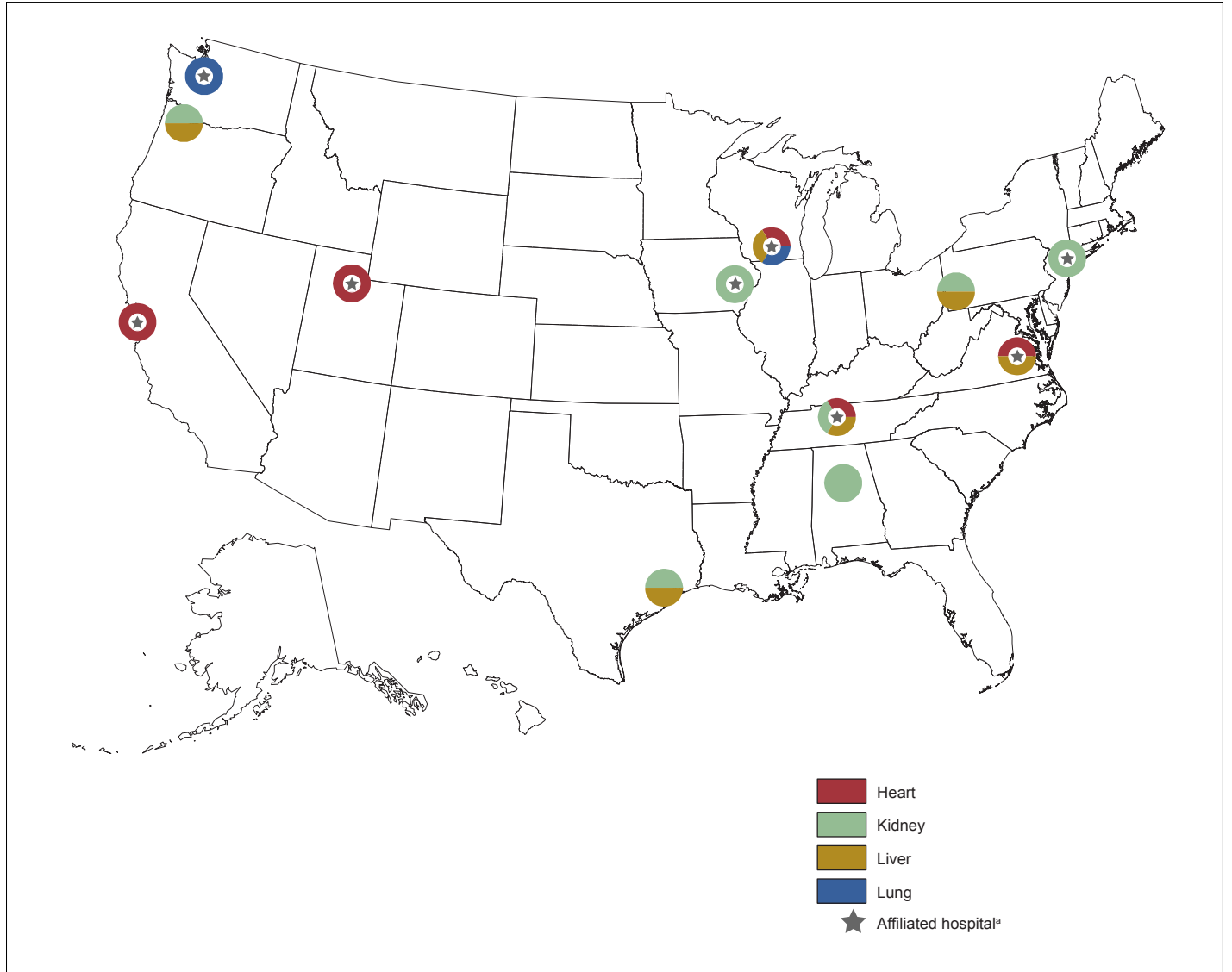
operative care, in some cases in conjunction with an academic affiliate.<sup>17</sup> VATCs offer transplants for one or more organ types including heart, kidney, liver, and lung. (See fig. 1.)

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<sup>17</sup>Eight of the 12 VATCs that perform solid organ transplants contract with an affiliated academic institution to provide some organ transplant services. VA is authorized to enter into a non-competitive contract with an academic affiliate for health care resources, such as physician services, medical equipment usage, or clinical space, if services are provided in connection with a medical residency program. 38 U.S.C. § 8153(a)(3)(A). In July 2019, VA reported the following staffing for the 12 VATCs that offer solid organ transplants: approximately 63 full-time equivalent clinical positions with two full-time equivalent vacancies; approximately 83 full-time equivalent support staff with seven full-time equivalent vacancies; and three full-time equivalent medical residents.

**Figure 1: VA Transplant Centers Providing Solid Organ Transplants as of June 2019**

**Interactivity instructions:**  Roll over on each circle for information about the VATC, its transplant academic affiliate (if applicable), and type of transplants performed.  See Appendix I for the non-interactive, printer-friendly version.



Source: Veterans Health Administration (information); GAO (illustration). | GAO-20-4

Notes: The Department of Veterans Affairs (VA) has an additional VA transplant center (VATC) in San Antonio, Texas, that is not depicted in this map, because it performs only bone marrow transplants. In addition, VA expects to add new organ transplant programs in Illinois, Massachusetts, and Texas in fiscal year 2020.

<sup>a</sup>Some VATCs contract with an academic affiliate to perform certain transplant services.

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VHA considers transplant services provided through a VATC's academic affiliate as care provided within the VA Organ Transplant Program. VHA's National Surgery Office is responsible for clinical and operational oversight, as well as policies related to the VA Organ Transplant Program, including

- facilitating and monitoring the transplant referral process;
- overseeing quality of care; and
- monitoring outcomes of veterans receiving transplants.

In 2013, VHA's National Surgery Office established TRACER to track and monitor the referrals, evaluations, and outcomes for organ transplants performed at the VATCs. Referring VHA medical centers use the database to enter a referral for a veteran to be evaluated at a VATC; and VATCs use it to record referral reviews, patient evaluations, transplant outcomes, and follow-up care. In addition, the database provides the National Surgery Office with information used to monitor transplant volumes, the referral and evaluation process, and clinical outcomes across all VATCs. The VA Organ Transplant Program's services include pre-transplant evaluation and testing, transplant surgery, post-transplant follow-up care, as well as transplant-related round-trip travel and lodging for both the veteran and a caregiver.<sup>18</sup> VHA covers the cost of lodging for the veteran and caregiver through a variety of arrangements including contracts with local hotels and on-site VHA medical center housing, such as through the Fisher House Program.<sup>19</sup> In addition, VHA may cover the cost of transplant services provided by non-VA providers; for example, when a veteran in urgent need of a heart transplant cannot travel to a VATC that provides that service.

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<sup>18</sup>Travel is paid through VA's Beneficiary Travel Program and, according to VHA officials, is a shared responsibility of the VATC and the VHA medical center that refers the veteran for transplant services. VA officials told us that in addition to the services the program provides to veterans, VHA also provides living donor care to non-veterans who are donating an organ to a veteran within the program. These services include pre-donation donor screening, organ donation surgery, and follow-up care.

<sup>19</sup>The Fisher House Program provides temporary accommodations at no cost to veterans or veterans' families and caregivers while the veteran is receiving treatment through a VHA medical center. Fisher Houses are located within walking distance of the VHA medical center providing treatment. As of January 2019, VA reported 38 Fisher House locations across the country and an effort to expand the program to 64 locations over the next several years. Lodging is also covered for living donors and their caregivers.

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The VA MISSION Act includes provisions regarding VA’s authority to cover organ transplant services by non-VA providers—referred to as community care.<sup>20</sup> Prior to the VA MISSION Act, VHA used its authority, as needed, to contract for transplant services with providers in the community when VHA care and services were not accessible in a timely fashion; however, the act provides additional authority to improve veterans’ access to transplant care and services through community providers, and authorizes transplant procedures with living organ donors who are not eligible for VHA care.<sup>21</sup> On June 5, 2019, VA issued final regulations for the act.<sup>22</sup>

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## Oversight and Process for Organ Allocation in the United States

The Health Resources and Services Administration contracts with the United Network for Organ Sharing—a private, nonprofit organization—to manage the OPTN, which creates and maintains transplant policies and bylaws that are applicable to all transplant centers in the United States, including the VATCs and the academic affiliates performing transplants under contract with them. OPTN documents organ allocation policies, and collects and reports data on transplant recipients, donors, and outcomes. OPTN also conducts periodic audits of transplant program performance, including ensuring that transplant programs meet functional activity requirements (i.e., performing a minimum number of transplants in a proscribed period of time), and reviewing post-transplant patient survival rates. In addition, OPTN assesses whether transplant centers have established required quality assurance and performance improvement programs to help ensure the quality and safety of the transplant services provided.

When transplant centers, including the VATCs, identify a candidate for organ transplantation, they register the patient in the OPTN’s centralized, national computer network that matches organ donors with transplant candidates, referred to in this report as the “national organ donation waitlist.” Veterans do not receive preference for organ allocation. When an organ becomes available, the computer network generates a list of transplant candidates ranked by a standard set of criteria that generally include factors such as

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<sup>20</sup>Pub. L. No. 115-182, § 101(a)(1), 132 Stat. 1393, 1395 (2018).

<sup>21</sup>Pub. L. No. 115-182, §§101 and 153, 132 Stat. 1393, 1395, 1437 (2018).

<sup>22</sup>84 Fed. Reg. 26278-01 (June 5, 2019).

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- blood and tissue type,
  - size of the organ,
  - medical urgency of the candidate,
  - time on the waitlist, and
  - geographic distance between the organ donor and transplant candidate.

An organ procurement specialist then contacts the transplant program of the top-ranked transplant candidate to determine if the available organ is suitable for the candidate. If the organ is suitable, arrangements are made to procure, transport, and store the donated organ, and for the transplant candidate to travel to the transplant center for surgery. If the organ is not suitable for a given candidate, the procurement specialist contacts the transplant program of the next transplant candidate on the list until the organ is found to be suitable for a transplant candidate.

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## VHA Health Care Program Funds

Each year, VA allocates most of its appropriations for health care services to VHA's 18 Veterans Integrated Service Networks through the Veterans Equitable Resource Allocation (VERA) system. VERA funds are allocated for general purposes, such as treatment for basic and complex patients, research and educational support, and equipment and maintenance costs; as well as for specific purposes, such as preventative and primary care initiatives and transplant care. The VERA model uses price groups—categories of veterans with similar resource needs based on the complexity of their medical conditions—to determine the funding level for each network. In addition, VHA's National Surgery Office historically allocated transplant specific purpose funds to the VATCs for solid organ transplants, because the costs of transplant services were not fully covered by general purpose funds.<sup>23</sup> Beginning in fiscal year 2019, the VERA model was modified to establish a new price group specifically for transplant patients, allowing full funding with general purpose funds for

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<sup>23</sup>According to VHA, funding from general purpose funds, even at the highest complexity category in the VERA model does not typically cover the total costs of a transplant patient. VHA officials noted that without transplant specific purpose funds, VATCs would have a financial disincentive to providing transplant care. Transplant specific purpose funds are also used to cover the costs at VHA medical centers that perform certain transplant follow-up care.

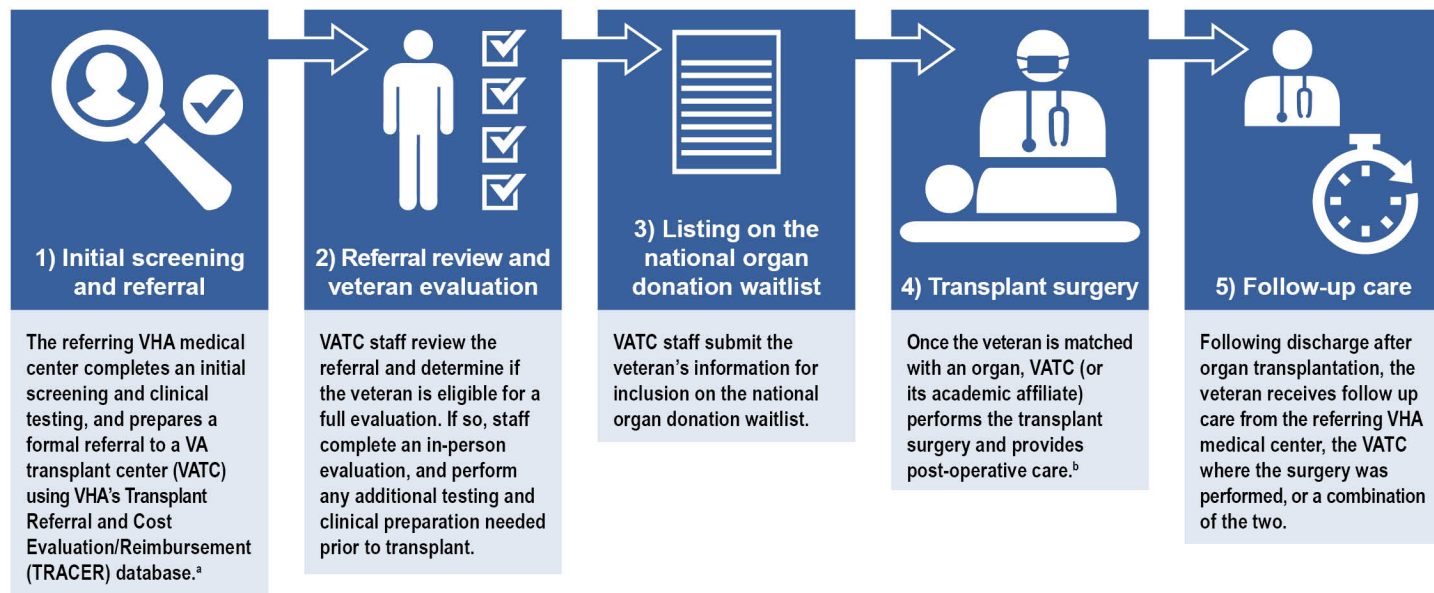


these services.<sup>24</sup> VHA officials explained that this change is expected to reduce the need for specific purpose funds to supplement transplant care. VHA officials told us academic affiliate contracts are funded through the medical services appropriations allocated to the VHA medical center where the VATC is located.

## VHA Provides Organ Transplants to Veterans through a Multi-Step Process

To receive an organ transplant in the VA Organ Transplant Program, a veteran must go through a five-step process: (1) initial referral, (2) pre-operative evaluation, (3) listing on the OPTN national organ donation waitlist, (4) transplant surgery, and (5) follow-up care that continues for the remainder of the veteran's life. See figure 2 for an overview of the five steps.

**Figure 2: Process for Veterans to Receive Solid Organ Transplants within the Department of Veterans Affairs (VA) Organ Transplant Program**



Source: GAO analysis of VHA's organ transplant process information. | GAO-20-4

<sup>a</sup>The Veterans Health Administration's (VHA) TRACER database is used to track and monitor transplant referrals, evaluations, and outcomes for veterans.

<sup>b</sup>Some VATCs have a contract with an academic affiliate to perform certain transplant services.

<sup>24</sup>The VERA patient classification model is a risk-adjusted system used to categorize patients based on clinical complexity and resource utilization patterns. This system provides the national patient case-mix that is used to establish the VERA model prices. Most transplant patients fall under the highest complexity VERA price group.

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**Step 1: Initial screening and referral.** A veteran seeking an organ transplant begins the process by having an initial screening at a referring VHA medical center. If VHA medical center providers determine that the veteran is a potential candidate for an organ transplant, they may prepare a formal referral to a VATC. To prepare a referral, the providers use an organ-specific checklist and other tools developed by VHA's National Surgery Office with input from other experts in the field to perform a standard set of assessments of the veteran's clinical, social, and mental health status. In addition, VHA officials told us that the initial screening includes an assessment of the veteran's social and family support; for example, identifying a caregiver who can accompany and stay with the veteran throughout the transplant process. In addition, there are organ-specific criteria, such as negative tobacco smoking screens for veterans seeking a heart transplant, and up-to-date dialysis information for liver and kidney transplant candidates. VHA officials noted that the providers may consult with staff at a VATC as needed during the initial screening phase.

Following the initial screening, if VHA medical center providers determine that the veteran is a potential candidate for a transplant, they enter the checklist information into the TRACER database, include the results of the required assessments outlined in the checklist, and attach any additional medical information, such as testing performed through care in the community. VHA officials told us that the VATC to which the veteran is referred is chosen based on factors including distance from the veteran's home and the types of organ transplants offered at the VATC. Once the VHA medical center completes a referral in TRACER, the information becomes available to the selected VATC.

**Step 2: VATC referral review and veteran evaluation.** When the VATC receives a veteran's referral, VATC staff review it to determine whether the referral information is complete and the veteran meets the criteria to continue the process. If so, VATC staff evaluate the veteran and perform additional testing and clinical preparation needed to determine whether the veteran is a transplant candidate. To reduce the travel burden on veterans and their caregivers, providers at the veteran's referring VHA medical center may arrange for telehealth visits with the VATC for pre-transplant education and consultation.<sup>25</sup> However, travel for in-person

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<sup>25</sup>To improve access to care for veterans, VHA providers may use technology, such as video conferencing equipment, to conduct health care appointments under certain circumstances, such as when the provider and the veteran are in different locations.

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appointments at the VATC is required for most veterans referred for evaluation.

According to VATC officials we spoke with, the VATC considers the severity of the veteran's illness and overall need for a transplant. In some cases, this assessment is conducted by a panel of experts composed of VATC providers and providers from the academic affiliate, where applicable. For example, some VATCs hold regular review meetings to discuss cases up for consideration jointly with providers from the VHA medical center and the academic affiliate, because individual cases may be co-managed depending on the type of organ being transplanted and the services provided at an individual VATC. Providers at some VATCs provide care at both the VATC and its academic affiliate, allowing for integrated clinical management of patients.<sup>26</sup>

If the VATC determines the veteran is not a candidate for transplantation, the referring VHA medical center can request a second opinion by another VATC. If the veteran is once again determined not to be a candidate, the referring VHA medical center can make a final appeal. Appeals are forwarded to the VA's Transplant Surgical Advisory Board, comprised of subject matter experts, for consideration. According to VHA policy, the board considers the appeal and makes a recommendation to the National Director of Surgery (the head of VHA's National Surgery Office) who is responsible for facilitating second opinion requests, making the final determination, and notifying the referring VHA medical center regarding the final appeal determination.<sup>27</sup> VHA reported that between fiscal years 2014 and 2018, 39 decisions were appealed to the Transplant Surgical Advisory Board, one of which was approved for resubmission to another VATC for consideration.

**Step 3: Listing on the national organ donation waitlist.** If the VATC determines that the veteran is a candidate for an organ transplant, VATC staff add the veteran to the national organ donation waitlist. At this point in the process, veterans follow the same procedure as the general population seeking an organ transplant. To maximize the chances that the veteran will receive an organ, the VATC staff may also discuss

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<sup>26</sup>VHA officials told us that a VATC's association with an academic affiliate increases the volume and diversity of patients, which provides surgeons with more experience and more training, and allows them to maintain clinical skills.

<sup>27</sup>Veterans Health Administration Directive 2012-18, *Solid Organ and Bone Marrow Transplantation*.

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options the veteran can pursue for personally identifying a potential living donor (if applicable for the organ needed).<sup>28</sup> VATC officials noted that they may provide other clinical interventions to help prolong a veteran's life and preserve his or her health while awaiting an organ; for example, implanting a ventricular assist device into a veteran awaiting a heart transplant.<sup>29</sup>

**Step 4: Transplant surgery.** According to VATC officials, once a veteran is placed on the OPTN national organ donation waitlist, depending on the type of organ needed, the veteran and their caregiver may be required to travel to the VATC and remain in close proximity while awaiting organ availability. In some cases, such as for a liver transplant, a harvested organ can be kept viable for longer periods, allowing time for a veteran to travel from their home to the VATC once the organ becomes available.<sup>30</sup> Depending on the arrangement between a particular VATC and its academic affiliate, the veteran could receive the transplant surgery and post-operative care at either the VATC or the affiliate. For example, the VATC in Richmond performs heart transplants and contracts with its affiliate for liver transplants. The VATC in Nashville performs kidney transplants and contracts with its affiliate for heart and liver transplants. From fiscal years 2014 through 2018, 61 percent of the transplant surgeries provided within the VA Organ Transplant Program were performed by a VATC and 39 percent were performed by an academic affiliate. See table 1 for a list of VATCs, organ types transplanted, and contracts with academic affiliates.

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<sup>28</sup>VA officials noted that some veterans may be eligible to be considered for an organ transplant at more than one transplant center—either at a VATC or in the community—which can also help to maximize the chances of receiving a transplant.

<sup>29</sup>A ventricular assist device is a mechanical pump that supports heart function and blood flow in people who have weakened hearts. It can be used to prolong the life of a patient awaiting a transplant and is also a treatment used for patients with heart failure who are not clinically eligible for a transplant.

<sup>30</sup>According to OPTN, it is optimal for hearts and lungs to be transplanted within 4 to 6 hours of organ recovery from a donor, while livers can be preserved for up to 8 to 12 hours after recovery.

**Table 1: Types of Solid Organs Transplanted by Department of Veterans Affairs Transplant Centers (VATC) and Their Academic Affiliates**

Location of VATC	Solid organ(s) transplanted	Contracts with academic affiliates by organ type	Academic affiliate
Birmingham, AL	Kidney	×	
Bronx, NY	Kidney	✓ <sup>a</sup>	Icahn School of Medicine at Mount Sinai
Houston, TX	Kidney	×	
	Liver	×	
Iowa City, IA	Kidney	✓ <sup>b</sup>	University of Iowa Hospitals and Clinics
Madison, WI	Heart	✓	University of Wisconsin Hospital and Clinics
	Liver	✓	
	Lung	✓	
Nashville, TN	Heart	✓	Vanderbilt University Medical Center
	Kidney	×	
	Liver	✓	
Palo Alto, CA	Heart	✓	Stanford Health Care
Pittsburgh, PA	Kidney	×	
	Liver	×	
Portland, OR	Kidney	×	
	Liver	×	
Richmond, VA	Heart	×	Virginia Commonwealth University Health System Authority
	Liver	✓	
Salt Lake City, UT	Heart	✓	University of Utah Hospitals and Clinics
Seattle, WA	Lung	✓	University of Washington Medical Center

Legend: no: × yes: ✓

Source: GAO presentation of Veterans Health Administration information. | GAO-20-4

<sup>a</sup>Procurement of kidney from living donor is performed at the affiliate.

<sup>b</sup>Dual kidney-pancreas transplants are performed by the academic affiliate.

**Step 5: Follow-up care.** Following the transplant surgery and the immediate post-operative care provided by the VATC and its academic affiliate, the veteran receives on-going follow-up care from both the VATC and the referring VHA medical center. VHA providers monitor veterans post-transplant for the remainder of their lives; for example, to oversee

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post-transplant immunosuppression, and track survival rates and outcomes for organ recipients.<sup>31</sup> VA policy states that the VATC has primary responsibility for providing care while the veteran is at the VATC for the transplant and for providing specialized follow-up care after the veteran is discharged.<sup>32</sup> In general, however, following discharge from the VATC, the veteran's referring VHA medical center maintains responsibility for the veteran's care coordination.

VHA has policies and processes to allow for some aspects of transplant-related care, including follow-up care, to be done via telehealth—that is, visits with a VATC provider remotely from the veteran's referring VHA medical center. VHA medical centers may establish telehealth agreements with VATCs to ease the burden of travel for veterans and their caregivers, and to allow for ongoing monitoring of the veteran's health post-transplant. Because VHA monitors transplant recipients for the rest of their lives, using telehealth can decrease the need for the veteran to travel back to the VATC unless a specific clinical need arises, such as biopsies for heart transplant recipients. VHA officials noted that follow-up care is facilitated by VA's shared electronic health record, which allows VHA providers to share medical records and other patient information over time and across locations. Further, VHA providers noted that follow-up care and communication between VATCs and primary care teams can be more complicated in the private sector when transplant services are not generally part of a patient's whole system of care.

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<sup>31</sup>Medications known as "immunosuppressant" or "anti-rejection" drugs reduce the risk that a patient's body will reject a transplanted organ. Providers monitoring transplant patients may adjust these drugs to prevent organ rejection and minimize the side effects of the drugs.

VA providers enter key transplant-related information, such as survival rates, into the TRACER database, which allows VHA's National Surgery Office to monitor and report trends for patient outcomes post-transplant.

<sup>32</sup>VA Telehealth Services and Office of Surgical Services, *Teletransplant Specialty Operations Manual Supplement* (October 2016).

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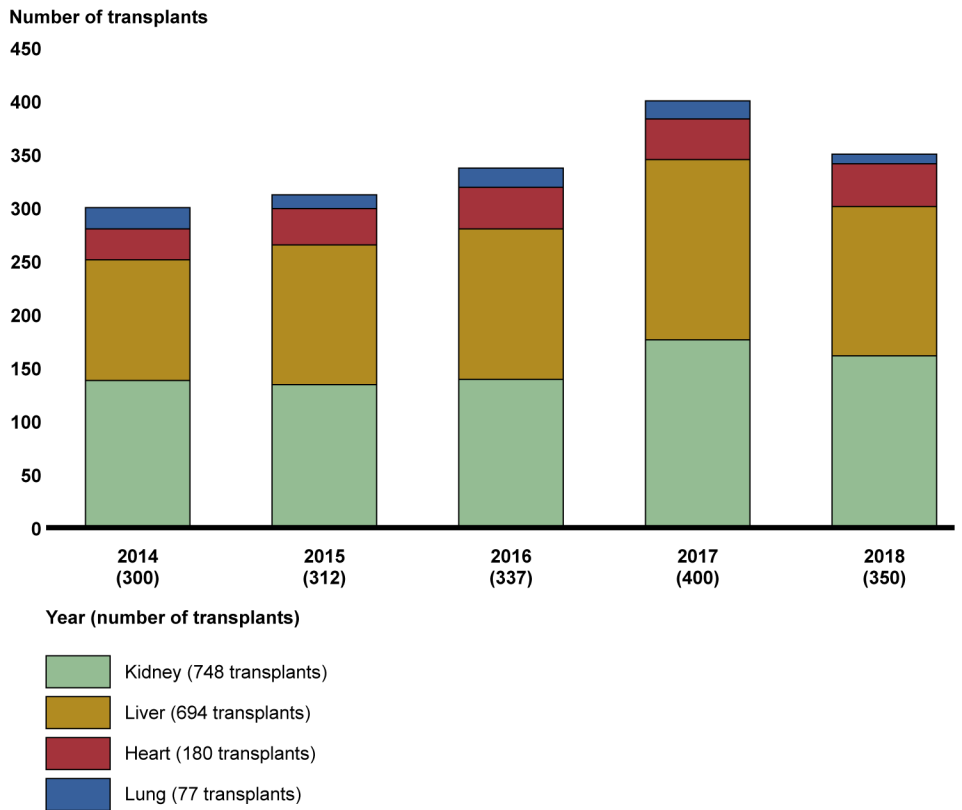
## The Number of VHA Organ Transplants and Related Allocations and Spending Generally Increased from Fiscal Years 2014 through 2018

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### The Number of Organ Transplants at VATCs Increased between Fiscal Year 2014 and Fiscal Year 2018

VATCs provided about 1,700 organ transplants between fiscal year 2014 and fiscal year 2018. The number of organ transplants provided each year generally increased, ranging from 300 transplants in fiscal year 2014 to a peak of 400 transplants in fiscal year 2017. During this 5-year period, kidneys and livers were the most frequently transplanted organs, representing 85 percent of all organs transplanted at VATCs. Heart and lung transplants were much less common and represented the remaining transplants. (See fig. 3.)

**Figure 3: Solid Organ Transplants Performed through the VA Organ Transplant Program from Fiscal Year 2014 through Fiscal Year 2018**



Source: GAO analysis of Veterans Health Administration (VHA) data. | GAO-20-4

Note: Transplants include those performed at a Department of Veterans Affairs (VA) transplant center or its academic affiliate.

For the programs that were active during all 5 years from fiscal year 2014 through fiscal year 2018, the number of solid organ transplants performed varied by VATC, ranging from 12 at the Birmingham VATC to 399 at the Pittsburgh VATC. (See table 2.)



**Table 2: Number of Solid Organ Transplants Performed by Department of Veterans Affairs Transplant Centers from Fiscal Year 2014 through Fiscal Year 2018**

VATC location	Fiscal Year					Total
	2014	2015	2016	2017	2018	
Birmingham, AL	0	0	2	7	3	12
Bronx, NY	-	-	0	5	4	9
Houston, TX	11	14	20	33	44	122
Iowa City, IA <sup>a,b</sup>	37	33	21	26	25	142
Madison, WI <sup>b</sup>	24	32	35	40	24	155
Nashville, TN <sup>b</sup>	60	65	68	69	58	320
Palo Alto, CA <sup>b</sup>	2	6	2	2	2	14
Pittsburgh, PA	66	60	85	100	88	399
Portland, OR	59	62	63	61	60	305
Richmond, VA <sup>b</sup>	26	28	25	39	30	148
Salt Lake City, UT <sup>b</sup>	9	8	8	10	7	42
Seattle, WA <sup>b</sup>	6	4	8	8	5	31
<b>VATC total</b>	<b>300</b>	<b>312</b>	<b>337</b>	<b>400</b>	<b>350</b>	<b>1699</b>

Legend:  
 — = no data, program was activated in fiscal year 2016.

Source: GAO analysis of Veterans Health Administration data. | GAO-20-4

Notes: Fiscal year totals by location include kidney, liver, heart and lung transplants performed at the Department of Veterans Affairs transplant center (VATC). Depending upon the arrangement between the VATC and its academic affiliate, the transplant surgery and post-operative care could take place at either the VATC or its affiliate.

<sup>a</sup>Kidney-pancreas dual-organ transplant performed at affiliate.

<sup>b</sup>Some or all transplants were performed at the affiliate.

The nearly 1,700 transplants performed through the VA Organ Transplant Program represent a relatively small portion—less than 20 percent—of the VHA referrals for organ transplant between fiscal years 2014 and 2018.<sup>33</sup> While thousands of veterans are referred for solid organ transplants, far fewer veterans ultimately receive transplants. According to VA officials, VHA considers all submitted transplant referrals; however, many patients do not meet initial screening criteria to proceed with a formal evaluation. For example, a veteran’s state of illness may not be severe enough to warrant a full transplant evaluation. Further, some

<sup>33</sup>During this time, VHA documented a total of 10,494 referrals for solid organ transplants, 6,479 pre-transplant evaluations, 3,977 veterans placed on the national organ donation waitlist, and 1,699 transplants.

veterans who are offered transplant evaluations decide not to proceed following education about the process. Officials noted that in many cases, the transplant evaluation reveals that a veteran does not meet the criteria for a transplant, such as not having a committed caregiver who can support the veteran through the evaluation and transplant procedure. Of the veterans who are listed on the national organ donation waitlist, VHA officials report that the number of transplants is limited by the supply of organs, which does not meet the demand in the U.S. general population, including veterans.

For veterans who received an organ transplant from a VATC between fiscal year 2014 and fiscal year 2018, survival rates varied by organ type, with the 3-year survival rate ranging from about 95 percent for kidney transplants to 85 percent for lung transplants, according to National Surgery Office data. (See table 3.) For national-level general population survival rates, see appendix II.<sup>34</sup>

**Table 3: Transplant Survival Rates for the Department of Veterans Affairs Organ Transplant Program by Organ Type for Fiscal Years 2014 through 2018 (Percent)**

Organ type	Transplant survival time frames			
	30 days	180 days	1 year	3 years
Kidney	99.9	98.9	97.7	94.5
Liver	98.0	95.3	92.4	87.0
Heart	98.3	96.7	95.9	90.9
Lung	98.7	93.5	90.6	84.7

Source: GAO analysis of Veterans Health Administration data. | GAO-20-4

Notes: This analysis takes into account incomplete follow-up time; for example, patients who received an organ transplant in fiscal year 2018 are excluded from the 1-year and 3-year survival rates. We did not adjust for age or clinical factors.

<sup>34</sup>General population rates include veterans, who constitute a very small percentage of the total number of transplants nationally (approximately 1.1 percent in fiscal year 2018). Due to differences in the level of precision of the data sets from which we calculated veteran organ transplant survival rates and national transplant survival rates, these rates should not be directly compared.

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## VHA Allocations and Spending for Organ Transplants Increased from Fiscal Year 2014 through Fiscal Year 2018

Consistent with the increase in the number of organ transplants provided between fiscal years 2014 and 2018, VHA's allocations and spending for transplant services also increased, similarly peaking in fiscal year 2017. VHA funds these services using a combination of general purpose and specific purpose funds. VHA's National Surgery Office allocates transplant specific purpose funding to the VATCs based upon the transplant-related workload the VATCs report through TRACER. See appendix III for additional information on transplant-related allocations and expenditures.

- **VHA Allocation of Transplant Specific Purpose Funds.** VHA allocated \$292 million in transplant specific purpose funds during this 5-year period, ranging from \$50.3 million in fiscal year 2014 to approximately \$64.6 million in fiscal year 2018. (See table 5 in app. III.) Transplant specific purpose funds are used to support program overhead costs (infrastructure and maintenance) associated with organ transplants performed at VATCs. In addition, they are used for pre-transplant evaluations, lodging, and some miscellaneous costs associated with transplants, such as living donor evaluations. Further, transplant specific purpose funds are used to fund other VHA medical centers without a VATC that perform certain transplant follow-up care.<sup>35</sup>
- **VHA Expenditures for Transplant-Related Services**
  - **VHA Expenditures of General Purpose and Specific Purpose Funds for Veterans Receiving a Solid Organ Transplant.** VHA spent approximately \$259 million for services provided to veterans who received a solid organ transplant at a VATC during this 5-year period, ranging from \$44.6 million in fiscal year 2014 to a

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<sup>35</sup>According to VHA officials, VHA's allocation of transplant specific purpose funding is based on workload information reported and tracked through TRACER. Allocations include services for transplant evaluations, surgery, and follow-up care provided by VATCs and other VHA medical centers. As a result, these allocations include transplant-related services for veterans for the duration of the entire referral and evaluation process, regardless of whether they ultimately received a transplant. Specific purpose fund allocations also include miscellaneous funds, used for such things as living donor evaluations. According to officials, these allocations do not include transplant services performed by academic affiliates or community care.

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high of \$57.7 million in fiscal year 2017.<sup>36</sup> Similarly, VHA's spending for pre- and post-transplant care provided at VHA medical centers totaled approximately \$68.6 million during this time, ranging from \$10.8 million in fiscal year 2014 to \$15.6 million in fiscal year 2017. (See tables 6 and 7 in app. III.)

- **VHA Contracts with VATC Academic Affiliates.** VHA spent over \$216 million on contract payments to academic affiliates for transplant services during this period, ranging from \$34.9 million in fiscal year 2014 to a high of \$49.9 million in fiscal year 2017. This increased spending corresponded to an increase in the number of transplants performed by academic affiliates, which totaled 669 transplants—nearly 40 percent of all VATC transplants from fiscal year 2014 through fiscal year 2018. The highest volume—146 transplants—and the highest cost—\$49.9 million—occurred in fiscal year 2017. (See table 8 in app. III.)
- **VHA Contracts for Community Care.** From fiscal year 2014 through fiscal year 2018, VHA spent \$7.9 million for solid organ transplant services provided to 53 veterans through community care programs.<sup>37</sup> (See table 9 in app. III.) According to VHA data, over this 5-year period, 50 of these transplants were authorized using title 38 U.S.C. § 1703 (“Non-VA Medical Care Program”). The remaining three were funded using the Veterans Access, Choice, and Accountability Act of 2014 (Choice Act)—totaling approximately \$411,000 of the \$7.9 million.<sup>38</sup> VA has reported that while the Choice Act allows VHA to provide an eligible veteran transplant care at a transplant center in the community, generally

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<sup>36</sup>According to VHA officials, the agency does not track expenditures for transplant-related services as a discrete category. Officials said that the expenditures described here include all services provided to veterans who had a solid organ transplant for the year the transplant surgery occurred. As a result, these figures may include non-transplant services, such as primary care and mental health services. In addition, these figures exclude any transplant-related services, such as initial screening and transplant evaluations that VHA provided to veterans who did not receive a transplant in the same fiscal year those services were provided.

<sup>37</sup>This figure reflects the amount paid for the care received during the hospital stay in which the transplant occurred. Costs associated with community care provided preceding and following the transplant surgery hospital stay are not included. VA reported that payment for this community care was authorized under the Veterans Access, Choice, and Accountability Act of 2014 (Choice Act) or 38 U.S.C. § 1703 (“Non-VA Medical Care Program”).

<sup>38</sup>One veteran received a pancreas transplant and two veterans received heart transplants.

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at Medicare rates, organ procurement is only partially covered at Medicare rates. This has resulted in community providers being less willing to provide transplant services for VHA patients through community care programs.<sup>39</sup>

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## Timeliness of VHA's Transplant Referrals and Evaluations Improved from Fiscal Years 2014 through 2018, but Inefficiencies in VA Processes Exist

### Timeliness of Referral Reviews Improved from Fiscal Years 2014 through 2018, but Opportunities for Increased Efficiencies Exist

From fiscal years 2014 through 2018, VATCs received 10,494 referrals from VHA medical centers. In that time, the percentage of VATC referrals that met timeliness standards outlined by VHA's National Surgery Office improved.<sup>40</sup>

- **Stable condition referrals:** For veterans in stable condition, VHA requires that VATCs review referrals and decide within 5 business days whether veterans are potential candidates for an organ transplant and should receive a full evaluation. The percentage of referrals for which VATCs met the timeliness standard increased from 95 percent in fiscal year 2014 to 99 percent in fiscal year 2018.
- **Emergency condition referrals:** For veterans in emergency circumstances, VHA requires that VATCs review referrals and document within 48 hours whether veterans are potential transplant candidates and should receive a full evaluation. The percentage of

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<sup>39</sup>Department of Veterans Affairs: *Report to Congress on VA Transplant Centers* (Washington, D.C.: April 2019).

<sup>40</sup>This timeliness standard is set in Veterans Health Administration Directive 2012-18, *Solid Organ and Bone Marrow Transplantation*. Transplant referrals can be submitted for both stable and emergency veterans. According to VHA's National Surgery Office officials, all referring VHA medical centers have the flexibility to establish specific clinical guidelines for determining which patients are in stable condition and which are considered an emergency for the purpose of transplant referrals.

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referrals for which VATCs met the timeliness standard increased from 94 percent in fiscal year 2014 to 98 percent in fiscal year 2018. (For more information, see app. IV.)

National Surgery Office officials identified two possible drivers of the observed improvements: (1) increased monitoring, and (2) providing real-time feedback to VATCs through TRACER.<sup>41</sup> Providers at one VATC noted that they use information from the National Surgery Office's Transplant Quarterly Reports to identify areas to improve and they assigned a transplant team nurse the responsibility to monitor program quality, including that timeliness requirements are being met. A provider at a VATC where timeliness has improved since fiscal year 2014 and is now at 100 percent explained that his facility has provided training to staff at referring VHA medical centers they work with frequently. For example, the official said he has hosted a workshop for transplant coordinators to provide training on submitting transplant referral packets through TRACER.

While VATCs almost always met timeliness standards in fiscal year 2018, VATC officials in our review noted that transplant coordinators at referring VHA medical centers sometimes submit referral packets that are incomplete, requiring additional time and effort by the provider to search for information not readily available and potentially adding delays to the VATC review times. VHA requires that a complete referral packet be submitted through TRACER using a referral progress note that contains the required assessments outlined in the organ-specific checklist. The referral packet can also include attachments to transmit some required information, such as results for tests performed by community providers.<sup>42</sup> Providers at three VATCs told us that reviewing a complete referral

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<sup>41</sup>VHA's National Surgery Office monitors VATC performance against its timeliness standards and provides this information in a Transplant Quarterly Report to the VATCs. According to National Surgery Office officials, TRACER notifies VATCs via email when veterans' evaluation appointments are delayed. Each VATC is also required to establish a quality assurance and performance improvement program to monitor the quality and safety of the care it provides, including transplant care provided through its contracts with academic affiliates. VATC officials from the three facilities we visited told us that they hold monthly meetings to discuss transplant program performance information, such as performance metrics related to the time it takes for a veteran to receive a transplant evaluation and to be listed on the national organ donation waitlist, and post-transplant outcomes, such as survival rates.

<sup>42</sup>Complete referral packets are required for stable patients. In emergency cases, referrals should contain as much information as possible.

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packet generally takes 30 minutes to an hour. However, in cases where the packet is incomplete (for example, it does not include the results from all the required assessments) the process is much less efficient and, according to two providers we interviewed, can take up to 5 hours. VATC providers explained that when not all test results are available in the referral packet, they have to access another VHA medical center's electronic medical record system and search for the required information. Accessing another medical center's system adds time to the referral review process and can take time away from the provider's other duties, such as providing follow-up care to transplant patients or monitoring transplant outcomes.<sup>43</sup>

Internal controls state that management should assign responsibility to discrete units and demonstrate a commitment to develop competent individuals in those units, such as through training, to enable the organization to operate in an efficient manner and help achieve the organization's objectives. However, a lack of understanding or implementation of the required information needed in the referral packets can make the process for reviewing the referral packets inefficient in some cases. Specifically, one VATC provider told us that incomplete referral packets are often due to a lack of training for staff at the referring VHA medical centers on the process for submitting referrals through TRACER. In fact, four of the five transplant coordinators at referring VA medical centers we interviewed reported a lack of training on submitting transplant referrals through TRACER. Instead, for example, a transplant coordinator at one referring VHA medical center said she received assistance from a medical clerk at her facility on how to submit referrals through TRACER. Officials at VHA's National Surgery Office told us that although there is no centralized, in-person training available for referring VHA medical centers, the office published a training guide, which is available on VA's intranet and provides guidance on how to access TRACER and refer patients for transplant evaluation. Despite this resource, transplant coordinators from some referring VHA medical centers still cited a need for additional training or other guidance. For example, one official said training for new transplant coordinators would be helpful as would regular updates on transplant criteria or policy

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<sup>43</sup>VHA's National Surgery Office monitors timeliness data across the VATCs and reports timeliness performance to VATCs quarterly. National Surgery Office officials told us they contact a VATC to discuss the lack of timeliness on a case-by-case basis as they deem appropriate.

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changes, such as through regular calls or a newsletter targeted at transplant coordinators.

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### Timeliness of Potential Transplant Candidate Evaluations Improved From Fiscal Years 2014 through 2018, but Some Delays Remain

In addition to timeliness requirements for referral review, VHA requires that VATCs complete an evaluation of veterans within 30 calendar days of receiving a referral to determine whether they are a candidate for transplant and should be placed on the national organ donation waitlist. From fiscal years 2014 through 2018, VATCs increased the percentage of evaluations completed within this time frame, from 55 percent (576 of 1,045 appointments) in fiscal year 2014 to 89 percent (1,193 of 1,346 appointments) in fiscal year 2017, before dropping to 87 percent (1,325 of 1,521 appointments) in fiscal year 2018. National Surgery Office officials attributed the overall improvement to increased monitoring and the increased availability of telehealth for conducting transplant evaluations. See appendix IV for more information on the timeliness of transplant evaluations by VATCs from fiscal years 2014 through 2018.

The extent to which delayed evaluations occurred varied by VATC location and by organ type each fiscal year. For example, in fiscal year 2018, we found that the average time from referral to completed evaluation was less than 30 days for 19 of the 20 organ transplant programs, and overall, 13 percent of evaluations were not completed within 30 days.<sup>44</sup> Of note, 51 of 128, or 40 percent, of evaluations for kidney transplant at the Bronx VATC were completed more than 30 days after the referral was submitted, with evaluations ranging from 5 to 84 days after submission. In contrast, all 69, or 100 percent, of liver evaluations at the Nashville VATC were completed within 30 days, with evaluations ranging from 0 to 28 days after the referral was submitted. (See fig. 4.)

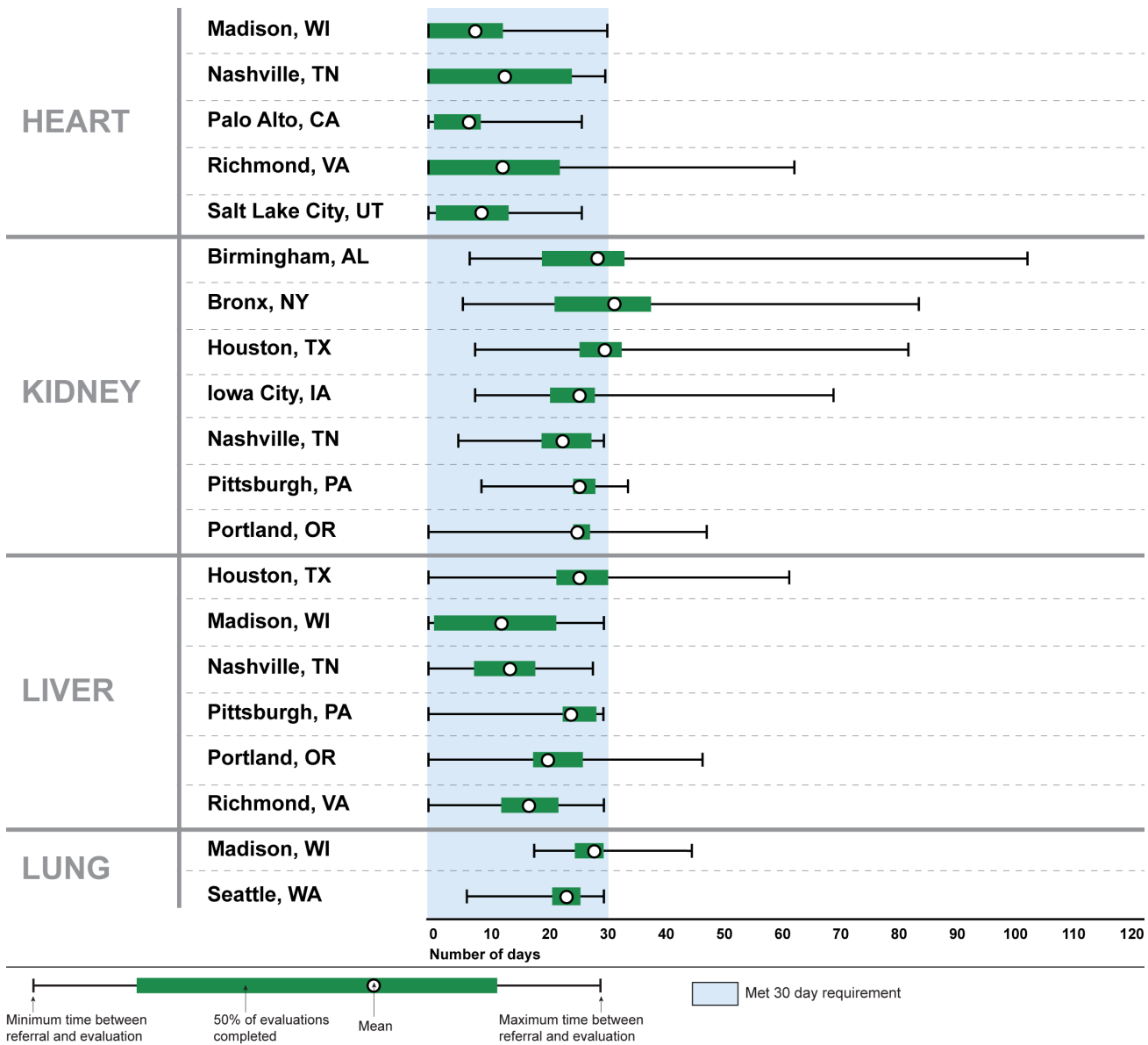
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<sup>44</sup>A single VATC may have multiple different solid organ transplant programs. For example, the VATC located in Madison, Wisconsin, offers heart, liver, and lung transplants.



**Figure 4: Timeliness of Transplant Patient Evaluations by Department of Veterans Affairs Transplant Centers, Fiscal Year 2018**

The VHA requires that VATCs evaluate veterans within 30 calendar days of receiving a referral to determine whether they should be placed on the national organ donation waitlist. In fiscal year 2018, the average time from referral to evaluation was less than 30 days for all organ transplant programs except one, but not all VATCs completed evaluations within the 30 day requirement.



Source: GAO analysis of Veterans Health Administration (VHA) data. | GAO-20-4

Notes: Timeliness data is from the VHA's Transplant Referral and Cost Evaluation/ Reimbursement (TRACER) database and includes only referrals that were submitted beginning in fiscal year 2014. Department of Veterans Affairs transplant centers (VATCs) conducted some evaluations and

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performed some transplants between fiscal year 2014 and fiscal year 2018 that are not captured in this table, because those veterans were referred prior to TRACER being established.

For reporting purposes, we have included dual-organ transplants as follows: liver-kidney grouped with liver; kidney-pancreas grouped with kidney; heart-kidney grouped with heart; heart-liver grouped with liver, heart-lung grouped with lung; and liver-small bowel grouped with liver. Generally, these comprise a small number of the total transplants VHA performs each year.

According to VHA data and three VATC providers we interviewed, evaluation appointment availability is not a cause for delays in most cases; rather, delays are primarily due to veteran preference. According to VHA data for 1,617 evaluation appointments completed in fiscal year 2018, 1,412 appointments were scheduled within the 30-day requirement. For the remaining 205 appointments, 13 were delayed due to lack of appointment availability, and 192 appointments were delayed due to veteran preference. According to providers at the three VATCs we interviewed, while veterans may prefer to be seen at a later date for a number of reasons, including that their caregiver is not available to travel, veterans are not always aware that they should be evaluated within 30 days of being referred for a transplant.<sup>45</sup> VHA requires the referring VHA medical center to discuss the 30 day evaluation requirement with the veteran prior to submitting the referral. According to VHA, in some cases evaluation timeliness is a critical factor affecting patient outcomes. Although a veteran may choose to be seen at a time beyond the 30-day standard, postponing an evaluation may delay their placement on the national organ donation waitlist, potentially having a negative impact on their health and well-being.

Officials at five VATCs and two referring VHA medical centers reported that additional training for transplant coordinators would be helpful for improving evaluation timeliness. Additional training enables employees to develop competencies and reinforce requirements, which is consistent with internal control standards that state that management should develop competent individuals to achieve the entity's objectives.<sup>46</sup> According to one VATC provider, transplant coordinators at referring VHA

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<sup>45</sup>VATC officials we interviewed told us that they document reasons for delayed evaluations in multiple ways. TRACER includes a field that allows VATC staff to record reasons for delayed evaluations. According to two VATC officials, they also document reasons for delayed appointments in the veteran's medical record. According to officials at the National Surgery Office, for untimely evaluations, TRACER sends reminder emails at programmed intervals to VATCs and facility leadership often request that VATC staff respond with the reason for the delay.

<sup>46</sup>See [GAO-14-704G](#).

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medical centers should be trained to discuss travel with the veteran before submitting the referral, so the transplant coordinator and the veteran understand that the evaluation should be completed within 30 days of referral, increasing the likelihood that veterans will be able to schedule timely evaluations. A referring VHA medical center transplant coordinator also said that additional training about the VATC's processes would be helpful in order to be better able to inform veterans and their caregivers about what to expect from the transplant process.

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## Conclusions

Placing veterans on the national organ donation waitlist as soon as possible is critical for potential transplant candidates to be matched with a donor organ. Since fiscal year 2014, VHA has improved timeliness for reviewing transplant referrals to determine if a veteran is a candidate and for completing transplant evaluations. However, VHA medical center staff do not always submit complete transplant referral packets through TRACER, which can create inefficiencies and delay the referral review process. Similarly, inefficiencies in the transplant evaluation process occur when VATC and VHA medical center staff do not fully inform veterans of their role in the transplant evaluation process, specifically, that their evaluation be completed within 30 days of referral. Without additional training to address these inefficiencies a veteran's placement on the national organ donation waitlist could be delayed.

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## Recommendation for Executive Action

The Under Secretary for Health should establish a requirement that VHA's National Surgery Office provide additional training to staff at referring VHA medical centers on (a) submitting referral packets through TRACER that are complete, and (b) understanding and communicating the veteran's role in the evaluation process related to the timely completion of transplant evaluations. (Recommendation 1)

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## Agency Comments

We provided a draft of this product to VA for comment. In its comments, reproduced in appendix V, the department concurred in principle with our recommendation, reiterated the resources it currently makes available to staff at referring VHA medical centers, and described actions it plans to take to address the recommendation. Specifically, VHA's National Surgery Office plans to distribute a memorandum to all VHA facilities to reinforce the available training and resources to support the staff at referring VHA medical centers with submitting complete referrals, and to ensure adequate communication of the veteran's role in timely completion of transplant evaluations. VA also provided technical comments, which

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we incorporated as appropriate. In addition, we provided a draft of this report to the Department of Health and Human Services for review and they did not have any comments.

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We are sending copies of this report to the appropriate congressional committees, the Secretary of VA, the Secretary of the Department of Health and Human Services, and other interested parties. In addition, the report is available at no charge on GAO's website at <http://www.gao.gov/>.

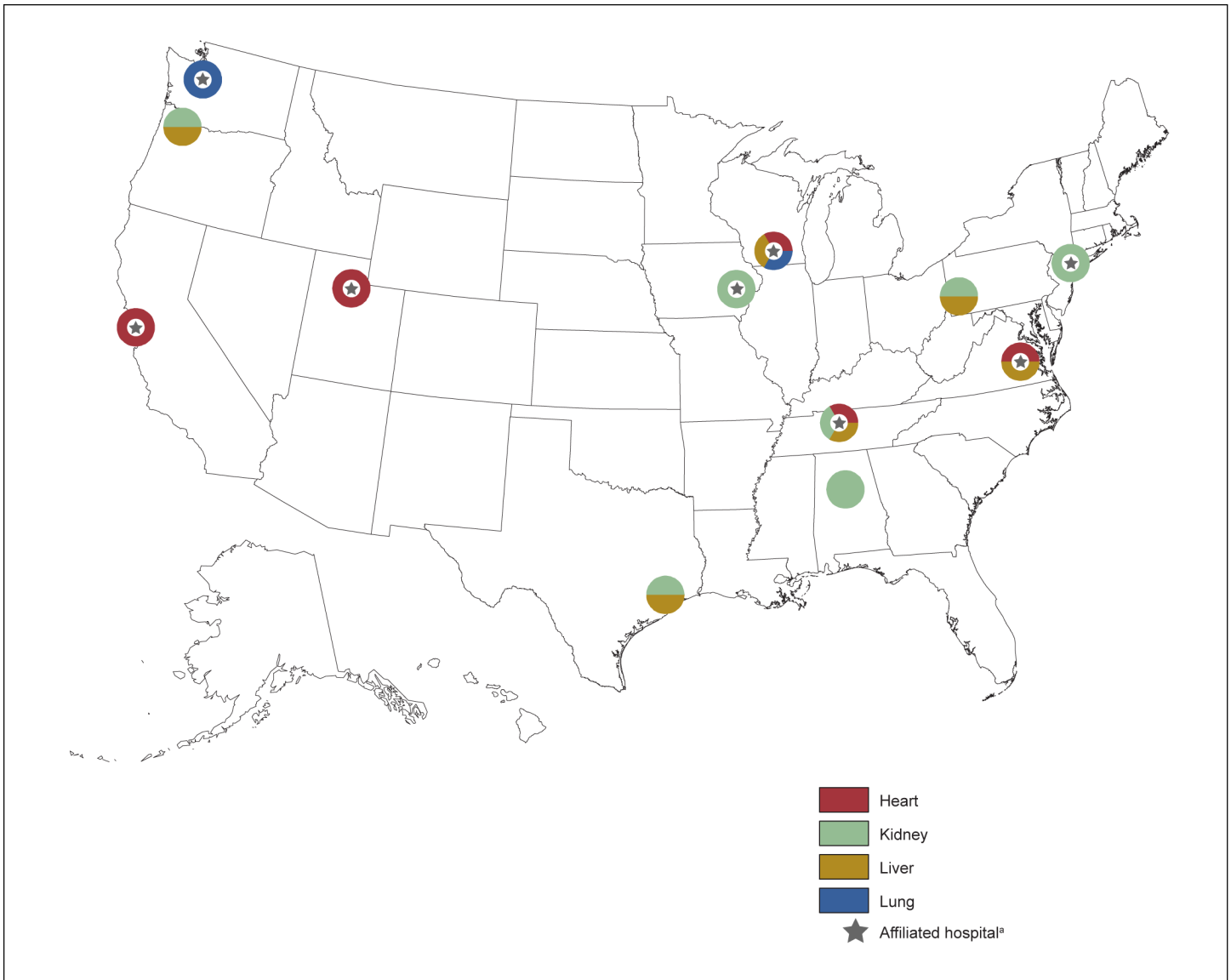
If you or your staff have any questions about this report, please contact me at (202) 512-7114 or [silass@gao.gov](mailto:silass@gao.gov). Contact points for our Office of Congressional Relations and Office of Public Affairs can be found on the last page of this report. Other major contributors to this report are listed in appendix VI.



Sharon M. Silas  
Director, Health Care

# Appendix I: Department of Veterans Affairs Transplant Centers Providing Solid Organ Transplants (printable)

Figure 5: VA Transplant Centers Providing Solid Organ Transplants as of June 2019



Source: Veterans Health Administration (information); GAO (illustration). | GAO-20-4

Notes: Department of Veterans Affairs (VA) has an additional VA transplant center (VATC) in San Antonio, Texas, that is not depicted in this map, because it performs only bone marrow transplants. In addition, VA expects to add new organ transplant programs in Illinois, Massachusetts, and Texas in fiscal year 2020.

<sup>a</sup>Some VATCs contract with an academic affiliate to perform certain transplant services.

# Appendix II: National Transplant Survival Rates by Organ Type for Fiscal Years 2014 through 2018

We analyzed national transplant survival rates by organ type using data from the Scientific Registry of Transplant Recipients. All transplant facilities across the United States, including Department of Veterans Affairs transplant centers, provide data to this database. Table 4 shows the national transplant survival rates by organ for fiscal years 2014 through 2018.

**Table 4: National Transplant Survival Rates by Organ Type for Fiscal Years 2014 through 2018**

Organ type	Total number of transplants	Transplant survival time frames (percent)			
		30 days	180 days	1 year	3 years
Kidney	97,423	99.4	98.4	97.6	95.5
Liver	34,701	97.3	94.4	92.5	88.8
Heart	12,901	96.4	93.0	91.4	87.6
Lung	11,032	97.3	93.3	89.2	79.3

Source: GAO analysis of Scientific Registry of Transplant Recipients data. | GAO-20-4

Notes: National survival rates were calculated using mortality data from the Scientific Registry of Transplant Recipients for all transplant patients with transplants between fiscal years 2014 and 2018. These overall rates include veterans, who constitute a very small percentage of the total number of transplants nationally (i.e., approximately 1.1 percent in fiscal year 2018), and are not adjusted for age or clinical factors. This analysis takes into account incomplete follow-up time; for example, patients who received an organ transplant in fiscal year 2018 are excluded from the 1-year and 3-year survival rates.

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# Appendix III: VA Resource Allocation and Veterans Health Administration Spending for Solid Organ Transplant Services

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Annually, the Department of Veterans Affairs (VA) allocates most of its appropriations for health care services to the Veterans Integrated Service Networks within the Veterans Health Administration (VHA) through a model called the Veterans Equitable Resource Allocation (VERA). The VERA model is designed to fund patient care based on a methodology that develops set, or “capitated,” rates for different groups or categories of veterans with similar resource needs based on the complexity of their medical conditions.<sup>1</sup> Categories include oncology, visual impairment, chronic mental illness, and critical illness. VERA uses a national formula that considers the number of veterans and the complexity of care provided; and certain geographic factors, such as local labor costs, in determining how much each Veterans Integrated Service Network should receive. VERA determines this amount based on each network’s activities and needs in the following areas: patient care, equipment, nonrecurring maintenance, education support, and research support. The networks, in turn, allocate resources to their respective VHA medical centers, including those with VA transplant centers (VATC). The networks distribute VERA funds to VHA medical centers based on the complexity of patients treated at the medical center in previous fiscal years.

This appendix provides VA’s reported allocations and expenditures for solid organ transplant services through its VATCs and contracts with academic affiliates and community providers from fiscal year 2014 through fiscal year 2018.

- Table 5 shows VHA allocation of transplant specific purpose funds by VATC for transplant-related services.
- Table 6 shows VHA expenditures at each VATC for veterans who received solid organ transplants.
- Table 7 shows VHA expenditures for pre- and post-transplant services provided by VHA medical centers without a VATC for veterans who received transplants.

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<sup>1</sup>Capitated funding is a process that results in a series of nationally computed prices designed to fund major groups of patients at the Veterans Integrated Service Network level. The process uses similar groups of patients based on well-defined criteria outlined in the VERA patient classification system. The patient classification system is a risk-adjusted system used to categorize patients based on clinical complexity and resource utilization patterns. This system provides the national patient case-mix that is used to establish the VERA model prices. Most transplant patients fall under the highest complexity VERA price group for the year the transplant surgery occurs.

**Appendix III: VA Resource Allocation and  
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- Table 8 shows the total number of transplants and contract payments to academic affiliates for solid organ transplant services.
- Table 9 shows total number and spending for solid organ transplants provided by community care providers.

**Table 5: VHA’s Allocation of Transplant Specific Purpose Funds to VA Transplant Centers for Fiscal Years 2014 through 2018 (in dollars)**

VATC location	Fiscal year				
	2014	2015	2016	2017	2018
Birmingham, AL	362,475	253,190	594,386	860,053	777,942
Bronx, NY	—	100,000	0	1,036,134	1,125,274
Houston, TX	2,425,800	3,774,476	4,719,213	5,067,510	7,207,488
Iowa City, IA	3,868,990	4,384,830	2,993,975	2,740,239	3,556,571
Madison, WI	4,615,354	6,986,519	7,276,736	8,316,544	6,554,311
Nashville, TN	10,682,205	10,533,370	12,667,618	12,410,063	10,751,650
Palo Alto, CA	745,160	1,042,456	777,947	441,857	822,494
Pittsburgh, PA	10,613,649	8,715,663	13,910,960	13,971,817	14,118,521
Portland, OR	8,661,545	8,356,114	8,049,035	8,285,415	9,359,491
Richmond, VA	4,911,510	5,423,705	5,281,540	6,898,750	6,445,630
Salt Lake City, UT	1,776,564	2,198,749	1,980,136	1,973,893	2,148,558
Seattle, WA	1,622,234	1,429,734	2,000,989	2,093,319	1,698,061
<b>Total</b>	<b>50,285,486</b>	<b>53,198,806</b>	<b>60,252,535</b>	<b>64,095,594</b>	<b>64,568,991</b>

Legend: — = no data, program was activated in fiscal year 2016

Source: Veterans Health Administration (VHA). | GAO-20-4

Note: According to VHA officials, VHA’s allocation of transplant specific purpose funding is based on workload information reported and tracked through its Transplant Referral and Cost Evaluation/Reimbursement database. Allocations include services for transplant evaluations, surgery, and follow-up care provided by Department of Veterans Affairs transplant centers (VATC) and other VHA medical centers. As a result, these allocations include transplant-related services for veterans for the duration of the entire referral and evaluation process, regardless of whether they ultimately received a transplant. Specific purpose fund allocations also include miscellaneous funds, used for such things as living donor evaluations. According to officials, these allocations do not include transplant services performed by academic affiliates or community care.



**Appendix III: VA Resource Allocation and  
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**Table 6: VHA Expenditures through Department of Veterans Affairs Transplant Centers (VATC) for Transplant Services for Veterans Receiving a Transplant from Fiscal Year 2014 through Fiscal Year 2018 (in dollars)**

VATC location	Fiscal years				
	2014	2015	2016	2017	2018
Birmingham, AL	13,791	35,963	434,410	895,754	874,350
Bronx, NY	—	—	97,126	1,285,406	1,377,347
Houston, TX	2,557,894	1,689,098	2,133,603	3,681,057	6,007,030
Iowa City, IA	5,107,588	6,312,750	4,367,497	4,530,801	3,207,250
Madison, WI	3,535,698	4,285,029	4,039,420	4,770,439	2,350,650
Nashville, TN	4,407,106	5,058,453	6,075,397	4,649,620	3,243,035
Palo Alto, CA	434,000	1,741,194	456,937	1,722,904	339,480
Pittsburgh, PA	13,366,989	13,371,239	18,702,125	16,719,759	16,102,087
Portland, OR	8,162,438	9,609,899	10,876,396	10,539,580	11,517,372
Richmond, VA	4,631,022	4,483,459	5,432,199	6,655,114	5,490,817
Salt Lake City, UT	2,233,424	2,348,793	1,829,674	2,094,920	1,833,623
Seattle, WA	137,629	297,953	170,955	145,146	208,539
<b>Total</b>	<b>44,587,579</b>	<b>49,233,830</b>	<b>54,615,739</b>	<b>57,690,500</b>	<b>52,551,580</b>

Legend: — = no data, program was activated in fiscal year 2016

Source: Veterans Health Administration (VHA). | GAO-20-4

Notes: According to VHA officials, these expenditures include general purpose and specific purpose funds, and include all services provided to veterans who had a solid organ transplant for the year the transplant surgery occurred. As a result, these figures may include non-transplant services, such as primary care and mental health services. In addition, these figures exclude any transplant-related services such as initial screening and transplant evaluations that VHA provided to veterans who did not receive a transplant in the same fiscal year those services were provided. These expenditures include general purpose and specific purpose funding for veterans who received a solid organ transplant in the same fiscal year.

**Table 7: VHA Expenditures for Pre- and Post-Transplant Services at VHA Medical Centers without Transplant Centers for Veterans Receiving a Transplant from Fiscal Year 2014 through Fiscal Year 2018 (in dollars)**

Fiscal year	Expenditures
2014	10,833,305
2015	13,880,637
2016	14,678,406
2017	15,623,703
2018	13,604,800
<b>Total</b>	<b>68,620,851</b>

Source: Veterans Health Administration (VHA). | GAO-20-4

Notes: According to VHA officials, these expenditures include general purpose and specific purpose funds, and include all services provided to veterans who had a solid organ transplant for the year the

**Appendix III: VA Resource Allocation and  
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transplant surgery occurred. As a result, these figures may include non-transplant services, such as primary care and mental health services. In addition, these figures exclude any transplant-related services such as initial screening and transplant evaluations that VHA provided to veterans who did not receive a transplant in the same fiscal year those services were provided.

**Table 8: VHA Contract Payments to Academic Affiliates for Solid Organ Transplant Services for Fiscal Years 2014 through 2018**

Fiscal year	Number of transplants provided	Expenditures (in dollars)
2014	126	34,874,228
2015	143	48,957,824
2016	129	43,736,023
2017	146	49,872,716
2018	125	39,018,031
<b>Total</b>	<b>669</b>	<b>216,458,822</b>

Source: Veterans Health Administration (VHA). | GAO-20-4

Notes: Expenditures include the transplant and pre- and post-operative transplant care at the academic affiliate. Academic affiliates are university-affiliated hospitals, medical schools, and practice groups that work in conjunction with the Department of Veterans Affairs transplant centers.

**Table 9: Number of and Total VHA Spending for Solid Organ Transplants Provided by Community Care Providers from Fiscal Year 2014 through Fiscal Year 2018**

Fiscal year	Number of transplants	Total spending for transplant services (in dollars) <sup>a</sup>
2014	17	2,367,219
2015	17	1,255,746
2016	5	471,282
2017	8	2,717,768
2018	6	1,098,068
<b>Total</b>	<b>53</b>	<b>7,910,083</b>

Source: Veterans Health Administration (VHA). | GAO-20-4

Notes: VHA reported that payment for this community care was authorized under the Veterans Access, Choice, and Accountability Act of 2014 (Choice Act) or 38 U.S.C. § 1703 ("Non-VA Medical Care Program"). The transplant volumes do not include transplants provided at academic affiliates associated with the Department of Veterans Affairs transplant centers.

<sup>a</sup>This figure reflects the amount paid for the care received during the hospital stay in which the transplant occurred. Costs associated with community care provided preceding and following the transplant surgery hospital stay are not included.

# Appendix IV: Timeliness of Veterans Health Administration Transplant Referrals and Evaluations

The Veterans Health Administration (VHA) has timeliness requirements for reviewing transplant referrals to determine whether veterans are potential candidates for organ transplant and should receive a full evaluation, and for completing timely evaluations for potential candidates.

## Referral Reviews

Timeliness of referral reviews improved from fiscal year 2014 through fiscal year 2018. VHA requires that for veterans in stable condition, Department of Veterans Affairs transplant centers (VATC) review referrals and decide within 5 business days whether veterans are potential candidates for an organ transplant and should receive a full evaluation. For emergency cases, VATCs should perform this review and document the results within 48 hours. Table 10 shows the number of referrals reviewed and the percentage of timely referrals for each VATC and organ transplant program from fiscal year 2014 through fiscal year 2018.

**Table 10: Timely Referral Reviews by Department of Veterans Affairs Transplant Centers from Fiscal Year 2014 through Fiscal Year 2018**

VATC location	Organ Type	Fiscal Year				
		Number of timely referrals reviewed (percentage of timely referrals)				
		2014	2015	2016	2017	2018
Birmingham, AL	Kidney	32 (100)	28 (100)	63 (98)	52 (100)	95 (100)
Bronx, NY	Kidney	—	2 (100)	14 (100)	89 (100)	149 (100)
Houston, TX	Kidney	67 (100)	189 (100)	194 (100)	185 (100)	246 (100)
	Liver	84 (98)	72 (99)	118 (100)	103 (100)	87 (100)
Iowa City, IA	Kidney <sup>a</sup>	202 (100)	168 (100)	160 (100)	144 (100)	139 (99)
Madison, WI	Heart <sup>b</sup>	16 (94)	33 (97)	33 (100)	36 (97)	27 (100)
	Liver <sup>b</sup>	37 (100)	48 (100)	75 (100)	77 (99)	67 (100)
	Lung <sup>b</sup>	94 (99)	76 (97)	78 (100)	77 (100)	84 (100)
Nashville, TN	Heart <sup>b</sup>	37 (100)	34 (100)	36 (97)	48 (96)	51 (98)
	Kidney	124 (100)	166 (100)	221 (100)	210 (100)	213 (100)
	Liver <sup>b</sup>	88 (100)	104 (99)	119 (100)	110 (100)	112 (100)
Palo Alto, CA	Heart <sup>b</sup>	8 (100)	10 (100)	11 (100)	7 (88)	28 (100)
Pittsburgh, PA	Kidney	275 (92)	277 (82)	330 (88)	365 (97)	356 (100)
	Liver	178 (86)	128 (88)	190 (97)	133 (99)	112 (97)
Portland, OR	Kidney	171 (90)	156 (98)	157 (95)	152 (97)	175 (99)
	Liver	94 (88)	83 (92)	94 (96)	94 (97)	117 (95)
Richmond, VA	Heart	24 (100)	54 (100)	32 (100)	29 (100)	42 (100)
	Liver <sup>b</sup>	97 (99)	58 (98)	77 (100)	67 (100)	61 (100)

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		Fiscal Year				
		Number of timely referrals reviewed (percentage of timely referrals)				
VATC location	Organ Type	2014	2015	2016	2017	2018
Salt Lake City, UT	Heart <sup>b</sup>	26 (93)	43 (96)	49 (100)	35 (100)	28 (97)
Seattle, WA	Lung <sup>b</sup>	39 (98)	41 (100)	46 (100)	52 (100)	58 (100)
<b>VATC Total (average percent compliance)<sup>c</sup></b>		<b>1,693 (95)</b>	<b>1,771 (95)</b>	<b>2,099 (97)</b>	<b>2,065 (99)</b>	<b>2,253 (99)</b>

Legend: — = no data, program was activated in fiscal year 2016

Source: GAO analysis of VHA data. | GAO-20-4

Notes: Timeliness data is from the Veterans Health Administration's (VHA) Transplant Referral and Cost Evaluation/ Reimbursement (TRACER) database and includes only referrals that were submitted beginning in fiscal year 2014. Department of Veterans Affairs transplant centers (VATC) conducted some evaluations and performed some transplants between fiscal year 2014 and fiscal year 2018 that are not captured in this table, because those veterans were referred prior to TRACER being established.

For reporting purposes, we have included dual-organ transplants as follows: liver-kidney grouped with liver; kidney-pancreas grouped with kidney; heart-kidney grouped with heart; heart-liver grouped with liver, heart-lung grouped with lung; and liver-small bowel grouped with liver. Generally, these comprise a small number of the total transplants VHA performs each year.

<sup>a</sup>Kidney-pancreas dual-organ transplant performed at affiliate institution.

<sup>b</sup>Transplants performed at affiliate institution.

<sup>c</sup>In fiscal years 2015, 2016, and 2018, the totals and percentages shown also reflect a small number of referrals that were timely for pancreas and small bowel transplants performed in Iowa City, Iowa and Pittsburgh, Pennsylvania, respectively. In fiscal year 2015, there was 1 referral that was timely for a small bowel transplant; in fiscal year 2016, there were 2 referrals that were timely for small bowel transplants; and in fiscal year 2018, there were 4 referrals that were timely for pancreas transplants and 2 for small bowel transplants.

## Completed Evaluations

VHA requires that VATCs complete an evaluation of stable veterans within 30 calendar days of receiving a referral to determine whether they are a candidate for transplant and should be placed on the national organ donation waitlist. The percentage of evaluations completed within the required time frame increased from 55 percent in fiscal year 2014 to 87 percent in fiscal year 2018, although some variation can be seen by organ type and location within each fiscal year. Table 11 shows the number of completed evaluations and the percentage of timely evaluations for each VATC and organ transplant program from fiscal year 2014 through fiscal year 2018.

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**Table 11: Timely Transplant Evaluations by Department of Veterans Affairs Transplant Centers for Fiscal Years 2014 through 2018**

VATC location	Organ type	Fiscal year				
		Number of timely evaluations (percentage of timely evaluations)				
		2014	2015	2016	2017	2018
Birmingham, AL	Kidney	5 (25)	7 (37)	22 (73)	19 (73)	30 (63)
Bronx, NY	Kidney	—	—	10 (100)	67 (85)	77 (60)
Houston, TX	Kidney	47 (100)	140 (92)	110 (75)	100 (74)	105 (60)
	Liver	36 (72)	40 (89)	72 (87)	69 (92)	46 (75)
Iowa City, IA	Kidney <sup>a</sup>	63 (50)	85 (83)	117 (100)	94 (82)	87 (83)
Madison, WI	Heart <sup>b</sup>	6 (67)	9 (60)	10 (83)	8 (80)	15 (100)
	Liver <sup>b</sup>	24 (86)	19 (56)	41 (77)	55 (98)	60 (100)
	Lung <sup>b</sup>	15 (42)	4 (15)	14 (48)	7 (41)	23 (88)
Nashville, TN	Heart <sup>b</sup>	25 (89)	23 (92)	23 (96)	26 (93)	32 (100)
	Kidney	6 (6)	41 (36)	119 (93)	133 (97)	169 (100)
	Liver <sup>b</sup>	32 (59)	68 (88)	68 (96)	59 (95)	69 (100)
Palo Alto, CA	Heart <sup>b</sup>	4 (57)	9 (100)	8 (89)	6 (100)	22 (100)
Pittsburgh, PA	Kidney	134 (80)	166 (99)	224 (96)	224 (100)	197 (97)
	Liver	60 (52)	67 (84)	100 (90)	91 (92)	82 (100)
Portland, OR	Kidney	4 (4)	33 (38)	79 (86)	74 (78)	110 (92)
	Liver	23 (39)	23 (45)	22 (46)	41 (73)	83 (95)
Richmond, VA	Heart	14 (88)	34 (85)	15 (94)	18 (78)	28 (93)
	Liver <sup>b</sup>	46 (96)	31 (94)	52 (100)	50 (100)	41 (100)
Salt Lake City, UT	Heart <sup>b</sup>	19 (79)	27 (84)	37 (95)	27 (100)	24 (100)
Seattle, WA	Lung <sup>b</sup>	13 (87)	21 (88)	17 (94)	25 (96)	22 (100)
<b>VATC Total (average percent compliance)<sup>c</sup></b>		<b>576 (55)</b>	<b>847 (75)</b>	<b>1,162 (88)</b>	<b>1,193 (89)</b>	<b>1,325 (87)</b>

Legend: — = no data, program was activated in fiscal year 2016.

Source: GAO analysis of VHA data. | GAO-20-4

Notes: Timeliness data is from the Veterans Health Administration's (VHA) Transplant Referral and Cost Evaluation/ Reimbursement (TRACER) database and includes only referrals that were submitted beginning in fiscal year 2014. Department of Veterans Affairs transplant centers (VATC) conducted some evaluations and performed some transplants between fiscal year 2014 and fiscal year 2018 that are not captured in this table, because those veterans were referred prior to TRACER being established.

For reporting purposes, we have included dual-organ transplants as follows: liver-kidney grouped with liver; kidney-pancreas grouped with kidney; heart-kidney grouped with heart; heart-liver grouped with liver, heart-lung grouped with lung; and liver-small bowel grouped with liver. Generally, these comprise a small number of the total transplants VHA performs each year.

<sup>a</sup>Kidney-pancreas dual-organ transplant performed at affiliate institution.

<sup>b</sup>Transplants performed at affiliate institution.

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<sup>c</sup>In fiscal years 2016 and 2018, the totals and percentages shown also reflect a small number of evaluations that were timely for pancreas and small bowel transplants performed in Iowa City, Iowa and Pittsburgh, Pennsylvania, respectively. In fiscal year 2016, there were 2 evaluations that were timely for a small bowel transplant and in fiscal year 2018, there were 2 evaluations that were timely for small bowel transplants and 1 for a pancreas transplant.

# Appendix V: Comments from the Department of Veterans Affairs



THE SECRETARY OF VETERANS AFFAIRS  
WASHINGTON

SEP 05 2019

Ms. Sharon M. Silas  
Acting Director  
Health Care  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

Dear Ms. Silas:

The Department of Veterans Affairs (VA) has reviewed the Government Accountability Office (GAO) draft report: ***VA HEALTH CARE: Additional Training Could Improve Organ Transplant Referral and Evaluation Processes*** (GAO-20-4).

The enclosure provides general and technical comments and sets forth the actions to be taken to address the draft report recommendation.

VA appreciates the opportunity to comment on your draft report.

Sincerely,

A handwritten signature in blue ink that reads "Robert L. Wilkie".

Robert L. Wilkie

Enclosure

Enclosure

The Department of Veterans Affairs (VA) Comments to the  
Government Accountability Office Draft Report  
**VA HEALTH CARE: Additional Training Could Improve  
Organ Transplant Referral and Evaluation Processes**  
(GAO-20-4)

**General Comments:**

The Department of Veteran Affairs' (VA) Veterans Health Administration (VHA) is committed to ensuring timely access to high quality transplant care and services for our nation's Veterans as it has since the first VA transplant program started in 1963. Consistent with VHA strategy, the National Surgery Office (NSO) is adopting high reliability concepts to ensure continuous improvement for transplantation care. The office appreciates the Government Accountability Office's detailed review of VA Transplant Program processes including referral process, timelines, metrics, and training/educational resources. VHA's self-accountability for referral and evaluation timeliness is unique among large integrated health care systems' transplantation programs. NSO notes the report's acknowledgement of improvements in the timeliness of referral reviews and evaluations since 2014 and the increase in number of Veterans receiving transplantation care and procedures during this timeframe.

NSO concurs in principle that additional training could improve referral and evaluation processes. Since July 2019, via the Transplant Referral and Cost Evaluation/Reimbursement (TRACER) national launch, the NSO has developed, maintained, and updated specific resources and tools to directly support the electronic transplant referral and evaluation processes and the education associated with these processes. The NSO currently provides these resources on a national accessible platform available across VA. The resources include:

1. TRACER Training Modules
  - Referral Tutorial
  - VA Transplant Center (VATC) Tutorial
  - Dual Listing Tutorial
  - VATC Mechanical Circulatory Assist Device Tutorial
  - Transplant Travel Guide
  - Surgical Advisory Board (SAB) Tutorial
2. Transplant Mini Live Webinar Series (recorded and available on demand)
  - Organ specific mini-education series in collaboration with VHA's Employee Education Service Office, which include organ-specific indications for transplantation.
  - Target audiences are Transplant Coordinators at VATCs and Pre-Transplant Coordinators at referring VA Medical Centers.
  - Broadly solicited to the VA transplant community including pre-transplant referral coordinators.



Enclosure

The Department of Veterans Affairs (VA) Comments to the  
Government Accountability Office Draft Report  
***VA HEALTH CARE: Additional Training Could Improve  
Organ Transplant Referral and Evaluation Processes***  
(GAO-20-4)

3. VHA Transplant Program Intranet Site
  - The NSO's Intranet site includes helpful information for the transplant community to include:
    - Transplant reports and interpretive guides;
    - Transplant directives and policies;
    - TRACER link and tutorials;
    - Transplant Frequently Asked Questions;
    - Step-by-step instructions on submitting referrals;
    - SAB Appeal process;
    - VATC locations and contacts; and
    - Scientific Registry for Transplant Recipients semi-annual reports on transplant outcomes.
4. VHA Transplant Program Mail Box
  - NSO communicates through a designated transplant mailbox to receive queries and provide responses from the field and to communicate transplant related updates.

Enclosure

The Department of Veterans Affairs (VA) Comments to the  
Government Accountability Office Draft Report  
***VA HEALTH CARE: Additional Training Could Improve  
Organ Transplant Referral and Evaluation Processes***  
(GAO-20-4)

**GAO Recommendation:** The Under Secretary for Health should establish a requirement that VHA's National Surgery Office provide additional training to staff at referring VHA medical centers on (a) submitting referral packets through TRACER that are complete and (b) understanding and communicating the veteran's role in the evaluation process related to the timely completion of transplant evaluations.

**VA Comment:** Concur in principle. NSO will reinforce the need for additional training to transplant coordinators and staff associated with the referral and evaluation processes at the referring Veterans Health Administration (VHA) medical centers. This reinforcement will facilitate the utilization of the available resources and tools to support complete TRACER referral packets and to support the understanding and communication of the Veteran's role in the evaluation process related to timely completion of the transplant evaluation.

The NSO will draft and facilitate the distribution of a national memorandum via the Office of the Deputy Under Secretary for Health for Operations and Management to all VHA medical facilities. This memorandum will reinforce the available training, education, tools, and resources available through NSO which directly support and enable staff at the referring VHA medical centers to submit complete TRACER referral packets and ensure appropriate communication of the Veteran's role and impact on the timely completion of the transplant evaluation. Target Implementation Date: December 2019.

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# Appendix VI: GAO Contact and Staff Acknowledgments

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## GAO Contact

Sharon M. Silas, (202) 512-7114 or [silass@gao.gov](mailto:silass@gao.gov)

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## Staff Acknowledgments

In addition to the contact named above, Marcia A. Mann (Assistant Director), Jill K. Center (Analyst-in-Charge), Colin Ashwood, Emily Binek, Emily Bippus, Shana Deitch, Keith Haddock, and Ebony Russ made key contributions to this report. Also contributing were Krister Friday, Jacquelyn Hamilton, Giselle Hicks, Drew Long, Vikki Porter, and Ethiene Salgado-Rodriguez.

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