3 ways to improve post-transplant testing adherence for better clinical outcomes

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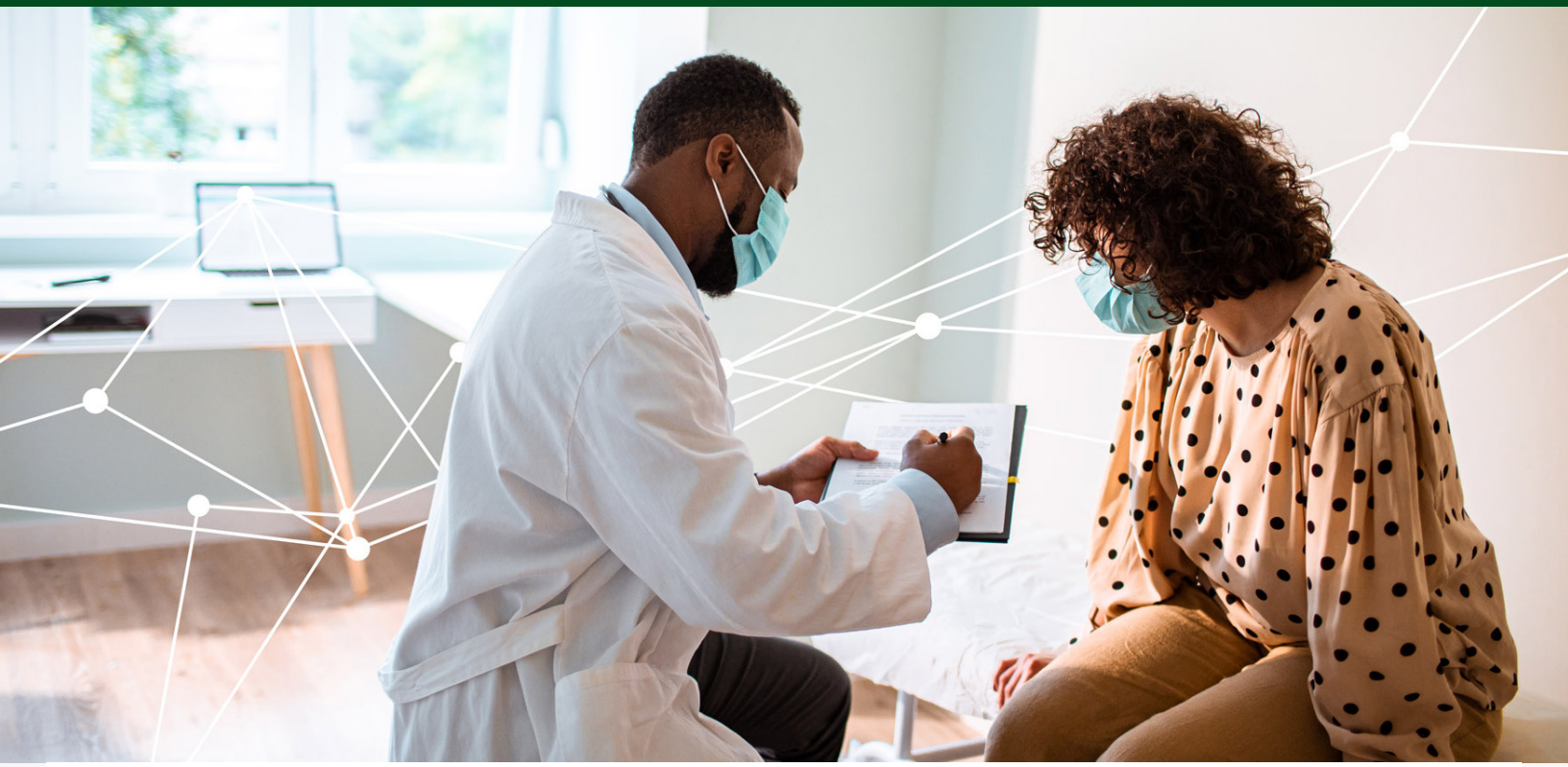


Improving testing adherence for better clinical outcomes

Patients after a transplant surgery undergo frequent, ongoing monitoring and diagnostic testing to track recovery progress and detect potential complications as early as possible.[1] This includes routine blood testing for evidence of chronic rejection, organ and body function, and effectiveness of post-operative treatment.

Additionally, because cardiovascular disease and renal failure are the leading causes of post-transplant morbidity and mortality independent of graft rejection,[2] post-transplant monitoring must include the management of risk factors, which requires ongoing testing.

To achieve better clinical outcomes, it's essential for patients to adhere to—and remain engaged in—their transplant-related testing.

Noncompliance, or failing to adhere to doctors' instructions, can have a series of negative consequences, including post-transplant rejection.

Overall noncompliance rates vary from 20% to as high as 50%.[3] While noncompliance has many causes, it may in part be due to a lack of convenient access to testing and/or cost.

Taking steps to increase adherence, including simplifying medical regimens, may increase compliance.[4]

> This perspective paper offers 3 ways to engage patients in post-transplant testing for better outcomes and outlines the benefits of collaborating with a lab services provider.

The importance of post-transplant testing and the impact of nonadherence

Rather than a cure, an organ transplant is a lifelong treatment requiring continued adherence to a medical regimen and regular monitoring for donor-specific antibodies, usually every few months in the first year and less frequently in the years that follow.[5] Post-transplant monitoring typically has 4 main objectives[6]:

1. Prevent organ rejection by the recipient's immune system
2. Treat the underlying medical condition
3. Identify the complications of an immunosuppression regimen, prevent infections, and manage adverse effects
4. Manage concomitant medications

Routine blood testing, along with additional tests like biopsies or molecular tests, supports these objectives, and immunosuppressive regimens may be adjusted based on the results.[5]

When transplant recipients don't adhere to their medical regimen—including laboratory testing—as prescribed, the consequences can be detrimental, contributing to poor clinical outcomes. In heart transplant recipients, for example, appointment noncompliance is a critical behavioral risk factor in the occurrence of late acute rejection episodes.[7]

Similarly, among kidney transplant recipients, early nonadherence to laboratory and clinic appointments is a strong predictor of late medication nonadherence, acute rejection, and graft loss.[8] In a retrospective review of 260 kidney transplant recipients, 91% who were noncompliant with medications and follow-up care either lost their grafts or died.[4]

Unfortunately, rates of noncompliance among post-transplant patients can be high and, beyond medication, can include missed appointments and laboratory testing. An analysis of multiple studies examining all components of the post-kidney transplant medical regimen found average nonadherence rates to be as follows[9]:

- 36% for immunosuppressant medications
- 22%–31% for lifestyle activities like diet and exercise
- 5%–15% for completion of medical care requirements such as clinical appointments and laboratory testing

This underscores the need to address and improve adherence rates across all areas of post-transplant care and recovery, including diagnostic testing.

Why patients don't adhere to post-transplant medical regimens

For many transplant recipients, adherence to treatment is a significant challenge due to the complexity of treatment regimens, treatment side effects, and a number of other factors.[6]

In a series of reports from the US Food and Drug Administration's (FDA) Patient-Focused Drug Development Initiative, transplant recipients "acknowledged the importance of their treatments, but conveyed the burden of managing complex treatment regimens."[6]

Participants described their treatment regimens as complicated and strict, requiring many daily medications, frequent monitoring of the transplanted organ, and consistent visits to healthcare providers.[6] Several complained about the need to schedule, prepare, undergo, and pay for numerous tests, checkups, and procedures on a routine basis.[6]

According to one participant, "Monthly blood work to check my tacrolimus levels is annoying, and it's worse if I get sick. Then I end up getting labs every 2 days until I get better."[6]

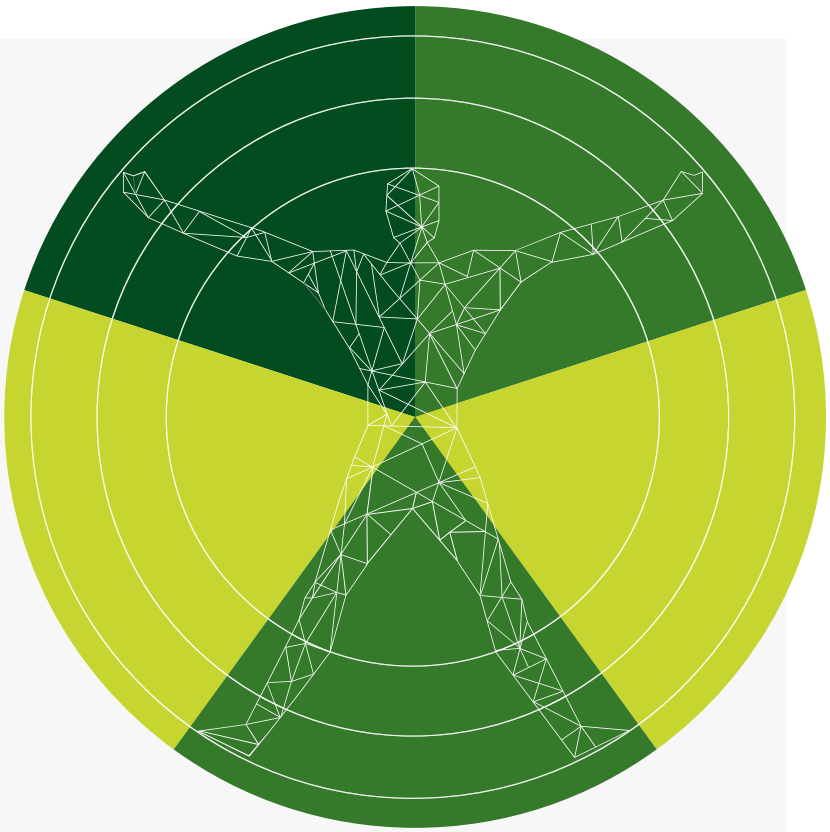
> "I have spent hours scheduling, preparing for, enduring, and recovering from daily, weekly, monthly, quarterly, and annual checkups, tests, and horrible procedures."[6]
>
> Transplant recipient, FDA's Patient-Focused Drug Development Initiative

While there are many transplant-specific risk factors for nonadherence, some factors are modifiable, including cost, lack of access, poor physician communication, complex medical regimens, and lack of a reminder system.[10]

5 dimensions of adherence to post-transplant treatment[10]

Risk factors for nonadherence after an organ transplant—from poor physician-patient relationship to lack of a reminder system—can be grouped into these 5 dimensions. When addressing patient nonadherence, health systems should focus on the 2 dimensions that can be modified: health-system and therapy-related factors.

- **Health-system factors**
- **Condition-related factors**
- **Social/economic factors**
- **Therapy-related factors**
- **Patient-related factors**



3 ways to engage patients in post-transplant testing

The good news is that strategies and interventions that address modifiable risk factors for noncompliance can help improve adherence to post-transplant medical regimens.[9] Taking steps to increase adherence, including simplifying transplant testing, may increase compliance.[4] The following are 3 ways health systems and transplant centers can improve patient engagement in and adherence to post-transplant testing.

1

Make post-transplant testing more convenient
Patients may be more likely to follow through with testing if it's easier to get tested, meaning they can have their samples drawn on their own schedules and in locations close to home, regardless of physician location. For instance, if patients can provide specimens in their physician's office or at service centers with convenient locations across the country, compliance may improve, especially over a longer time frame.

2

Make post-transplant testing more affordable
It's no secret that, for many patients in the US, cost can be a barrier to healthcare access—and a significant reason for noncompliance. Half of US adults say they've skipped some sort of healthcare due to cost; 29% also report not taking their medicines as prescribed because of the cost.[11] Collaborating with a lab services provider that offers patient billing flexibility and broad health plan coverage may help mitigate high costs and improve testing adherence.

3

Incorporate technology that offers testing adherence support
Studies have shown that apps, such as Transplant Hero, offering reminders for testing and other forms of support can help improve adherence to post-transplant medical regimens in younger patients. In one survey, 78% of kidney transplant recipients indicated that they had a positive attitude toward mobile health for medication management, and this was especially true for patients under age 55.[12]

A transplant patient success story[13]

George Franklin III has lived for 47 years with a transplanted kidney. When asked how he's maintained his health for so long he has a straightforward answer: adhering to his medical regimen. That includes getting frequent lab tests through Quest Diagnostics to detect any issues.

> "You want to have your kidney for over 40 years? Get your labs done."
>
> George Franklin III, transplant recipient

In one instance, because George was engaged in his lab testing, he noticed something off with his monthly labs. He immediately called his doctor, and his care team discovered that a virus had attacked his transplanted kidney, lowering his kidney function from 75% to 40%. Fortunately, George's engagement in his post-transplant care prevented the virus from getting worse, and his kidney is still able to function.

Support engagement efforts by collaborating with a lab services provider

Monitoring patient adherence to post-transplant care and testing can be challenging for clinicians.[9] Health systems and transplant centers can support their efforts by identifying strategies to address patient nonadherence and incorporating these strategies into routine patient care.[9]

One strategy in particular that can help improve patient adherence to post-transplant testing is to collaborate with a lab services provider that offers an end-to-end transplant testing solution and a nationwide footprint. This will enable health systems to make testing more convenient and affordable, mitigating transplant-specific risk factors for nonadherence and ensuring transplant recipients comply with the vital testing they need. As a result, patients will experience better transplant outcomes and improved long-term health.

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