



## HIV and Medication Adherence

Human Immunodeficiency Virus (HIV) infects around 50,000 people in the US every year. As of 2012 (for when the most up-to-date data is available), there were about 1.2 million HIV positive people in the country, of whom 12.8% of them did not know they were infected. That same year, around 14,000 people diagnosed with Acquired Immune Deficiency Syndrome (AIDS) died. In order to mitigate the advancement of disease in their patients, it is imperative for medical providers to understand the impact of, and strategies for medication adherence.

## Impact of Adherence and Non-Adherence

Traditionally, the gold standard for Antiretroviral (ARV) adherence was 95%, which is higher than the 80% threshold for other chronic diseases. The increased efficacy of newer ARV regimens suggests that viral load suppression can be met with lower levels of adherence, and given these improvements, researchers have recently suggested the adherence threshold can be reduced to >90%.<sup>4</sup> Unfortunately, median adherence in the US is 60-70%.<sup>3</sup>

Higher levels of adherence, particularly above 70%, are associated with lower levels of viral replication and load. Almost 99% of individuals who adhere to their medication greater than 90% of the time, and greater than 96.5% of those who adhere 70-90% of the time, are virally suppressed.<sup>1</sup> However, studies have also shown that adherence within the 70-90% range may allow for viral resistance. Non-adherence yields a rebound in viral replication, which may lead patients to lose the immunological and clinical benefits of the ARV. This limits future treatment options.<sup>1</sup>

## Strategies for Achieving Adherence

Directly Observed Therapy (DOT) consists of daily, or multiple-days-a-week, medication adherence observation. Research shows that this method produces complete adherence. Similarly, in Directly Administered Antiretroviral Therapy (DAART), pagers alert patients to report to mobile vans and meet with providers who observe medication adherence and provide case management and social support.<sup>7</sup> Unfortunately, both DOT and DAART require significant resources. Neither are feasible for most patients in the long-term, and adherence rates drop once these interventions end.<sup>6</sup>

A safe, non-judgmental clinical atmosphere is essential to a strong patient-provider relationship. When patients feel respected by and comfortable with their doctors, they are more likely to be honest about adherence as well as alcohol and recreational drug use, allowing providers the opportunity to help. Paternalistic attitudes of providers elicit secrecy, as patients may be fearful of disappointing their provider or angry about the condescension. Instead, providers should improve literacy and education regarding HIV and its management, describing the consequences of non-adherence and promoting patient confidence in treatment. Providers should address potential social, emotional and financial barriers.<sup>4</sup> Social support, whether from a provider, partner, family member, or friend, improves medication adherence.<sup>9</sup>

*(Continued on the back)*

## Reasons for Non-Adherence

Stigma is strongly associated with non-adherence. Historically, HIV patients have experienced poor treatment.<sup>8</sup> Fear of being seen taking medication may cause patients to be less diligent with their regimen.

When patients feel judged or disrespected by their physicians they may not ask questions, and may therefore misunderstand dosing instructions, or doubt the benefits of ARV therapy.

Patients who do not feel comfortable talking to their providers about experienced side effects may skip doses or completely stop taking medication to avoid side effects. Recreational drug use or changes in routine may impact adherence if patients and providers do not work closely together to strategize techniques for remembering pill dosages and times.<sup>4,2</sup>

Financially unstable patients may not always be able to afford ARV or treatment for mental illnesses, which can directly impact adherence.<sup>2,5</sup> Losing the will to improve health severely impacts a patient's motivation to adhere to treatment.

Common reasons for Non-Adherence:

- Fear of HIV Stigma (e.g. fear of being seen taking medication)
- Feelings of judgement or disrespect from patient's provider
- Patient discomfort talking to their provider about experienced side effects
- Financial instability

*In collaboration with*





Support groups may help reduce anxiety about stigma and provide further information about the importance of, or tools to help with, adherence. Increased sense of self-efficacy can improve patients' outlooks, and positive notions about patients' abilities to control their own prognoses improves disease self-management.<sup>3</sup>

Evidence-based self-management techniques include:

- Taking pills at the same time each day.
- Associating medication with daily habits like teeth brushing.<sup>11</sup>
- Utilizing pill boxes, especially for those who are managing multiple medications.
- Smartphone apps (the highest-rated of which include MyMedSchedule, MyMeds and RxmindMe) which are highly useful to individuals with complex medication schedules, because they can consolidate all of the patient's medication information and issue alerts when it is time to take each pill or when a refill is required. The apps also provide information regarding side effects and toxicity.<sup>10</sup>

Adherence is best achieved when promoted during all stages of treatment. Often providers emphasize adherence in the beginning ARV treatment, and discuss it less with patients who have been receiving the therapy for months or years; however non-adherence can be problematic no matter how long ago the patient was diagnosed.

Patients and their providers should work together during all stages of treatment to strategize tailored techniques to improve adherence based on individual patients' needs.

Strategies for Achieving Adherence:

- Utilizing Directly Observed Therapy (DOT) and Directly Administered Antiretroviral Therapy (DAART) when available
- Creating a safe, non-judgmental clinical atmosphere
- Educating patients regarding HIV and its management, especially focusing on the consequences of non-adherence and promoting patient confidence in treatment
- Addressing potential social, emotional, and financial barriers

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## Additional Resources

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