One axiom of rationality is to ground current decisions on later outcomes (termed “prospection”). The planning fallacy, in contrast, occurs when intuitive reasoning misjudges the future and leads to schedule conflicts, cost overruns, hasty course corrections, missed deadlines, or other regrets. Stunning examples of the planning fallacy occur when sincere political leaders promise large infrastructure projects yet fail to deliver on time and within budget. Mundane examples of the planning fallacy occur when experienced, skilled, and thoughtful clinicians run late in clinic repeatedly. The planning fallacy causes suffering—including for the individual personally—yet people rarely learn from their past mistakes until too late.

Harte et al demonstrate how the planning fallacy might extend to medical care and cause suffering among patients diagnosed with chronic obstructive pulmonary disease (COPD). The study involves a longitudinal analysis of 207 individuals comparing each patient’s expected health to their actual health at later follow-up (3 months, 1 year, and 2 years). The results show a major mismatch between projections and actual health, an average bias of overoptimism, and a hint that greater optimism is correlated with worse patient outcomes. The implication is that unrealistic expectations are potentially harmful to patient health by interfering with prevention efforts, advanced care planning, or other strategies intended to minimize future losses.

This study examines patient prognosis (not diagnosis, etiology, treatment); therefore, the standard science limitations do not involve potential failures of randomization, a lack of masking, the feasibility of replication, or other elements of Evidence Based Medicine. Hart et al also carefully identified patients at a uniform point in their course of disease, described the referral pattern, achieved nearly complete follow-up, prespecified rigorous outcome criteria, and accounted for readily apparent clinical features. The longitudinal design was also more insightful and rigorous than a single cross-sectional survey at 1 time point. These strengths are impressive and suggest faulty prospection likely extends to patients with COPD broadly and perhaps other patients with serious incurable diseases.

A limitation of the study by Hart et al is the lack of data on whether patients prefer prospection. Contemplating a progressive illness can be depressing, preserving hope is essential for quality-of-life, and many individuals may find comfort through denial. Contemplating even simple financial gambles, furthermore, shows healthy adults often prefer uncertainty rather than certainty when considering future losses. For example, in one experiment most participants were risk averse for gains (preferred a 100% chance of winning $3000 over an 80% chance of winning $4000) yet risk-seeking for losses (preferred an 80% chance of losing $4000 over a 100% chance of losing $3000). For patients with progressively worsening COPD, prospection can be distinctly unpleasant.

Other studies have examined patients with other serious illnesses, offered information for thoughtful prospection, and tested for improved outcomes. The results have been discouraging. One randomized trial (with 492 participants) tested different ways of explaining advanced directives and found no reduction in subsequent hospital-free days, patient-reported outcomes, or economic costs. A larger cluster randomized trial (12 479 participants) tested a video for health care planning and found no changes in hospital transfers, burdensome treatments, or hospice enrollment. Collectively, the field of advanced care planning is marked by contentious debate and doubts about clinical effectiveness. In essence, warnings are rarely successful if people are motivated to ignore them.
Several nonmedical studies have further examined failures of prospection and found imprecision, optimism bias, and one potential corrective procedure; namely, to distinguish singular forecasts from distributional forecasts. In medicine, for example, a clinician might attempt to predict longevity for a COPD patient by considering the patient’s pulmonary function results, exercise capacity, past complications, and added comorbidities (singular forecast). In contrast, the same clinician could instead predict longevity based on general population statistics (distributional forecast). Typically, a distributional forecast does not guarantee perfect accuracy but protects against completely unrealistic expectations.10

The study by Hart et al2 offers several distributional results that might help the average COPD patient. Approximately 1 in 4 at baseline were still smoking (55 patients), highlighting a need for more interventions at tobacco cessation. More than half (115 patients) had no discussion of their emotions with their physician, indicating a potential shortfall in humanistic care. A further 43 patients were lost to follow-up, unable to complete the study, or withdrew from participation, underlining challenges of continuity-of-care. Approximately 20% (39 patients) died by the second year, underscoring the life-threatening risks associated with advanced COPD. Together, these distributional statistics provide base-rate information that might help patients and clinicians see the future more clearly.

However, medical cases often appear unique since each patient is different and the relevant distribution is disputable. The apparent uniqueness can further intensify with more information, extended contact, and sincere clinical continuity. A general overoptimism bias might also be reinforced by wishful thinking, strategic negotiation, or other emotional motivations. Conversely, a distributional forecast can seem frigid, impersonal, or inhuman. Hart et al2 themselves recommend education to correct the planning fallacy yet do not test how to improve communication or reduce inaccuracies. Of course, some clinicians avoid predictions completely, providing no forecasts of any type and leaving patients to guess for themselves about their future health.

The Hart et al2 study also identifies a cognitive pitfall called the Dunning-Kruger effect, defined as a discrepancy between self-assessment with objective performance where people with limited ability overestimate themselves.11 Typically, this appears as overconfidence in those with little talent. A nonmedical example is that students with the worst spelling often fail to recognize their own limitations since the capacity to spell correctly is also the capacity to recognize spelling mistakes.12 In the Hart et al study,2 patients with COPD who had especially faulty prospection were those who needed it the most. The core explanation is that being ill may also mean compromised metacognitive ability (eg, the biases of self-estimation). This pitfall has no easy solution.

Hart et al2 are correct that thoughtful prospection may enable patients to prioritize their life congruent with likely disease trajectories. This might include harnessing community supports, clarifying goals-of-care, and planning end-of-life arrangements. Yet the rudimentary failures of educated healthy adults when planning straightforward retirement savings exemplifies the challenges of thoughtful prospection. Whether efforts to encourage more thoughtful prospection for patients with COPD would achieve the intended benefits and avoid unintended harms is a topic for future research.13 In the interim, Hart et al2 provide a useful reminder about the planning fallacy and the available strategy of providing a distributional forecast to help patients set realistic expectations.
Author Contributions: Both authors contributed to the design, analysis, and interpretation of the findings. Dr Redelmeier wrote the first draft. All authors approved the final submitted version.

Conflict of Interest Disclosures: Dr Namakian reported receiving summer research funding from Sunnybrook Research Institute Summer Student Research Program outside the submitted work. No other disclosures were reported.

Additional Contributions: We thank the following individuals for helpful comments on earlier drafts of this article: Daniel Kahneman, PhD (Princeton University), Eldar Shafir, PhD (Princeton University), and Jonathan Zipurksy, MD, PhD (University of Toronto).

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