Personality is a complex matter, and there is no consensus on how to define it, even in its maladaptive and disordered forms. One thing is clear, however—disordered personality and certain personality traits affect every aspect of the experience of human immunodeficiency virus (HIV) disease and its treatment. Certain personality traits and disorders increase risk behaviors related to both infection and transmission of the HIV virus. Thus certain personality structures, especially borderline and antisocial personality disorders, are significantly more prevalent in HIV-positive individuals. Personality affects the personal meaning of having HIV infection, as well as coping with the illness and its treatment. The patient’s experience of caregivers, providers, and others in the interpersonal milieu is also shaped by personality. The larger sociocultural responses to HIV and high-risk subcultures are often experienced in unique ways patients with personality disorder (PD). Personality affects aspects of medical care from compliance with medical care, including potentially life-saving interventions, to the treatment relationship itself. Even seasoned mental health providers struggle with intense, sometimes hateful, countertransference feelings. Clearly, the interface of personality and HIV disease is an area that every practitioner needs to be familiar with, whether medical or psychiatric providers or leaders involved in policy-making and public health systems of care.

MODELS OF PERSONALITY

Most authors consider personality to involve intelligence, temperament, and character with temperament reflecting biologic contributions and character reflecting social and cultural shaping. In regard to maladaptive personality structure, there is some controversy between dimensional and categorical approaches. The *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* uses categorical constructs with which most clinicians are familiar. However, DSM-V Prelude Project workgroup on personality and relational issues continues to consider the merits of a dimensional approach. *DSM* aside, there are other categorical approaches to disordered personality from the psychoanalytic tradition, including Otto Kernberg’s concept of the borderline personality organization, which subsumes the *DSM-IV* borderline, narcissistic, and antisocial personality disorders.

A thorough review of various theories of personality is beyond the scope of this chapter. We review the major temperament and character traits, to provide a conceptual framework.
and to set the context for studies that reference specific personality traits. Though there are multiple conceptual models, some authors feel these can be reduced to four temperament traits: (a) fearfulness or high harm avoidance, (b) impulsivity or high novelty seeking, (c) social detachment or low reward dependence, and (d) compulsiveness or persistence. The *DSM-IV* personality disorder clusters relate to these four traits in the following manner: cluster A (social detachment or low reward-dependence), cluster B (impulsivity or high novelty-seeking), and cluster C (fearfulness or high harm avoidance).¹

In addition to temperament, there are three major character dimensions described in the literature: (a) self-directedness, (b) cooperativeness, and (c) self-transcendence.¹ Self-directedness includes the concept of locus of control that has been shown to relate to the extent of involvement with health care.² Cooperativeness relates to a sense of being involved in human experience and society and has implications in regard to the interpersonal field, including social support networks and providers. Finally, self-transcendence relates to a sense of being involved in the universe as a whole, expanding the boundaries of self to take on broader life perspectives, and discovering meaning in one’s life. This correlates with coping with a chronic illness and the existential issues related to death and dying, issues examined later in this chapter.

Personality models can more broadly be classified as two types: the social-cognitive and the trait-dispositional.³ The social-cognitive model relates to plans, goals, strategies, and overall narratives that inform behavior and are situated within a larger social context. Neurotic conflict and complex are also included here as significant aspects of personality structure. These social-cognitive or narrative aspects of personality are unique, shaped by particular aspects of relationship and life experience not readily reduced to categorical personality disorders. Trait-dispositional models refer to personality dimensions, as outlined previously. These once competing theories are now considered to be complementary by clinicians and theoreticians in the field of personality.

Thus there are multiple ways to conceptualize both normal and disordered personality—dimensional, categorical, and narrative/social-cognitive approaches are among these. Our focus will be on those personality traits, as well as *DSM-IV* personality disorders that have been described in the literature on HIV and personality and noted in the clinical experience of those working with patients with HIV.

**Epidemiologic Perspectives**

Almost by definition, the *DSM* cluster BPDs are associated with an increase in risk-related behaviors. Borderline patients are more impulsive (including impulsive sexual behaviors), and antisocial patients are both more impulsive and less harm-avoidant (i.e., less fearful of consequences). These features suggest an increased prevalence of these personality disorders in HIV-positive samples. This is supported by the literature, which shows a higher rate of PD in HIV-positive individuals, with the largest constituents being the cluster BPDs, especially borderline (BPD) and antisocial (ASPD).⁴ ⁵ As we know from clinical practice, comorbidities are common between various Axis II PDs, yet this is not a feature mentioned in the HIV-related studies reviewed. Also, studies offer little about the prevalence and experience of individuals with other PDs, traits, and styles and how these relate to infection with HIV.

**Diagnosis of Personality Disorder in the HIV-Positive Population**

Clinical experience of HIV care providers reveals that though they describe the “difficult” patient, they have a hard time diagnosing PD or maladaptive personality traits. Mental health clinicians also may struggle in making PD diagnoses, because diagnosis can be complicated
by numerous factors in the HIV-positive population, including drug-using and gay subcultures. In gay and drug-using patients, there are also barriers to contacting family members and other individuals, who ordinarily can provide useful longitudinal history helpful in assessing the patient’s personality structure. Often, stabilization of drug addiction is necessary before a firm diagnosis can be made.

There are specific challenges of diagnosing DSM-IV BPD in the gay context, raising questions such as: (a) rating sexual impulsivity within certain gay lifestyles, where contact may move quickly to sexual acts; (b) assessing impulsive substance use in the gay club culture, where it may be more a cultural norm; and (c) assessing instability of self-image, which can be a consequence of the difficult coming-out process for gay and bisexual individuals. Initially, these specific high-risk behaviors can be targeted; often, more sustained and longitudinal contact with the patient allows accurate assessment of underlying personality disorder and maladaptive traits.

HIV-related cognitive disorder may decrease memory and affect self-appraisal, impeding diagnostic assessment. Patients with active legal entanglements and extensive drug histories may minimize or deny their legal history or drug use, masking historical facts useful for diagnosis. They may also limit access to useful sources of collateral history out of similar fears. Relational ties may have declined so severely that no access to collateral sources is possible. Gay patients with HIV may be estranged from their families, sometimes rejected by them after coming out or disclosing their HIV infection status. Even when these patients are still connected with them, they may resist provider contact with family members and other sources of collateral history out of shame and concern for stigmatization, fearing disclosure of their HIV status, drug use, or gay lifestyle.

PERSONALITY, MALADAPTIVE BEHAVIOR, AND ILLNESS RESPONSE

PERSONALITY AND HIGH-RISK BEHAVIORS

The main HIV transmission categories relate to high-risk sexual and drug-related behaviors, behaviors that are increased in certain PD populations. The DSM ASPD and BPD, as well as the traits of high novelty-seeking (high impulsivity) and low harm avoidance (low fearfulness), have been linked with high-risk behaviors. As well, with narcissistic pathology, low self-esteem and defensive grandiosity can reduce the perceived risk of infection and thus the barrier to high-risk behavior.

When compared to non–PD controls at risk for HIV infection, patients with ASPD have been shown to have increased needle-sharing, decreased needle-cleaning, more needle-sharing partners, and higher self-reported rates of intravenous drug use. These patients have a larger number of sexual partners, higher rates of prostitution, and higher rates of risky sexual behavior, including anal sex. Thus, not only are these patients at high risk for infection, with multiple sexual and needle-sharing partners, as well as higher rates of prostitution, they also pose a significant risk to others in the community.

In studies of personality traits, novelty-seeking has been related to high-risk sexual behavior. Novelty-seeking was related to high-risk sexual behaviors, including number of sex partners or frequency of unprotected sexual intercourse and through its correlation with alcohol use in gay and bisexual men, and promotes high-risk sexual behaviors, including casual sex partners and unprotected sexual intercourse.

The highest transmission category for women does not relate to intravenous drug use or same-sex sexual activity, but to heterosexual sexual activity. Women with narcissistic spectrum pathology who have low self-esteem sometimes try to bolster this low sense of self by adopting a rescuing role with drug-abusing HIV-positive males, which gives them a sense of narcissistic
gratification (by feeling like heroic martyrs) and is a response to an extremely rigid and self-deprecating ego ideal. These factors are proposed to make sense of those seronegative women who sustain relationships with HIV-infected partners and place them at high risk.6

PERSONALITY AND PSYCHOLOGICAL EXPERIENCE OF INFECTION

HIV infection is a significant life experience for anyone affected. There is the specific impact of HIV disease and related medical sequelae, as well as the complex experience of dealing with a chronic illness. Issues can arise in relation to the patient’s self-perception and the response from family, friends, and the larger society of which they are part. There are existential questions in regard to meaning and death. This experience is unique for everyone dealing with HIV disease, yet there are particular issues that are common with patients with PD.

Patients with narcissistic pathology and with other disorders of the self, including BPD, can experience the diagnosis of serious illness most intensely. For those using primitive defenses, especially splitting, this may contribute to increased denial of illness and medication nonadherence. Because AIDS affects various systems of the body, including visible and stigmatizing AIDS-specific lesions such as Kaposi’s sarcoma, this can be especially fragmenting for those with preexisting narcissistic vulnerabilities. To illustrate, a colleague described a patient who had severe narcissistic pathology and developed visible Kaposi’s lesions during the progression of his HIV disease. The resulting narcissistic injury was so fragmenting that he committed suicide.

Like a child, the very ill individual yearns for omniscient and omnipotent caregivers to fulfill idealized self-object needs.8 For patients who experienced prior abuse, they may vacillate between help-seeking and help-rejecting behaviors. This reflects primitive aspects of the psyche acting to prevent patients from being retraumatized as they were by their early attachment figures.9 Thus, as self-object ties are disrupted, the resulting destabilization of the self can be experienced as a recapitulation of the inadequate early environment. In these states of heightened dependency, there can be a triggering of old fears of being neglected/abandoned, mistreated/abused, or even narcissistically used by caregivers who need the child to be sick and dependent. A failure of the early self-object environment may be rationalized as a fault of the patient, such that AIDS can even be experienced as a “just retribution for being fundamentally bad.”8

For patients with personality disorder, HIV infection can reactivate other intrapsychic conflicts related to early traumatic childhood experience. Fears of separation and annihilation can be triggered in relation to early environmental deprivation, abandonment, loss, and unprocessed grief, all which are more common in patients with severe PD. The HIV infected patient can play out the persecutor-victim object-relational dyads common to patients with borderline personality organization and those with histories of severe trauma.6 HIV-positive patients can also experience themselves as persecutor because they can infect others and subsequently feel guilty. The potential stigma around HIV is one more element in a persecutory environment perceived by patients with the object-relations of borderline personality organization.6

PERSONALITY, COPING, AND SELF-TRANSCENDENCE

HIV infection often heightens one’s sense of mortality; in addition to the suffering, or perhaps because of it, there is the potential for growth of self-transcendence.10 This echoes Jung’s notion of the potential for transformation and even growth through experiences of suffering, including illness. Self-transcendence involves an expansion of one’s boundaries to larger perspectives and is accomplished through introspective activities, concern and involvement with others’ activities, and integrating one’s experiences to make or discover meaning in the present circumstance. In the setting of HIV disease, self-transcendence has
been associated with increased self-worth, a sense of increased strength, improved life satisfaction, and a deeper sense of themselves and others. In one sample of 46 HIV-positive individuals, quality of life, as measured by a quality of life index (QLI) positively correlated with measures of self-transcendence, as measured by the self-transcendence scale (STS).\(^{10}\) These studies suggest that self-transcendence can be a protective personality factor of significance for HIV-positive patients. Providers and therapists who are comfortable with transpersonal issues can be particularly useful in nurturing self-transcendence. Otherwise, referrals for pastoral or spiritual guidance can be considered.

**PERSONALITY AND TREATMENT ADHERENCE**

Adherence is a critical issue because partial adherence can select for medication-resistant HIV viral strains. Thus, in addition to the consequences of untreated HIV infection for any given individual, there is also a risk of transmission of resistant virus within sexual relationships and drug-related social networks. In a study looking at medication adherence in 107 HIV-positive methadone maintenance patients with at least one psychiatric diagnosis and one substance-abuse diagnosis, the rate of BPD was 37% and of ASPD 56%.\(^{11}\) There was significantly decreased medication adherence in the BPD group. The investigators also looked at employment/support, alcohol use, drug use, legal status, and family/social issues and found that only the family and social indices were related to HIV treatment adherence. They suggested that the BPD itself contributed to this finding through its association with social and relational instability. Our clinical experience supports these findings, with adherence most problematic with patients with ASPD and BPD.

**PERSONALITY DISORDER AND AXIS I DIAGNOSES**

HIV-positive patients with PD have been shown to have higher levels of psychiatric symptoms and to be at increased risk for developing Axis I disorders compared with HIV-positive patients without PD.\(^{12}\) If, with further work, patients with PD and HIV disease prove more likely to develop Axis I psychiatric disorders than their HIV-positive counterparts who do not have PD, this would provide further impetus to treat PD and assess for treatable Axis I disorders.

**TREATMENT CONSIDERATIONS AND IMPLICATIONS**

In treatment, flexibility and intuition coexist with the precepts and principles of empirically supported treatments, whether psychoanalytic or cognitive-behavioral. Each treatment, in its focus and approach over time, changes in response to the needs of the individual patient. Though forms of treatment are considered individually, there are often elements that need to be coordinated within an optimally effective therapeutic program. Such a program typically includes individual psychotherapy, regular group treatment, chemical dependency treatment, and routine contact among therapists and providers for consultation.

First, we briefly consider treatment perspectives that relate to personality dimensions. The remaining sections on treatment focus on individual and group therapies of borderline and narcissistic disorders. There are no well-established treatment approaches for ASPD, though some have argued for certain forms of ASPD to be considered on the spectrum of narcissistic personality disorder and that individual psychotherapeutic approaches can be effective for the milder variants of ASPD.

In regard to high novelty-seeking, these individuals tend to seek rewards and are less attuned to avoiding consequences. Three treatment approaches have been suggested: (a) reframing consequence avoidance in terms of reward attainment, (b) appealing to people’s cognitive side, and (c) developing a written treatment plan.\(^{13}\)
The character dimension of self-transcendence has been shown to have a positive impact on coping and quality of life. Cultivation of self-transcendence includes assuming an attitude of acceptance, developing a practice of introspection and meditation, using bibliotherapy with spiritually themed books, becoming involved with support groups or volunteer organizations, and becoming involved with spiritual or religious groups. Also, there are psychotherapeutic approaches, including existential, Jungian, and transpersonal therapies, which attempt to cultivate what has been called a “quest narrative,” in which the suffering is looked at as necessary for development. These more adaptive narratives tend to include spiritual experiences and value community service and involvement. They are in contrast to the less adaptive narratives in more common use by patients with personality disorder: “restitution narratives,” which minimize the experience of illness and limit the patient’s responsibility to taking medications to “get well,” and “chaos narratives,” in which the patient experiences a loss of control and expects terrible things to continue happening without any order or meaning.

**COUNTERTRANSFERENCE ISSUES**

Patients with BPD organization can evoke intense affects in the countertransference, through their intense oscillations between idealization and devaluation, through their often rageful and stormy interpersonal styles, and through projective identification. If not addressed, these elements can lead to fractured treatment alliances in which the therapist burns out or unconsciously colludes with treatment-interfering behavior, possibly provoking the patient’s exit from treatment.

Although psychotherapists may be skilled at dealing with their own responses, these patients are seen by other providers in various health care settings. Mental health providers play an important role in identifying and managing provider responses to patient splitting toward health care staff. Multidisciplinary meetings and regular communication among providers can facilitate coordination. Providers need to acknowledge their angry and even hateful feelings toward these patients, to reduce guilt and secondary anxiety that may lead to avoidance and distancing from these patients.

**INDIVIDUAL PSYCHOTHERAPY**

The patient’s life history, personality structure, and current life context determine the extent to which the individual’s psychological balance and sense of self are threatened by the HIV infection. It is important to provide the individual psychological space to explore potential recapitulations of earlier traumas and unresolved conflicts and also to explore fantasies of disease, death, and HIV-related fears and worries. It is also important to differentiate between neurotic anxiety that relates to these unconscious conflicts and existential anxieties. The psychotherapeutic relationship can be a crucial space in which experience is held, metabolized, and digested. It is vital in its provision of self-object functioning, which includes experiences of feeling soothed, strengthened, validated, and acknowledged by the other. This space can help alleviate separation anxiety, address fears of loss and death, and facilitate mourning. It can also provide hope and help maintain the dying person’s sense of self.

The psychotherapeutic frame may need to be expanded to include hospital or home visits, couples and family work, and communicating with the medical providers. Treatment recommendations from a self-psychological perspective are based on the three types of self-object needs: (a) mirroring needs (the need to feel understood, accepted, and appreciated), (b) twinship or alter-ego needs (the need to be involved with other beings like themselves), and (c) idealizing needs (the need to be experienced in relation to one who is
admired and respected). Although these recommendations are not all exclusive to patients with personality disorder, they often are intensified in these individuals.

Regarding mirroring needs, the therapist can provide a critical role as a validating, sustaining self-object; this can heal the patient’s negative self-image and help restore self-esteem. Various losses and narcissistic injuries need to be interpreted, and self-object transferences related to early attachment figures need to be worked through.\(^8\) It can be helpful to interpret the self-object needs that sexuality and drug use fulfilled, including attention, approval, and confirmation of worth. This can be followed by exploration of safer and drug-free ways of meeting these needs.\(^8\) Outside of the therapeutic relationship, there is a need to help the person with AIDS build a supportive relational network, both by strengthening previous relationships and creating new ones. These all have the potential to provide needed mirroring and self-object functions.

Regarding alter-ego or twinship needs, in addition to working through the patient’s shame, which often leads to isolation, there is often a need for family and couples work to address their fears and rejection.\(^8\) The patient can be directed to community initiatives, which can be stabilizing and provide a supportive alter-ego milieu; these can include political and activist organizations, self-help groups, yoga and meditation groups, 12-step recovery groups, and other support groups.\(^8\)

Finally, we consider idealizing needs: there is often a developmental need for some idealization, as well as a need to work through the client’s inevitable disappointment in those providers who were supposed to provide idealized self-object needs. The therapist can repair disruptions with providers critical for the patient’s medical treatment. Establishing or reconnecting with spirituality can provide a powerful idealized self-object function. If the patient’s spiritual orientation allows viewing the body as only a vehicle for something transcendent, this can also make physical death less threatening.\(^8\)

Dialectical behavior therapy (DBT) draws from standard cognitive-behavioral therapy and incorporates mindfulness and the notion of dialectics. DBT is a four-stage target system: (a) pretreatment targets of commitment; (b) first-stage targets of stability, connection, and safety; (c) second-stage targets of exposure and processing the past, and (d) third-stage targets of individual goals. The main components of treatment include a weekly 60-minute individual therapy and 90-minute skills group. There is a modification of DBT for the triply diagnosed, which includes a stage-two modification that focuses on HIV-adherence behaviors including taking medications as prescribed, monitoring T cell and viral load counts, attending primary care appointments, and attending substance abuse counselor appointments. Diary cards are used to track target behaviors and the use of DBT skills. There are also modifications to the skills, including the development of methadone clinic–relevant skills, including mindfulness in the dosing line, as well as application of interpersonal effectiveness skills, distress tolerance skills of “radical acceptance,” and the emotion-regulation skill of “acting opposite,” all with the goal of increasing the patient’s effectiveness in the methadone clinic setting. There is a “DBT Path to Adherence,” which applies standard DBT skills to adherence-related issues, which is broken into two parts. Part I, “Clarifying the Recommended Treatment Regimen,” explicitly looks at clarifying elements of treatment, whether treatment is being followed, barriers to treatment, environmental contingencies, fears of treatment, and side effects of treatment. Part II, “Following the Recommended Treatment,” looks at specific ways of promoting adherence, including promoting positive health beliefs, making a self-management plan, structuring the environment for adherence, and enlisting the help of friends, family, and providers.

Finally, there are other empirically supported treatment approaches for BPDs that can be considered, including Transference-Focused Psychotherapy; Psychodynamic Partial Hospitalization, and its more recent offshoot, Mentalization-Based Therapy; and, finally, Supportive Therapy for Borderline Patients. Given the chronicity of personality dysfunction
and the course of HIV illness, individual psychotherapy should be considered an extended treatment for many patients.

**GROUP PSYCHOTHERAPY**

Groups are an important part of substance-abuse treatment, and peer-support interventions have been developed for HIV-prevention interventions. In the presence of PD, group approaches are usually combined with individual treatment. Conventional group work tends to exclude active substance users and those with ASPD from sessions for those with BPD.

A psychodynamic group therapy with HIV-positive patients with PD has been described. The experience of belonging in a group can be a critical process toward building a sense of self, because many patients with PD had either absent parental figures or extremely narcissistic parental figures, with the children just narcissistic extensions of the parent figure. It can be important to not interpret this process, but to allow it to unfold first, perhaps later to be interpreted. These groups, even when positive, can be such a new experience for these patients that it can be frightening and induce defensive reactions. A patient may act out by not showing for a group; this can be framed as a communication that permits an increased awareness for other members of the group, who may share such fears of intimacy. Initially, there is a regressed stage in the group process, which provides an omniscient and idealized self-object function and the experience of being as one with the group. After this phase, the patients need to work on passing into a phase of healthy individuation, a spiraling process of change. The overall group process in terms of allowing repair of the pathway to narcissistic development (“the grandiose self”) and also an opportunity to integrate split internal object-relational dyads (i.e., representations of self and other, linked by affect).

**PSYCHOPHARMACOLOGY**

Given that many personality disorders often have comorbid Axis I DSM diagnoses, including mood and anxiety disorders, these need to be identified and treated. With regard to drug-treatment of PD, BPD has substantial evidence supporting the use of psychoactive medications. As described in the American Psychiatric Association (APA) treatment guidelines for BPD, there are three core symptom areas: (a) affective dysregulation, (b) impulsive-behavioral dyscontrol, and (c) cognitive-perceptual disturbances. Affective dysregulation includes mood lability, rejection sensitivity, inappropriate anger and temper outbursts, and “mood crashes”; selective serotonin reuptake inhibitors (SSRIs) or related antidepressants such as venlafaxine are recommended as initial treatment. For severe behavioral dyscontrol, low-dose neuroleptics can be considered. Mood stabilizers such as lithium, divalproex sodium, and carbamazepine are second-line options, though studies are limited. Impulsive-behavioral dyscontrol includes impulsive aggression, self-mutilation, or self-damaging behavior. SSRIs are again the treatment of choice, with low-dose neuroleptics considered for severe behavioral dyscontrol. Lithium, divalproex sodium, and carbamazepine are additional second-line agents. Finally, cognitive-perceptual symptoms include suspiciousness, referential thinking, illusions and hallucination-like symptoms, as well as depersonalization. Low-dose neuroleptics are the treatment of choice for these symptoms.

**OTHER INTERVENTIONS AND CONSIDERATIONS**

In preliminary data presented at the 2004 APA meeting, Zanarini described a randomized control trial, not specific for HIV-infected persons, that examined psychoeducation for BPD, reportedly demonstrating decreased impulsivity and relationship dysfunction with psychoeducational intervention. Defining the disorder and related behaviors may create more observing
ego, improving affective regulation and behavioral control. Related psychoeducational material is available, which can augment other treatment approaches for BPD, including, Lost in the Mirror: An Inside Look at Borderline Personality Disorder, by Richard Moskovitz and Borderline and Beyond: Workbook and Personal Journal, by Laura Paxton.

HEALTH CARE POLICY

These patients are at high risk of infecting others and thus place a significant burden on the health care system through their own illness, that of people they infect, and the increased cost associated with poor adherence and repeated emergency department visits and hospitalizations. Effort needs to be put into screening for BPD and ASPD in relevant settings, such as drug treatment programs, prisons, and so on. Patients with ASPD do respond to HIV prevention interventions, though with an attenuated response. Prevention intervention programs need to be implemented that target these high-risk individuals. Available and effective treatments for these PDs should be applied, with the cost of such programs weighed against the larger economic burden related to HIV disease and AIDS in these high-risk and often poorly adherent individuals.

FUTURE RESEARCH DIRECTIONS

Although patients with PD and high-risk personality traits are more likely to develop HIV disease, and are disproportionately represented in those with HIV, the literature is relatively sparse. Most aspects of the complicated interface of personality and HIV risk, infection, and illness course need further investigation. Treatment adherence in this setting needs more careful study; as this is further fleshed out, interventions that target adherence need to be developed and tested. The recent modification of DBT, which targets HIV-related adherence, is a good step, albeit one that has not yet been validated or shown to increase adherence in controlled trials. The areas of coping and spiritual transcendence also need to be investigated in more detail in this population, to help shape interventions that improve quality of life for these individuals. Psychotherapies targeting patients with BPD or ASPD in HIV-positive individuals need to be further researched. Comparative and combined treatment approaches to single and comorbid conditions require study. Finally, prevention and risk reduction strategies that target these patients need to be developed and tested.

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