Human Factors in Healthcare

There is increasing interest in the role of human factors in the delivery of health care. It is the relationship between human beings and the systems with which they interact. Key issues include the medical task being undertaken, the environment in which it is performed, the equipment and technology being used, and the staff that are involved. Deming[1] describes the 'lens of profound knowledge', which consists of an appreciation of the system, the theory of knowledge, the psychology of change, and an understanding of variation. The health services are an integrated system of processes and people. Individual doctors seldom act in isolation. When errors occur there are usually compounding factors such as case complexity, pressing workloads, time constraints, and insufficient staff. The need to review the system as well as the individual is central to quality improvement programmes. Blaming a single individual and ignoring the bigger picture perpetuates the risk and will not improve patient care.

When doctors are called before their regulatory body in relation to a perceived medical error, it is important that the system that they work under should be taken into account. Humans are not all the same. There is individual variation. This is an inevitable part of life. The challenge is to keep variation within safe and effective limits. The system must be designed to make this happen. If it is not, it will inevitably end in failure.

A common example is a medical service with a barely adequate number of doctors. When one doctor goes off sick, gaps inevitably appear. The others are faced with increased workloads and blank spaces in the on-call roster that need to be filled. The system becomes stretched. The likelihood of an error rises. Although one individual doctor may subsequently be burdened with the blame, the system has played a central role in the creation of the error. It is frequently not taken into account that humans have limited attention spans and that they perform worse when they are tired. This is particularly important in relation to medication errors. On their own, expressions such as 'try harder' or 'be more careful' are not enough and will not safeguard against mistakes. Any system must be properly designed and tested before it is put into operation.

The interaction of contributory factors in the genesis of a medical mishap has been highlighted in the debate surrounding the Bawa-Garba case. The depth of feeling among the medical profession against the GMC decisions was unprecedented. A common sentiment expressed was that something similar could happen to any one of us working in acute clinical care. Don Berwick[2] states that the creation of a 'climate of fear' is ultimately a barrier to patient safety.

When workers are free of fear they are better able to band together for the optimization of the service. An understanding of the system is so important. Each person must understand their job, know how to

do it well, and be aware of his individual role within the system. Workers need to be in collaboration rather than in competition with each other. A good system makes it easy to do things right and hard to do things wrong. It is the responsibility of the leaders in the organization to ensure that the right culture is in place.

Morgan et al[3] have recently stated that the role of the GMC has changed in recent decades. This has led to concern and apprehension among the medical profession. The GMC now evaluates fitness to practice when avoidable harm affects a patient because of a doctor's possible error. Currently there is a 40% chance that a doctor will come before the regulator at some point in his career. The standards applied are exacting. In addition the burden of proof in finding a doctor guilty has been reduced from the criminal (beyond all reasonable doubt) to the civil (on the balance of probabilities) level. This has led to an increase in the number of erasure decisions. Another problem is that the expert medical witnesses, while expertise in their specialist fields, do not have any training in human factors. An example of this problem is the disproportionate number of black and ethnic minority doctors who appear before tribunals.

The GMC has become increasingly aware of these issues. It has now decided to consider the human factors when dealing with individual complaints. External human factor experts will be engaged in the same way that medical experts are requested to provide advice. The organizational context in which a doctor is working will be taken into account. This development is a recognition that ensuring fairness and balance requires a new approach. It must be understood that the delivery of healthcare has to be designed with human limitations and abilities in mind. There needs to be renewed emphasis and investment in clinical governance.

Commentators have expressed the hope that the introduction of human factors science it will prevent the scapegoating of doctors in situations where the problem lies to a greater or lesser extent in the inefficiency of the organization. The challenge will be the implementation of the new approaches to error and safety systems. The stakes are high. Doctors working within a well-organized system will be more innovative and will deliver high quality care.

JFA Murphy

Editor

References

1. Deming WE. A system of profound knowledge. The new philosophy of K 12 education. A Deming framework for transforming America's schools. Leonard JF ed. ASQ Quality Press 1996
2. Berwick DM. A quality improvement strategy for the NHS in England, an agenda for action. Institute

for healthcare improvement. Feb 2016

3. Morgan L, Benson D, McCulloch P. Will human factors restore faith in the GMC. BMJ 2019;364:i1037