**The NHS and governance of Fourth Industrial Revolution technologies**

**Introduction**

The Fourth Industrial Revolution (4IR), driven by new technologies such as Artificial Intelligence (AI), big data and comprehensive digital networks,[[1]](#footnote-1) is rapidly and fundamentally transforming the way we live. The Government’s narrative is that 4IR and its new technologies will grow the economy and make the UK more productive, but it will necessarily disrupt existing ways of thinking and working and require ‘modern regulation’.**[[2]](#footnote-2)** What’s not said is that 4IR is mostly driven by the commercial sector,[[3]](#footnote-3) and that ‘modern regulation’ will fundamentally change where the responsibility for governance lies – it means less statutory regulation and more control by the private sector, which will enjoy a reduced regulatory burden.

This is of particular relevance to the NHS. The current round of NHS restructuring is promoted by NHS England on the basis that it will empower patients,[[4]](#footnote-4) but in reality this claim is something of a smokescreen. Digitalisation already allows an increasing flow of personal health data from the NHS to private companies (such as those positioned within Integrated Care Systems),[[5]](#footnote-5) and facilitates the use of patients’ data to drive new technologies such as AI.[[6]](#footnote-6) But instead of this meaning that governance is to be strengthened, the current safeguards for data are now under review,[[7]](#footnote-7) with the Government planning to weaken protections. And, just as the notion of ‘integrated care’ that underpins the restructuring of the NHS can be traced to proposals from the World Economic Foundation (WEF)[[8]](#footnote-8) - a platform for the world’s leading corporations - we can see the hand of the WEF at work in promoting ‘modern regulation’.

**Background to 4IR**

Klaus Schwab, founder of the WEF, is attributed with announcing the arrival of 4IR in October 2016. Shortly after this announcement, Alan Mak, MP[[9]](#footnote-9) led the first House of Commons debate on 4IR, which proposed the motion

“That this House acknowledges that the UK is in a strong economic position to take advantage of the Fourth Industrial Revolution; welcomes the view of the World Economic Forum that fusing physical, digital and biological technologies can promote further economic growth; notes that small and medium-sized businesses across the country contribute invaluable expertise and market leadership; and calls upon the Government to continue introducing and supporting policies that keep the UK at the forefront of this revolution in the future.”

Mak went on to co-author a report with the Free Enterprise Group[[10]](#footnote-10) noting that from the early 21st century,

“Breakthroughs – and new products – in fields such as artificial intelligence, robotics, the Internet of Things, driverless cars, drones, 3D printing and nanotechnology have already captured the imagination of the public. Now the policy makers must respond.”[[11]](#footnote-11)

He argued that the countries best able to adapt to the 4IR would be those with “nimble, free-market economies, supportive governments, low taxes and a competitive regulatory environment that encourages flexibility, innovation and entrepreneurial spirit”. What’s more, Britain should lead the way: 4IR could drive a new cycle of growth and position the UK post-Brexit as a scientific ‘tiger economy’ for high impact scientific research and innovation: providing it shifted away from a risk averse culture, the UK could be “the best place on earth” to innovate and start a business. The sub-text here for the NHS is that becoming less ‘risk averse’ involves opening access to patients’ data.

Significantly, the report’s claims were based on research from investment banks, manufacturing organisations, ‘professional service companies’ such as Deloitte - and the WEF, coyly described as an NGO.[[12]](#footnote-12) The research suggested that the impact of 4IR would be dramatic and ‘disrupt’ almost every industry and all sectors of the economy. Ominously, the revolution was also expected to bring about a massive re-alignment of the labour market, with increasing automation leading to rising unemployment in multiple sectors and growing inequality as robotics and AI would replace those in low-skilled, low-waged jobs.

**4IR and governance**

According to Schwab, 4IR necessitates a shift towards what he calls ‘stakeholder capitalism’ in which companies still look for profits for shareholders but they also work in partnership with governments, ostensibly considering the needs of all their stakeholders, including customers, employees, partners and society as a whole.[[13]](#footnote-13) An alternative perspective is that stakeholder capitalism sees society as a business rather than a living community, and that democracy can be discarded in favour of corporate interests and global governance.[[14]](#footnote-14)

On governance, Schwab argues that 4IR technologies provide entirely new ways of creating ‘value’ that require trust in the data and algorithms that are used to make decisions – and that this will entail adjustments in how we think about privacy and accountability: 4IR relies on access to data and the transformation of traditional forms of its governance. Rather alarmingly, a later report from the WEF states that in this new era, citizens increasingly *expec*t the private sector and other non-governmental entities to assume responsibilities and develop new approaches to support the ‘diversification and speed of governance’.[[15]](#footnote-15) In some respects, this diversification is already happening: as a WEF report points out:

“In spite of the lack of a political mandate, technology pioneers are increasingly developing private rules, certification schemes, standards, social norms or policies that end up, by default, governing the way societies live, work and interact, and often without being restricted by national borders or limited to a single jurisdiction.”[[16]](#footnote-16)

In many ways this fits with what the WEF calls ‘agile governance’.

**Agile governance**

According to the WEF, agile governance is “adaptive, human centred, inclusive and sustainable policy-making, which acknowledges that policy development is no longer limited to governments but rather is an increasingly multi-stakeholder effort.”[[17]](#footnote-17) Significantly, agile governance provides the means to rapidly embrace change while contributing to ‘end-user value’ – although what constitutes ‘value’ is not spelled out, nor is the identity of the end-user.

The WEF report says that one way that agile governance can come about (i.e. other than making all-encompassing reforms to existing governance institutions) is through efforts to work around existing governance structures. Such efforts include:

* *Policy or governance labs***,** where specific organisations are protected by a government mandate to experiment with new methods of governance policy development using ‘agile principles’, along with data analytics and digital tools
* *Regulatory sandboxes*-specific ‘spaces’ where, for a limited period, companies can test innovative business models, products, or services “without needing to overcome the normal regulatory or financial hurdles”
* *Blockchain technology***,** which could include enablingcitizens to decide the extent to which their personal data is shared with public and private institutions each time they access a technology (and allowing governments to have the same access to core information about their citizens as technology developers).

The WEF report also suggests that if the government alone is no longer able to provide governance for emerging technologies in 4IR, new types of public-private arrangements need to be set up that take governance beyond existing public sector institutions. Examples include:

* *Industry self-regulation***,** potentially taking many forms, such as setting market-entry conditions or governing environmental controls, like safety regulations. The argument is that self-regulation is more agile than formal legislation, allowing regulations to evolve over time to support innovation.
* *Super regulators***,** an idea recognisingthat as, emerging technologies blur the lines between industries, private governance of 4IR technologies is increasingly taking place beyond traditional methods, with the authority to set standards extending beyond the remit of existing industry bodies. With super regulators**,** rules and regulations are drawn up by private regulators and overseen “as necessary” by public regulators. This, it’s claimed, “harnesses the benefits of private regulation without turning to self-regulation”.[[18]](#footnote-18)
* *Setting ethical standards* **–** where multi-stakeholder networks bring together experts from diverse sectors and institutions to address specific gaps in governance and develop principles and standards applicable across multiple sectors. From the WEF description, this agile standard setting by networks seems more concerned with matters such as operational process and dispute resolution measures than with ethics *per se.*

In 2020, the WEF produced a further report on agile governance, arguing that the problems introduced by 4IR required novel regulatory practices based on agile technology development:

“As employed by the private sector, agile technology development values focusing on outcomes rather than rules, responding to change over following a plan, encouraging wider participation over control and fostering self-organisation over centralised government”.[[19]](#footnote-19)

In addition, this report argues that interpreting and complying with regulation is not just a task for humans. Businesses are beginning to translate regulations into machine-readable formats known either as ‘rules as code’, machine-consumable regulation or digital regulation’ and, in future, governments could produce such ‘rules as code’ alongside natural language versions. This could make compliance with regulation cheaper and even more agile but, as the WEF admits, it could reduce accountability for outcomes and remove human discretion in how rules should be interpreted. (It also acknowledges digital regulation is not applicable where discretion is necessary to interpret regulations’ goals and how to meet these). Paradoxically, there is also recognition that the unambiguous rules produced by machines could undermine the flexibility that businesses are said to need to innovate.

**Governance and the international policy circuit**

As with the introduction of ‘integrated care’, governance proposals concerning 4IR technologies do not originate with NHS England or the Department of Health and Social Care. Instead they are adopted from the ideas of what’s been called “the business-dominated international policy circuit, of which the WEF is the apex”.[[20]](#footnote-20) It seems that the agile governance of 4IR, at least in the context of stakeholder capitalism, is providing one way of weakening democracy in favour of global governance.

In the UK, recent governance policy proposals from the Government show the hand of the WEF pulling the strings. For example, as part of the Government’s ambition for a ‘regulatory revolution’, and further to Mak’s initial work, the UK announced a partnership with the WEF in 2019 to promote an agile regulatory approach to benefit businesses and consumers.[[21]](#footnote-21)

In the same year the Department for Business, Energy and Industrial Strategy introduced a policy paper[[22]](#footnote-22) outlining how it intended to respond to the opportunities offered by 4IR, including ensuring that our regulatory system is more agile, flexible and outcomes-focused[[23]](#footnote-23) to enable greater experimentation, testing and trialling of innovations.

Subsequently, a report by the Government-commissioned *Taskforce on Innovation, Growth and Regulatory Reform (TIGRR)*[[24]](#footnote-24) called for the UK to delegate greater flexibility to regulators to put the principles of agile regulation into practice. This would include developing a new, ambitious regulatory framework to support the fast growing digital health sector and advancements in AI and digital technology.

Following this, the Department of Digital, Culture Media and Sport (DDCMS) issued a ‘consultation’ document, *Data: A new direction,[[25]](#footnote-25)* which stated that, having left the EU, the UK can reshape its approach to regulation and create new regulatory freedoms based on agile and adaptable data protection laws. Concerns about the DDCMS’s proposals include fears that the data watchdog, the Information Commissioner’s Office, will be muzzled and that the General Data Protection Regulation (GDPR) Accountability Framework[[26]](#footnote-26) will be abandoned.

*Data: A new direction* was followed by the DDCMS’s ‘Plan for Digital Regulation’,[[27]](#footnote-27) setting out how it will drive an agile regulatory approach that removes unnecessary burdens on businesses to support innovation, and gives priority to non-regulatory measures such as technical standards rather than regulations.

**Agile governance and the NHS**

The WEF’s notion of ‘integrated care’ has been instrumental in the restructuring, fragmentation and on-going privatisation of the NHS. It’s now clear that the introduction of ‘agile governance’, developed and promoted by the WEF, will also have hugely significant implications for the NHS.

4IR technologies offer the NHS huge potential but they can also carry significant risk. For example, they may challenge existing moral and ethical boundaries; introduce bias and inequalities as a result of algorithmic decisions; lead to job losses and attacks on the professionalism of staff; reduce the human element of contact between patients and service providers; and undermine privacy as technology companies amass and process personal health data for profit.[[28]](#footnote-28) [[29]](#footnote-29) The governance of 4IR technologies - and of the health data on which they depend - cannot be left to the self-interested private sector.

**What can you do?**

Watch out for the results of the consultation *Data: A new direction*, and a forthcoming campaign to challenge the weakening of data protection.

See also

* Open Rights Group https://www.openrightsgroup.org
* medConfidential https://medconfidential.org

1. As opposed to the simple digitalization of information brought about by the Third Industrial Revolution. [↑](#footnote-ref-1)
2. Matt Hancock, then Secretary of State for Health, at Davos, 2018. <https://www.gov.uk/government/speeches/reimagining-policy-making-for-4ir-closing-speech> [↑](#footnote-ref-2)
3. <https://www.emerald.com/insight/content/doi/10.1108/JEET-04-2021-0016/full/html#sec005> [↑](#footnote-ref-3)
4. <https://www.longtermplan.nhs.uk/areas-of-work/digital-transformation/> [↑](#footnote-ref-4)
5. See ‘The integrated Care System as a key site for private companies access to patient data.’ <https://keepournhspublic.com/health-data-working-group/> [↑](#footnote-ref-5)
6. *Powerful Patients, Paperless Systems: How new technology can renew the NHS*

   Alan Mak MP, 2018, published by Centre for Policy Studies [↑](#footnote-ref-6)
7. See, for example, <https://www.gov.uk/government/consultations/data-a-new-direction>; [↑](#footnote-ref-7)
8. <https://swkonp.wordpress.com/2017/06/04/the-truth-about-sustainability-and-transformation-plans/> [↑](#footnote-ref-8)
9. Founder and Chair of the All Party Parliamentary Group on 4IR (now defunct). [↑](#footnote-ref-9)
10. The FEG is a group of Conservative MPs concerned with recasting the argument about free enterprise for a new age, backed by the Institute of Economic Affairs [↑](#footnote-ref-10)
11. Alan Mak M.P. and the Free Enterprise Group. *Masters of the Revolution: Why the Fourth Industrial Revolution should be at the heart of Britain’s new Industrial Strategy*. November 2016, <https://www.alanmak.org.uk/sites/www.alanmak.org.uk/files/2016-11/Alan%20Mak%20MP%20-%20FEG%20-%20Masters%20of%20the%20Revolution%20-%204IR%20Report.pdf> [↑](#footnote-ref-11)
12. The WEF describes itself these days as “the international organisation for public-private cooperation”: not so long ago was more up-front, acknowledging that it provided a platform for the world’s leading 1,000 companies. [↑](#footnote-ref-12)
13. <https://www.weforum.org/agenda/2021/01/klaus-schwab-on-what-is-stakeholder-capitalism-history-relevance/> [↑](#footnote-ref-13)
14. <https://www.europereloaded.com/klaus-schwab-and-his-great-fascist-reset/> [↑](#footnote-ref-14)
15. <https://www3.weforum.org/docs/WEF_Agile_Governance_Reimagining_Policy-making_4IR_report.pdf>, January 2018 [↑](#footnote-ref-15)
16. ibid, p6. [↑](#footnote-ref-16)
17. ibid, p5. [↑](#footnote-ref-17)
18. ibid, p11, citing G. Hadfield, *Rules for a Flat World: Why Humans Invented Law and How to Reinvent It for a Complex Global Economy*, Oxford University Press (2016) [↑](#footnote-ref-18)
19. <https://www3.weforum.org/docs/WEF_Agile_Regulation_for_the_Fourth_Industrial_Revolution_2020.pdf> [↑](#footnote-ref-19)
20. <https://swkonp.wordpress.com/2017/06/04/the-truth-about-sustainability-and-transformation-plans/> [↑](#footnote-ref-20)
21. <https://www.gov.uk/government/news/uk-and-world-economic-forum-to-lead-regulation-revolution-to-foster-industries-of-the-future> [↑](#footnote-ref-21)
22. <https://www.gov.uk/government/publications/regulation-for-the-fourth-industrial-revolution/regulation-for-the-fourth-industrial-revolution> [↑](#footnote-ref-22)
23. Outcome focused regulation, also called goal focused, principles-based, or performance regulation involves a focus on the achievement of ‘real world’ outcomes for citizens and the environment: “it defines high level goals or outcomes that businesses’ actions much achieve using their own judgment”, rather than prescriptive rules that define in advance exactly what businesses can and can’t do. [↑](#footnote-ref-23)
24. <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/994125/FINAL_TIGRR_REPORT__1_.pdf> co-authored by George Freeman, Iain Duncan Smith and Theresa Villiers, May 2021 [↑](#footnote-ref-24)
25. <https://www.gov.uk/government/consultations/data-a-new-direction> [↑](#footnote-ref-25)
26. The Accountability Framework is used by organisations to demonstrate that the policies and measures they have in place to protect individual’s privacy. [↑](#footnote-ref-26)
27. *Digital Regulation: Driving growth and unlocking regulation*, <https://www.gov.uk/government/publications/digital-regulation-driving-growth-and-unlocking-innovation/digital-regulation-driving-growth-and-unlocking-innovation> March 2022. <https://www3.weforum.org/docs/WEF_Agile_Governance_Reimagining_Policy-making_4IR_report.pdf> [↑](#footnote-ref-27)
28. <https://www.emerald.com/insight/content/doi/10.1108/JEET-04-2021-0016/full/html#sec005> [↑](#footnote-ref-28)
29. <https://www.bmj.com/content/369/bmj.m1326>  [↑](#footnote-ref-29)