Palliative Care Review

Prognostication in Serious Chronic Illness

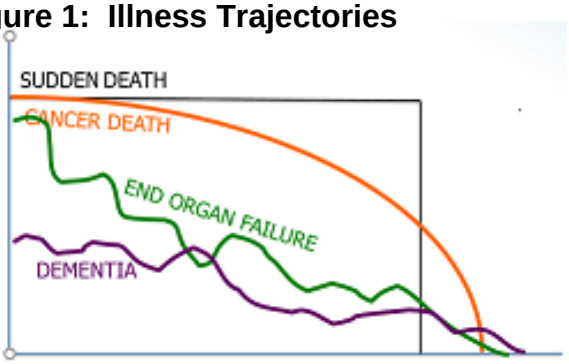
Introduction

Prognostication is the key to good medical decision-making. Unfortunately, physicians often see prognostication as “playing God” and therefore are not keen to embrace this role. They may invoke various reasons not to comply, such as a lack of training or the mistaken belief that prognostics tools must be used and that they are time-consuming or cumbersome or unreliable. This attitude ignores the multiple benefits of prognostication and may prevent the physician from answering patients’ questions with reasonable certainty, selecting the most appropriate setting of care, appropriately evaluating the risks of over- or undertreatment, and offering timely referral to specialist palliative care or hospice.

Although it is inarguable that prognostication has inherent inaccuracy, it can be accurate enough to inform and advance best practice. Prognostication is necessary, inevitable, and teachable. Studies have shown that most patients want to be given prognostic information, although this may be tempered by cultural or personal factors. They view this type of information as both important and necessary. Considering that patients and surrogates are part of the decision-making process in a shared communication model, they need to know what to expect, especially in the context of chronic illness.

The illness trajectory (Figure 1) suggests that prognostication in some disorders is likely to be more straightforward than others. It is easy to imagine that the smooth curve of advanced cancer will be more predictable than the bumpy and irregular curves of illnesses such as congestive heart failure and dementia. This variation must be acknowledged, but it should not cause the physician to abandon the task. There are multiple prognostic indicators in use nowadays, all with varying degrees of sensitivity and specificity. They can be divided into those related to a nonspecific decline in clinical status, those that are disease-related but nonspecific, and those that are disease-specific.

Figure 1: Illness Trajectories



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Nonspecific decline in clinical status predictors

Some very nonspecific changes suggest progression of illness, are usually associated with an increase in emergency department visits and frequency of hospitalizations, and are typically taken to mean a prognosis measured in months. This includes, for example, a decline in performance status, as measured using the Karnofsky Performance Status (KPS), the Palliative Performance Scale (PPS), or the Eastern Cooperative Oncology Group (ECOG) scale. These scales can be used equivalently. The Karnofsky scale is the oldest and the most commonly used (Figure 2), and the PPS scale is preferred by palliative care specialists. A KPS or PPS score of <70% may indicate hospice eligibility.

Disease-specific predictors

For almost every significant chronic illness, a predictive model of survival has been developed. They all include indicators specific to the disease itself, such as dyspnea and %FEV1 for pulmonary disease; NYHA class IV for cardiac disease; and the presence of ascites and elevated bilirubin for liver disease. The information in these indicators may be augmented by the nonspecific predictors described previously. Some scores combine the specific and nonspecific indicators, such as the BODE Index for COPD and the MELD score for liver disease.

A commonly used, disease-specific indicator is the FAST (Functional Assessment Staging) score, which is used for prognostication in patients with dementia (Figure 3). It should be used in the population with Alzheimer's disease and measures function in terms of cognition, independence in activities of daily living, continence, and speech. A score of at least 7A on the FAST scale (unable to self-care, incontinent, and able to speak only six intelligible words in a day) is significant of a prognosis of 6 months or less and is often used to determine whether a patient with dementia is eligible for hospice. Several other tools have been developed to improve the accuracy of the FAST score. The Advanced Dementia Prognostic Tool (ADEPT), for example, adds scoring for age, gender, and weight loss to the FAST; its accuracy for predicting prognosis is about 58%, compared to 51% for the FAST score.

Figure 2: Karnofsky Performance Status

100	Normal; no complaints; no evidence of disease
90	Able to carry on normal activity; minor signs/symptoms
80	Normal activity with effort; some signs or symptoms of disease
70	Cares for self; unable to carry on normal activity or do work
60	Requires occasional assistance, but able to care for personal needs
50	Requires considerable assistance and frequent medical care
40	Disabled; requires special care and assistance
30	Severely disabled; hospitalization is indicated
20	Very sick; hospitalization necessary; active support needed
10	Moribund; fatal processes progressing rapidly
0	Dead

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Conclusion

Physicians' prognostic estimates are a central element for both patient and physician decision-making, especially in advanced illness. It is essential for advanced care planning. Although clinicians' predictions are often wrong and usually optimistic, understanding some of the valid prognostic indicators can improve the ability to prognosticate. The use of predictive models can at least demonstrate to the patient and family that the prognosis is based on objective facts and has some validated medical basis. Determining prognosis is the first step of the three components of prognostication. Communicating the prognosis and using it in clinical decisions requires skills that clinicians will achieve with repeated experience.

Figure 3: FAST Score

Functional Assessment Staging (FAST)
Stage 1 -- Normal adult No functional decline.
Stage 2 -- Normal older adult Personal awareness of some functional decline.
Stage 3 -- Early Alzheimer's disease Noticeable deficits in demanding job situations.
Stage 4 -- Mild Alzheimer's Requires assistance in complicated tasks such as handling finances, planning parties, etc.
Stage 5 -- Moderate Alzheimer's Requires assistance in choosing proper attire.
Stage 6 -- Moderately severe Alzheimer's Requires assistance dressing, bathing, and toileting. Experiences urinary and fecal incontinence.
Stage 7 -- Severe Alzheimer's Speech ability declines to about a half-dozen intelligible words. Progressive loss of abilities to walk, sit up, smile, and hold head up. **7A** - In a course of an average day or an intensive interview, no consistently meaningful verbal communication, only stereotypical phrases, or ability to speak is limited to six or fewer intelligible words. **7B** - In a course of an average day or an intensive interview, ability to speak is limited to the use of a single intelligible word which the patient may repeat over and over. **7C** - Ability to ambulate without personal assistance is lost. **7D** - Cannot sit up without assistance (patient will fall over if there are no lateral arm rests on the chair). **7E** - Loss of ability to smile. **7F** - Loss of ability to hold head up independently.

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