

AI literacy for the public health workforce

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Why should the public health workforce engage with AI?

To ensure that the latest tech advances benefit many, and not few, as there is a risk of widening **inequalities**

Because **public** health is about the public, and the public is quite engaged

 **Public Health**
Volume 253, April 2026, 106205

Commentary

Closing the AI benefits gap: Systems design for population health equity

Jessica Morley ^a, Luciano Floridi ^{a, b}

 **Public Health**
journal homepage: www.elsevier.com/locate/puhe

Commentary

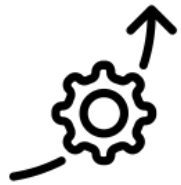
Mind the (widening) gap: why public health must engage with AI now

Paula del Rey Puech ^{a, *}, Rebecca Payne ^b, Jasjot Saund ^c, Martin McKee ^d

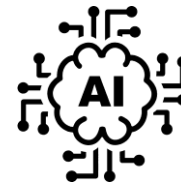
 CNN Will AI really kill everyone? How, exactly? 1 day ago		 The Guardian Could AI really wipe out humanity – six experts spell out the risks 2 days ago	
 The New Yorker How, Exactly, Could A.I. Kill Us? 1 day ago		 BBC Why are there concerns AI could threaten humanity, and how real are they? 4 days ago	

What do we mean by engaging with AI, and what kind of skills do we need to do it effectively?

How can we use AI in our work as public health professionals?



How can we use our public health skills in the field of AI?



How can we use AI in our work as public health professionals?

Questions to ask ourselves

- Can AI help us make our work faster (automation, operational efficiency)?
- Can AI help us make our work better or differently (understand complexity, access new types of data)?



Skills / knowledge

- Understanding the technology a bit:
 - Types of tasks
 - Types of data
 - Types of learning paradigms
 - ..
- What AI is, what it is not
- Sometimes we are talking about the same thing with different names (eg sensitivity = recall)
- Understanding the risks of poor AI literacy, particularly with genAI (eg data leaks, deskilling, hallucinations)

Artificial intelligence in public health: promises, challenges, and an agenda for policy makers and public health institutions

Dimitra Panteli, Keyrellous Adib, Stefan Buttigieg, Francisco Goiana-da-Silva, Katharina Ladewig, Natasha Azzopardi-Muscat, Josep Figueras, David Nuvoila-Ortiz, Martin McKee



Demystifying
artificial intelligence
in health

What health policy-makers
need to know

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Jasjit Sandhu
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Martin McKee



Observatory

How can we use our public health skills in the field of AI? – really quick example



Skills / knowledge?

Questions to ask ourselves

1. What is the theory of change? What would be the expected outcome? Can we act on this new information?
2. Is this showing causality or association?
3. What are the potential benefits or risks to the patient, to the staff, to the healthcare system?
4. Is this cost-effective?
5. If we do implement it, how will we know if it worked?
6. What will the impact be on inequalities?
7. Is this ethical? How do users and patients feel about this new predictive element?
8. What is the evidence on this type of approach?

What is the goal? (1/3)

Depends on the level of engagement

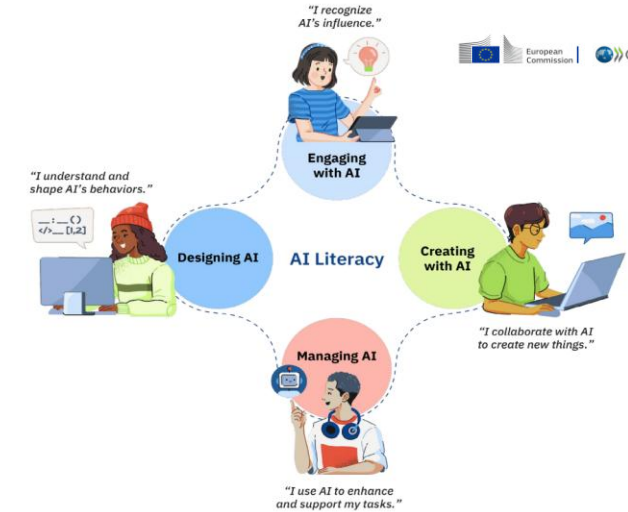
Involved in decisions on data infrastructure and governance in your org?

Procurement decisions of AI powered tools?

Providing a public health lens at some stage of the AI lifecycle?

Developing or evaluating AI tools in a clinical or public health setting?

Using off the shelf AI tools as part of your public health job (eg copilot?)?



What is the goal? (2/3)

Depends on your role and current skillset in public health

Do you have an expertise in data science and **quantitative methods**?

Do you have an expertise in **qualitative methods**?

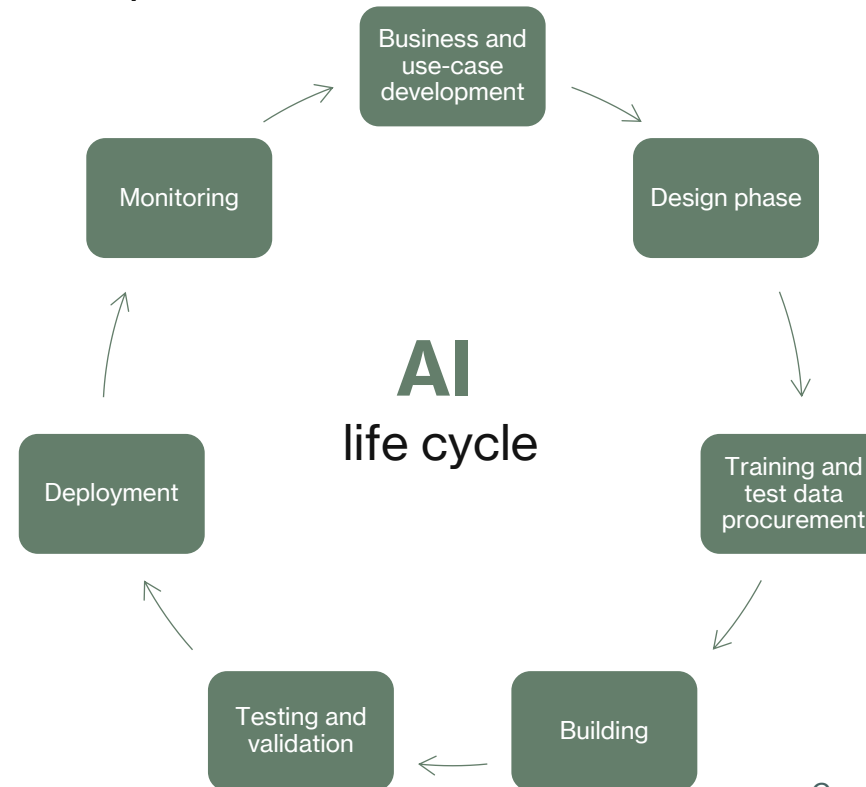
Do you have expertise in **system/digital transformation**?

Do you have an expertise in **behavioural science**?

What is the goal? (3/3)

From my perspective...

- **We already have many of the skills** needed to contribute to AI, but need to **apply them in the right way** (and be mindful of risk of deskilling)
- Our public health expertise can add value across **different stages of the AI lifecycle**
- Building **more technical AI knowledge** would help us work more effectively **across disciplines, critically assess** AI applications, and **communicate more effectively** with the public



Final thoughts on hype

- **AI is not new** – more recent advances, such as LLMs are important developments, but they build on decades of research
- Many of the **questions AI raises are not new either** - public health has long considered the population impacts of emerging technologies or interventions
- A key question is **whether AI introduces genuinely different challenges**, or whether it is an extension of existing issues
- It is important to be mindful of **commercial and institutional incentives**
- **Potentially novel aspects** brought by the latest AI developments:
 - Changes in human-machine interaction at scale
 - Limited explainability of some AI systems
 - Rapid pace of development and adoption
 - Risks of “hallucinations”

Thank you!

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Fellowship in Clinical AI
NHS Digital Academy Programme