

# Understanding medicine part 1: Hippocrates and the role of prognosis in medicine

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***Prognosis: a doctor's judgement of the likely or expected development of a disease or of the chances of getting better (Cambridge Dictionary).***

Hippocrates, who was born on the island of Cos, Greece, and lived in ancient Greece from about 460 BCE to 370 BCE and died in Thessaly, is often referred to as the 'father of medicine'. His contributions to medical understanding were profound, and four of these contributions are highlighted below.

1. **Observational medicine:** Hippocrates believed that careful observation of patients and their symptoms was essential to accurate diagnosis and treatment. He emphasised the importance of recording and analysing symptoms, as well as the patient's history and environment, to understand the disease process.
2. **The Hippocratic Oath:** This ethical code, which is still used today, sets forth the principles of medical ethics, including confidentiality, the avoidance of harm, and the importance of putting the patient's needs first. Today, these fundamental issues and duty of care of doctors have been reaffirmed by the GMC and enacted into law in the Supreme Court ruling of Montgomery 2015.
3. **The Four Humours:** Hippocrates believed that the body was made up of four humours or fluids (blood, phlegm, yellow bile, and black bile) that needed to be in balance for good health. When one or more of these humours became dominant, disease could result. The disturbance could result from overindulgence in food or drink, too much or too little physical exertion, or changes in the so-called 'naturals', that is, the uncontrollable environment and climate. Because of the similarity of the natural elements and humours, certain humours were more likely to become excessive during given seasons of the year. Phlegm increased during the winter, bringing with it bronchitis and pneumonia because phlegm was cold and wet, like the chilly Mediterranean winters.<sup>1</sup> In warm, wet spring, hot, wet blood increased, causing dysentery and nose bleeds.<sup>1</sup> This theory of disease remained popular for centuries. While it may be argued that such a theory has no place in modern medicine, the recognition – the idea that disease had natural rather than supernatural origin – caused Hippocratic physicians to observe their patients closely. Such observation of the patient included their physical condition, dietary and exercise habits. If, on the contrary, disease was thought to have a supernatural source, then environment played no relevant role and the offending curse or possession was independent of the physical characteristics of those afflicted and their environments. But, for the Hippocratic trained doctors, diagnosis and treatment began with the knowledge of the patient.
4. **Prognosis:** Closely following on from careful observation of the patient and their environment came diagnosis and prognosis. Hippocrates was known for his diagnostic skills, and he emphasised the importance of making accurate diagnoses based on careful observation and examination. He also recognised the importance of prognosis, or predicting the likely course of a disease, in order to help patients and their families plan for the future.

Hippocrates recognised the importance of prognosis, which is the prediction of the likely course and outcome of a disease. He believed that understanding the natural course of a disease was important for making treatment decisions.

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*Ars Medicinae* (Art of Medicine) is a compilation of medical texts of Greek and Arabic origin. Since the early 12th century, most of these texts were translated into Latin by scholars in the circle of the medical school of Salerno and became the basis of the medical curriculum in European universities until the 16th century. The *Ars Medicinae* includes medical treatises on various topics such as urine, fever, diets, and cures, as well as an important tract known as the *Prognosticon* by the famous Greek physician Hippocrates. The *Prognosticon*, or Book of Prognosis, focuses on ways of predicting the likely development of a medical condition. For Hippocrates and for the medical school founded by him, prognosis was the natural result of diagnosis, which looked at the signs and symptoms of a condition. Credit British Library.

Hippocrates emphasised the need for physicians to carefully observe and analyse a patient's symptoms and overall condition in order to make an accurate diagnosis and prognosis. He believed that a physician should be able to recognise the signs and symptoms of different diseases and predict their likely course based on their experience and knowledge.

For example, Hippocrates recognised that some diseases, such as acute infections, were likely to resolve on their own, while others, such as chronic conditions, might have a more unpredictable course. His belief that environmental and lifestyle factors could influence the course of a disease meant that a



Ivo Saliger (1894–1987), 'Der Arzt ringt mit der Todt'. The physician struggles with death. Credit Teddy Bader Which Treatment is Best? CRC Press 2023.

physician should take these factors into account when making a prognosis.

Overall, Hippocrates' emphasis on careful observation and analysis, as well as his recognition of the importance of prognosis, helped to establish the foundations of modern medical practice. Indeed in the 2014 edition of the BMJ, the predictive power of two of Hippocrates' aphorisms about good cognition and a good appetite in determining whether someone would die in the next 5 years was powerfully demonstrated.<sup>2</sup>

### Prognosis in modern medicine and the utility of medical intervention

Understanding the expected course of a disease or condition and its likely outcome is what distinguishes physicians from most of the patients they serve. Prognosis allows for informed decision-making by both healthcare professionals and patients regarding treatment options, patient management, and end-of-life care.

If a patient has a poor prognosis, palliative care rather than aggressive treatments may be appropriate.

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A fundamental corner stone of research is also to understand the nature of the disease and its progression, that is, its prognosis. Comparing prognosis with different treatments, especially when patient characteristics have been accounted for, can help to identify those patients who may be more likely to benefit from certain treatments or interventions.

***‘The physician who cannot inform his patient what would be the probable issue of his complaint, if allowed to follow its natural course, is not qualified to prescribe any rational plan of treatment for its cure. Hippocrates’***

#### Note

- i. The Genuine Works Of Hippocrates – Translated From The Greek With A Preliminary Discourse Adam Francis Lippincott Williams and Wilkin 1997. ISBN 978-0683000108.

#### References

1. Lagay F. The legacy of humoral medicine. *Virtual Mentor* 2002; 4(7): 206–8. Available online at: <https://journalofethics.ama-assn.org/article/legacy-humoral-medicine/2002-07>
2. St John PD and Montgomery PR. Utility of Hippocrates’ prognostic aphorism to predict death in the modern era: Prospective cohort study. *BMJ* 2014; 349: g7390.



Lucie Rie's workshop, as exhibited in the Victoria and Albert Museum, London. Credit Andreas Praefcke.