

VIEWPOINT

Psychiatry's Opportunity to Prevent the Rising Burden of Age-Related Disease

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Three demographic trends are colliding to form a perfect storm: the postretirement portion of the population is swelling, the human life span is lengthening, and the birth rate is dropping. The result is that the balance of young to old in the population is shifting, leaving fewer young workers to drive the economy and pay taxes to support aging citizens. These 3 trends mean more stress for the young and less support for the old, bringing 2 opportunities for the mental health field. First, an opportunity to prevent disability among young people, which would enhance their well-being and capacity to shoulder the burden of the dependent older population. Young people tend to be physically healthy but can experience behavioral problems, emotional problems, substance abuse, and cognitive impairments. These conditions respond to mental health treatments. Second, an opportunity to prevent ill health among older people, which would reduce the burden of age-related disability. Here, we argue that psychiatry is well situated to prevent disability among older people by doing something it does well: treat young people. Risk-prediction research shows that the same people who have poor mental and cognitive health while young tend to have age-related diseases years later.^{1,2} Moreover, the timing is right. Mental disorders peak in adolescence and young adulthood, whereas noninfectious diseases peak in midlife and neurodegenerative conditions peak in late life (Figure, A and B).

During the first half of the life course, mental disorder affects most of the population. National health system registers show the lifetime prevalence of mental disorder treatment is 30%. Because many people with mental disorders are not treated, 30% is a lower bound. Surveys, such as the National Comorbidity Replication Survey, estimate lifetime prevalence near 50%. Because cross-sectional surveys are biased by recall failure and because individuals with disorders resulting in homelessness or institutionalization or who refuse to complete the survey are missed, 50% is an undercount. Several prospective longitudinal studies that interview participants every few years have observed how disorders accumulate.⁶ These studies count cases irrespective of treatment, minimize recall failure, and report lifetime disorder prevalence between 60% and 85% by midlife. For some people, mental disorder is like influenza or fracture, disabling but short-lived. For others, mental disorder becomes a long-term condition, like rheumatoid arthritis or diabetes.

Psychopathology is transdiagnostic and predicts accelerated biological aging. Longitudinal studies show that most people who present with a specific psychiatric disorder also experience other preexisting, co-occurring, and future-occurring mental disorders.⁴

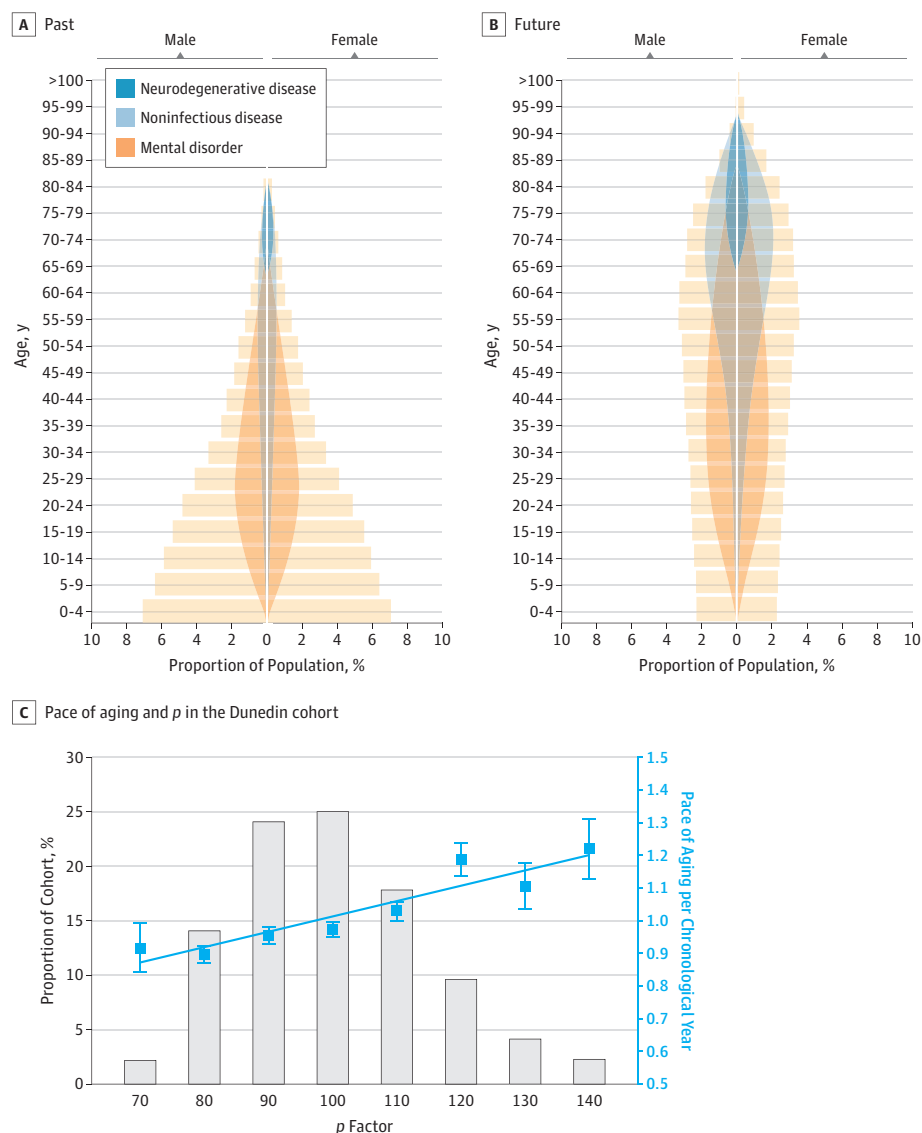
The severity of one's propensity to develop any and all disorders during the life course is summarized by one dimension, termed p .⁴ The p factor tops a hierarchy comprising the internalizing, externalizing, and psychotic experiences domains. Additionally, p predicts pace of aging (Figure, C). Carriers of a general liability to mental disorder show accelerated biological aging toward late-life disease and early mortality.

Disability and service use are concentrated in a small segment of the population characterized by mental disorder and its risk factors. National registers reveal that a small segment of the population accounts for the bulk of services used: social welfare payments; hospital-bed nights, prescription fills, criminal convictions, and injury-related insurance claims. In the Dunedin cohort, high-rate users in one service sector tended to be high-rate users in multiple sectors.⁷ Such individuals could be accurately identified by risk predictors they had as children, particularly elevated p ; 8 in 10 high-need/high-cost service users had psychiatric disorders by age 15 years. There is a population segment of people who share risk factors as children, have diagnosable mental disorders as young people, and show accelerated aging as adults. This segment accounts for the bulk of disability-related health and social service use. Interventions that prevent disability in this population segment could yield very large returns on investment.

Mental disorders can be predicted from risk factors in childhood. Risk factors co-occur in childhood, and prediction of health is strongest when they accumulate. Socioeconomic deprivation, maltreatment, low IQ, poor self-control, and family psychiatric history constitute potent childhood risks for all mental disorders and, consequently, for p . These same early-life risks identify high-need/high-cost service users. Prediction is moderately good beginning at age 3 years, and risk is compounded by harmful experiences during adolescence.⁸

Psychiatry has an opportunity to re-envision its prevention goals. Treating disorders and reducing their risk factors benefits the young, but it could also have the knock-on effect of reducing disease and health service and social service use in the same people when they reach later life. Causal risks affecting children are transdiagnostic, implying early-years primary prevention may diminish general liability toward disorder. Emotional, behavioral, cognitive, and substance problems are ubiquitous, implying that antistigma public awareness programs and enhancing young people's treatment access might benefit late-life health. Readily accessible transdiagnostic psychotherapy could work as first-line treatment.⁹ Efforts to expand mental health treatment accessibility are promising.¹⁰ Targeted interventions may

Figure. Mental Disorder, Age-Related Disease, and Accelerated Aging



A and B, Stylized depiction of historical and estimated shifts in the distribution of age groups in the population.³ Age bands sum to 100%. The charts are overlaid with stylized depictions of age at onset and prevalence of mental disorders (orange), noninfectious physical diseases (aqua), and neurodegenerative conditions (blue). Young people who experience mental disorder tend to develop noninfectious and neurodegenerative diseases as they age. C, Individuals in the Dunedin Longitudinal Study who experience more psychopathology tend to age faster. We measured p (mean [SD], 100 [15]) as a latent factor summarizing the common variance among all of the multiple psychiatric symptoms ever experienced by cohort members between ages 18 and 38 years.⁴ The pace of aging operationalizes the coordinated progressive loss of integrity across bodily systems that is aging according to geroscience theory.⁵ We measured the pace of biological aging from changes in 18 biomarkers of Dunedin cohort members' cardiovascular, metabolic, endocrine, pulmonary, hepatic, renal, immune, and periodontal systems when cohort members were aged 26, 32, and 38 years. Error bars indicate standard error. The regression line shows the correlation between p factor and pace of aging (Pearson $r = 0.21$; $P < .001$), calculated on the full score distribution.

interrupt the path from a youth's first disorder to becoming a high-need/high-cost public service user in later life. Testing these ideas requires abandoning conventional boundaries, like sick vs well,

diagnosis X vs Y, mental vs physical illness, and, vitally, young vs old. Disease prevention invites seeing each patient as a member of the population, with a life behind them and a life ahead.

ARTICLE INFORMATION

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