Transgender individuals are those who identify with the sex opposite to the one assigned at birth. Thus a transgender man is one who was assigned female sex at birth but identifies as a man while a transgender woman is one who was assigned male sex at birth but identifies as a woman. Should symptoms result the symptom complex is known as ‘gender dysphoria’. Some transgender individuals will opt to take cross-sex hormones or undergo sex-reassignment surgery in an effort to relieve gender dysphoria.

Prevalence
It is estimated that 0.6% of U.S. adults, or 1.4 million, are transgender individuals.1 If one arbitrarily chooses a conservative prevalence estimate of 0.5% and extrapolates to the world population the resulting figure is 25 million transgender individuals worldwide.2

Is gender dysphoria a biologic variant or a mental health disorder?
In the 19th century gender dysphoria was considered a psychopathologic entity. Since the middle of the 20th century there has been a progressive move away from the singular concept of a mental health disorder. ICD-11, which will be published in 2018, will remove gender dysphoria from the ‘Mental and Behavioral Disorders’ chapter and will place it in a new section entitled ‘Conditions related to sexual health’.3 This signals a recognition that gender dysphoria is no longer considered a stand-alone mental health disorder, but rather the end result of a complex interplay of biologic and socio-environmental factors.

Do transgender individuals have extra morbidity?
Mental health disorders, in particular, anxiety, depression and suicide are common in transgender individuals. Similarly, HIV and other sexually transmitted infections are more prevalent, as is substance abuse. Transgender individuals who opt to take gender-affirming cross-sex hormones may develop side effects: transgender women who take estrogen may develop hypertriglyceridemia and hyperprolactinemia. Transgender men who take testosterone may develop hypertriglyceridemia, hypertension, elevated transaminases and polycystic ovarian changes.
Do transgender individuals have increased mortality?

A Dutch study in 2011 compared 1131 transgender individuals, 966 male to female (MtF) and 365 female to male (FtM) receiving cross sex hormones, followed for a median of 18 years. When compared to the Dutch population a SMR of 1.51 in MtF and 1.12 in FtM subjects was reported. The excess mortality was largely explained by suicide, AIDS, ischemic heart disease, and illicit drug abuse. Mortality in the FtM subjects was not significantly increased (SMR 1.12). The authors concluded that the extra mortality was not related to cross-sex hormone therapy. A study of all transgender individuals who underwent sex reassignment surgery in Sweden between 1973-2003 showed an 2-3 fold increase in mortality (HR 2.8; 95%CI 1.8-4.3) during a median follow-up time of 10 years. Suicide was the commonest cause of death in both MtF and FtM subjects; cardiovascular causes of death were slightly increased. Malignancies were more common but did not reach statistical significance. Differences in mortality became apparent after 10 years of follow-up.

Is gender reassignment successful?

Gender reassignment improves quality of life and psychosocial outcomes. In a systematic review of 28 studies and 1833 transgender individuals who underwent gender reassignment (hormone therapy with or without sex-reassignment surgery), 80% of individuals reported improvement of gender dysphoria, 78% reported improvement in psychological symptoms and 80% reported improvement in quality of life. However, many of the studies were observational without a control group and thus of variable reliability.

Underwriting implications

Transgender individuals who receive adequate care can expect a marked improvement of their symptoms of gender dysphoria. There is mild to moderate extra mortality, especially in younger individuals: MtF transgender individuals seem to have a higher mortality risk compared to FtM individuals. The extra mortality is mainly due to suicide with a slight increase in cardiovascular deaths. Future results from studies with longer follow-up periods may elucidate this further.

Sources