

Nanotechnology and Health Policy

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While the technological aspects of nanomedicine have been given great thought as well as much futuristic hype, they are only a part of the phenomenon of nanotechnological medicine. Medicine occurs in an organisational, social, political and technological context. Introduction of new technology hinges on the right preconditions and enables new forms of organisation, rather than technology shaping organisations by its mere existence or usage.

Current trends towards information medicine and biotechnological medicine already show that nanomedicine is a natural continuation of current medical trends. These trends also provide relevant data for the societal introduction of nanotechnology into the health care system.

What is currently occurring is that monopolies of diagnosis and treatment are destabilized, both by the emergence of well-informed patients, very cheap diagnostic sensors and the decentralisation of information enabled health-care. Fast technological change is putting many health care systems under strain both from the need of education, the formation of transdisciplinary health care teams and the problem of applying new technology in old organisations. The new pharmacology is blurring the lines between palliative, curative, preventative and enhancing medicine. The shifting patient-physician relationship also involves a changing view of health from a normative normalization towards a volitional state.

Nanomedicine is often depicted as a revolution compared to current medicine. However, while the immediate appearance of mature nanotechnological devices in current medicine would be revolutionary, nanomedicine will develop over a span of time together, often synergistically, with info- and bio-medicine that will act as a bridge towards mature nanomedicine. It is not isolated.

This evolutionary pathway suggests that the factors influencing how other earlier advanced technologies are applied in the health care system will be crucial for the introduction of nanomedicine. If regulatory, economical or organisational issues block or slow their introduction nanomedical applications will also be blocked. If

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the move towards high-tech medicine is amplified, then the lessons learned will make introducing nanomedicine smoother and more profitable for all involved.