

91598R



Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Level 3 Social Studies 2023

**91598 Demonstrate understanding of how ideologies
shape society**

Credits: Four

RESOURCE BOOKLET

Refer to this booklet to answer the questions for Social Studies 91598.

Check that this booklet has pages 2–12 in the correct order and that none of these pages is blank.

YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.

THE FUTURE OF MEDICINE

Examples of ideologies

<p>Globalism</p>	<p>The idea of the growing interdependence of the world's economies, cultures, and populations, brought about by cross-border trade in goods and services, technology, people, and information.</p> <p>It emphasises that the events in one country cannot be separated from those in another and that policy should be planned in an international way.</p>
<p>Egalitarianism</p>	<p>The idea of emphasising equality and equal treatment across gender, religion, identity, ethnicities, culture, economic status, and political beliefs.</p>
<p>Technological utopianism</p>	<p>The idea of advances in science and technology bringing about a utopia (an imagined perfect place or state of things), or at least helping to fulfil one or another utopian ideal in which laws, government, and social conditions are solely operating for the benefit and well-being of all citizens set in the near- or far-future, as advanced science and technology will allow these ideal living standards to exist.</p>
<p>Humanism</p>	<p>The idea of humans flourishing at the centre of governing life. Human wellness is viewed holistically and humans are seen not as economic capital but as complex beings in need of recreation, healthcare, and education, in order to improve their quality of life.</p>

Social processes

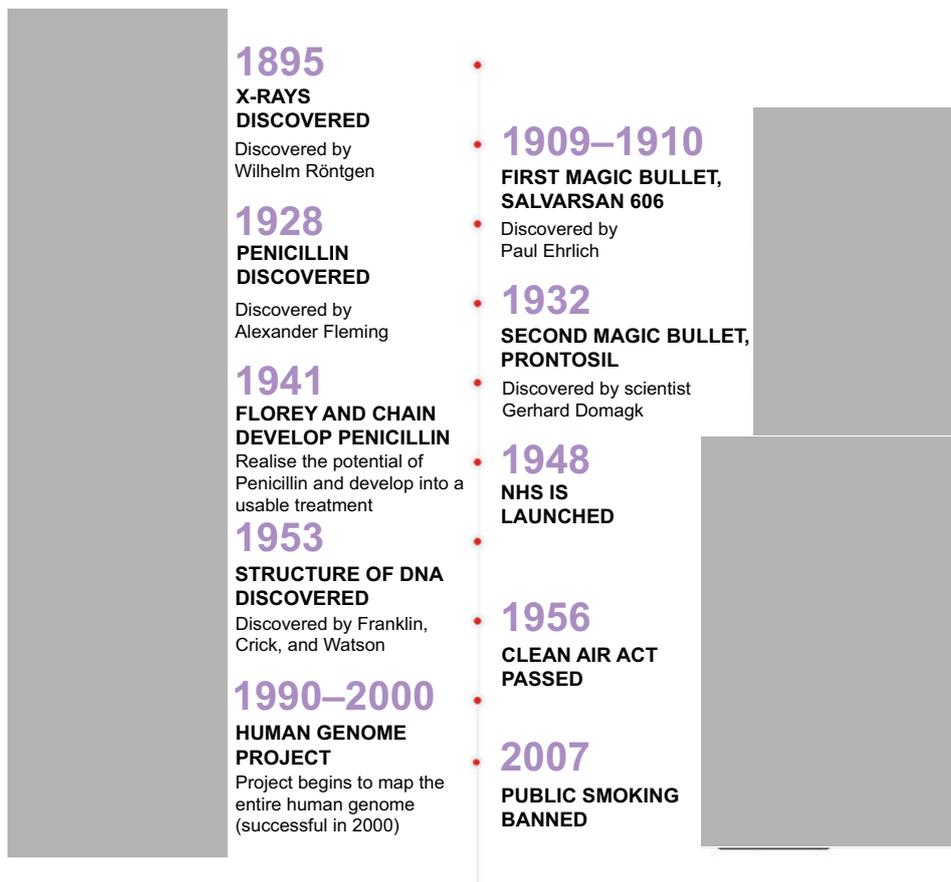
<p>Social processes are the means by which culture and social organisation change, or are preserved. For example, social processes are evident in the following:</p> <ul style="list-style-type: none"> • legislative and political reform • changes in cultural and behavioural norms • shifts in business practice • evolving community practices • demographic change.
--

INTRODUCTION: What will the future of healthcare look like?

When you think that only 25 years ago, the World Wide Web was just getting off the ground, it is not unreasonable to think big and without limits when we consider the possibilities regarding the medical research landscape in the next 25 years.

The most essential innovations in medical research over the next 25 years won't just come from the explorations of bench scientists or the emergence of new technologies. They will come from what partners across the public and private sectors do to forge a new applied research ecosystem dedicated to the rapid discovery, development, and delivery of life-changing tools that have been designed with the end user in mind.

Modern medicine events in the UK (1900–2007)



RESOURCE A: Will digital health technologies replace the role of doctors?



Hype and fears around technologies, especially artificial intelligence (AI) and smart robots taking over jobs, are running high in every industry – and the medical world is no exception.



Of course, some tasks will change, others will go away entirely. But, there will never ever be a scenario where automation via a robot or an algorithm will replace a doctor.

RESOURCE B: The patient experience

Doctors, nurses, and patients will see more involvement with medical care, less non-medical overhead, and better health results, along with – hopefully – a reduction in patient costs.

Medical care is seeing rapid changes, as technology becomes integrated into processes, patient records, diagnostics, and even what people eat. Making use of the technological edge and the rapidly increasing amount of data that can be discovered, analysed, and applied is changing the day-to-day way medicine works.

Medicine depends on technology to improve the future:

Analytics leads the way to cost reduction:

New tech demands new security:

Medical facilities are getting smarter:

You are what you eat:

Healthcare's future is digital:

RESOURCE C: Fighting deadly diseases with smart devices and biomarkers

With an explosion of smart devices and sensors around us and advancements in AI to spot patterns, we now have access to many digital signals to assess health.

Today, digital biomarkers can help detect diseases and assess the effectiveness of medical treatments by tracking patient recovery.

What are biomarkers?

Biomarkers are medical signals that can measure health in an accurate and reproducible way. Common examples include blood pressure readings, heart rate, and even genetic test results.

Here are four ways digital biomarkers are revolutionising healthcare today:

1. Helping detect diseases early.
- 2.
- 3.
4. Slashing the cost of drug discovery.

RESOURCE D: Cell and gene therapy

Cell and gene therapies seek to correct the root cause of an illness at the molecular level. These game-changing medicines are reshaping how we address previously untreatable illnesses – transforming people’s lives.



“It’s no longer just about hope, but now it’s a reality – with a growing number of rare diseases that can be effectively treated with these therapies,” describes Professor Yáñez-Muñoz. “We now need to think about how we can scale up these technologies to address the thousands of rare diseases that exist – and even within these diseases, people will have different mutations, which will complicate matters even further.”

RESOURCE E: Artificial intelligence

Patient information is already in digital form, with the rapid growth seen in wireless patient monitoring devices and wearables. Virtual assistants are already connecting to medical information online. Powered by AI, virtual assistants like Siri, Cortana, Google Assistant, and Alexa are poised to become much more useful than for simply booking you a taxi.

AI is proving to be as dependable as physicians in diagnosing medical conditions. Researchers at a hospital in Oxford, England, have developed AI for predicting heart disease. According to their study, in 80 per cent of the cases, the technology performed better than doctors in predicting cardiovascular diseases. Meanwhile, scientists at Harvard Medical School have developed a machine-learning-based microscope that can detect deadly blood infections with an astonishing 95 per cent accuracy.

Virtual reality (VR)

In the future, you might watch operations as if you wielded the scalpel, or you could travel to Iceland or home while you are lying on a hospital bed.

A recent study even showed that patients undergoing surgery lessened their pain and anxiety and improved their overall hospital experience.

RESOURCE F: Diversity, equality, and inclusion

While innovations have contributed to the doubling of human life expectancy over the past century, there are significant disparities between countries. Populations born today, in higher-income countries such as Spain, Switzerland, Italy, and Australia, can expect to live on average more than 83 years, whereas those in the poorest nations, such as the Central African Republic, Nigeria, and Chad, can expect to live less than 53 years. Within countries, inequalities in life expectancy also exist amongst different populations, such as between socio-economically advantaged and disadvantaged communities, and between different ethnic groups.

“We have known how the health system fails to deliver appropriate levels of care for Māori for decades. We constantly raise the issue, and it is still not being addressed. Māori tamariki are our future, and they deserve to have the same outcomes in their health.”

Te Whatu Ora – Health New Zealand

On 1 July 2022, New Zealand moved to a new national health system that has been designed to enable a whole-of-country view to planning and delivering services, helping it to be efficient and consistent everywhere.

It also means that when it comes to health services, where you live will matter less than what you need.

- Digital technology will be used in more and better ways, to provide people with services in their homes and hapori / local communities. Technology will also help healthcare workers to better understand and support their patients.
- [Redacted]
- Hospital and specialist services will be far more consistent, with more equity of access across New Zealand.

RESOURCE G: What will this mean for clinicians in the future?

Today's clinicians feel overstretched. And they expect the pressures of the job to increase in the next 10 years – the growing global population, high patient expectations, the perceived burden of digital health technologies, and increase in data, all contribute to clinicians predicting there will be a bigger shortfall of nurses and doctors in 2031. Increasing the focus on clinician well-being is identified as a leading priority by clinicians and will be crucial to overcoming burnout and workforce shortages.

- [REDACTED]
- [REDACTED]
- [REDACTED]

According to a UK clinician, “More is expected of us, with an increasing workload and constant training to keep up to date and move forward. This has an impact on work-life balance, and morale amongst some colleagues is low”.

RESOURCE H: What will this mean for patients in the future?

“The role of the patient in their own healthcare is going to be utterly transformed. Patients have been passive in the healthcare system up to now. [REDACTED]

[REDACTED] e have to figure out how to get this right – how to allow technology to permit our patients to manage themselves better on their own or with the assistance of the healthcare system, but also to recognise there are times where patients really need to see a doctor or someone who's part of the healthcare system.”

Robert M. Wachter, MD (Professor and Chair of the Department of Medicine at the University of California)

Acknowledgements

Material from the following sources has been adapted for use in this assessment (accessed 30 March 2023).

Ideologies

Page 2: <https://dictionary.cambridge.org/dictionary/english/globalism>
<https://www.piiie.com/microsites/globalization/what-is-globalization#:~:text=Globalization%20is%20the%20word%20used,investment%2C%20people%2C%20and%20information>
<https://www.investopedia.com/terms/e/egalitarianism.asp>
https://en.wikipedia.org/wiki/Technological_utopianism
<https://dictionary.cambridge.org/dictionary/english/humanitarianism>

Introduction

Page 3: <https://www.nature.com/articles/s41591-019-0693-y> (text)
<https://www.tes.com/teaching-resource/medicine-through-time-timelines-12275271> (image)

Resource A

Pages 4 <https://medicalfuturist.com/towards-creativity-in-healthcare-the-impact-of-digital-technologies-on-medical-specialties-in-an-infographic/> (image)
 and 5: <https://www.hunimed.eu/news/5-motivi-per-cui-lintelligenza-artificiale-non-potra-sostituire-la-figura-del-medico#:~:text=Healthcare%20will%20always%20need%20humans%20in%20the%20future&text=It%20suggested%20that%20physicians%20had,the%20next%2010%2D15%20years> (text)

Resource B

Page 6: <https://www.hpe.com/us/en/insights/reports/medicine-report-1901.html> (text)

Resource C

Page 7: <https://www.forbes.com/sites/ganeskesari/2022/01/31/the-future-of-medicine-fighting-deadly-diseases-with-smart-devices-and-digital-biomarkers/?sh=4ddeaf602c41> (text)
<https://medicalfuturist.com/the-body-map-of-health-trackers-infographic/> (image)

Resource D

Page 8: <https://www.technologynetworks.com/biopharma/articles/cell-and-gene-therapy-rewriting-the-future-of-medicine-365801> (text)

Resource E

Page 9: <https://www.docwirenews.com/ai-and-the-future-of-medicine/> (text)
<https://www.linkedin.com/pulse/10-ways-technology-changing-healthcare-bertalan-mesk%C3%B3-md-phd-1c> (text)

Resource F

Page 10: <https://www.rand.org/blog/2022/07/diversity-equality-and-inclusion-in-healthcare-innovation.html> (text)
<https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-019-6664-x> (text)
<https://www.nzherald.co.nz/kahu/new-research-maori-children-suffering-most-from-health-inequality-at-all-levels/SF55SZNF7ZD3HPMLJSBVA66CLI/> (text)
<https://www.futureofhealth.govt.nz/health-nz/> (text)
<https://www.futureofhealth.govt.nz/about-the-reforms/> (text)
<https://www.tewhatauora.govt.nz/whats-happening/what-to-expect/for-consumers-and-whanau/maori-health/> (text)

Resource G

Page 11: <https://www.elsevier.com/connect/clinician-of-the-future> (text)

Resource H

Page 11: <https://www.opso.org/news/324756/> (text)