



## Extreme Exposure: The Sydney to Hobart Yacht Race and the Role of Prediction

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In 1998, the deaths of six participants in the Sydney to Hobart yacht race brought the International Year of the Ocean to a dismal end in Australia. The race continued despite storm warnings, highlighting the vulnerability of human affairs to the mercy of the environment. This event offers a case study of the role of prediction.

In the yacht race, the dilemma was speed versus safety. The public, which pays for expensive air-sea rescues, has a right to understand how these competing imperatives can be brought into more reasonable balance. What factors precipitated the largest civilian maritime rescue operation in Australia's history? In addition to the environmental and human factors—the severity of storms on the open ocean and the demands of competition—there was a more fundamental problem: an inadequate

response to a forecast that predicted significant risk.

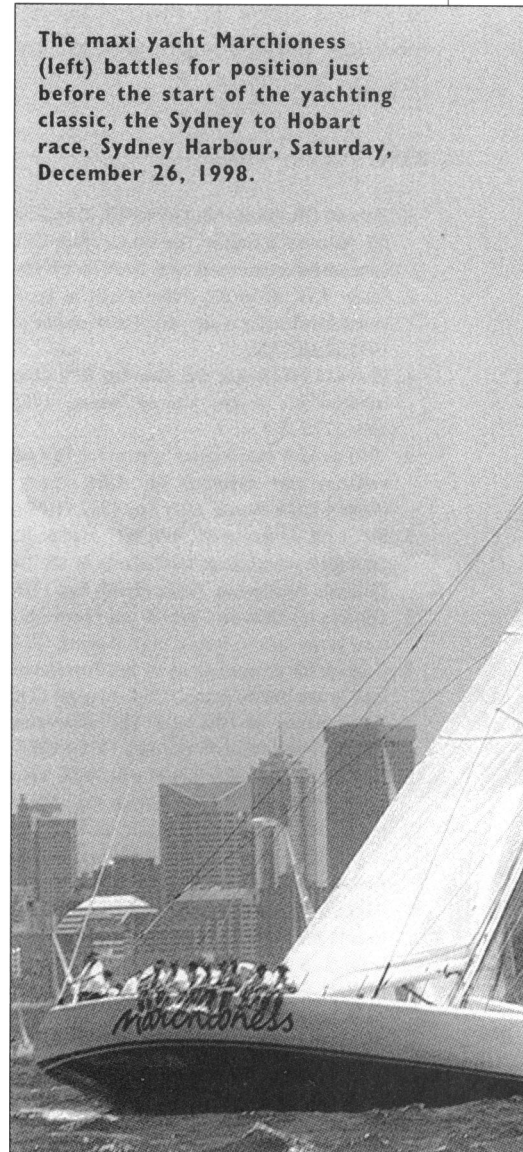
The 725-mile race continued despite the worst tragedy of its 54-year history. Of the 115 yachts that entered, 59 were forced to seek shelter, and several boats were abandoned. Some competitors were rescued from their yachts by helicopter, with help from the Australian Navy, civil aircraft, local police, and hundreds of volunteers. Race winner Larry Ellison expressed his dismay, "This is not what the race is supposed to be about. Difficult yes, dangerous no, life-threatening definitely not."<sup>1</sup>

Two days before the start, the international information company Weathernews had predicted that the fleet was in for a "battering." The long-range weather forecaster Roger Badham, weather advisor to the race for many years and an advisor on America's Cup campaigns, reached a similar conclusion. As the race began, forecasters at the Bureau of Meteorology identified a storm near the half-way point. Yet Badham was later quoted as saying, "No one would ever cancel a race on a forecast. Sailors deal in reality."<sup>2</sup>

The Cruising Yacht Club of Australia (CYC), the race organizer, passed on the forecasts to the fleet. When conditions became extreme, CYC warned that decisions to withdraw were at the discretion of the skippers, in accordance with race rules. In a race that has never been called off or postponed, apparently the pressure to keep sailing was

extreme, even as boats sank. CYC Commodore Hugo van Kretschmar stressed that the unsinkable yacht does not exist, drawing a parallel between the unrealistic performance

The maxi yacht *Marchioness* (left) battles for position just before the start of the yachting classic, the Sydney to Hobart race, Sydney Harbour, Saturday, December 26, 1998.



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expected of some yachts with the claims made for the Titanic.<sup>3</sup>

The other well-publicized disaster of 1912 is equally instructive. In his quest for the South Pole, Captain Robert Falcon Scott ignored critical advice about the risks he faced. He relied on ponies rather than on dogs, although the latter were known to be better suited to the Antarctic. Scott failed to make proper use of skis in the expedition, again despite advice. Later he made a sudden addition to the number of men in the final party; food ran short. He was beaten to the Pole by Amundsen, whose credo was preparation.

Although it is easy in hindsight to

see that Scott took unnecessary risks, many of us perceive various environmental risks as being of minor significance. Similarly, we may collectively be failing to heed weather-related predictions that the planet is at risk. Forecasting, especially weather forecasting, is understandably viewed with skepticism. In medicine and public health, we have revised predictions and advice far too often to ignore the reality that conventional wisdom is often turned on its head or to expect that others will always respond in what we consider a rational manner to new information. The truth is

always provisional, but forecasts are even more ephemeral.

The Sydney to Hobart race is an all too painful example of the failure to respond to information about changing circumstances. Scott's tragedy resulted from a failure to take environmental factors fully into account. These exposures to extreme conditions in the Southern Hemisphere remind us that while better weather predictions are still needed, a better understanding of probabili-



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ties is also critical to survival.

Participants in the Sydney to Hobart race took risks that hindsight suggests were quite avoidable. Because of intense time pressures, these conditions are not quite typical of hazards experienced by vulnerable populations, but global climate change now puts us all in an ecological race against time.

Communicable diseases and climate change have been singled out as challenges for the next century.<sup>4,5</sup> The significance of environmental change for the distribution of vector-borne disease is a matter of debate.<sup>6</sup> It is clear, however, that in addition to any role played by climate change, both human behavior and public health practice will be critical determinants of the disease burden in the next century. Public health planners will need

to devise "no regrets" responses that allow for the uncertainties of

both ecological predictions and human behavior.

Turning probabilities into action in individual patient care is now within the methodological grasp of evidence-based medicine; the same capacity is needed in public health.

In the early decades of the next millennium, medicine and public health will need to pursue improvement in both prediction of risk and communication of uncertainty. These themes are appropriate to inquiries into events such as the Sydney-Hobart disaster. Similarly, research leading to a better understanding of the forecasting process is essential to the continuing development of an international oceans policy, and more generally for better management of the future states of the environment and human health. ■

## References

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A photograph taken by a crew member of fellow crew on board the stricken yacht *Stand Aside* in heavy seas before their rescue during the Sydney to Hobart race, December 28, 1998.

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