Joint Action Health Workforce Planning and Forecasting

HORIZON SCANNING

Future skills and competences of the health workforce in Europe

As part of the Joint Action on Health Workforce Planning and Forecasting, the horizon scanning team carried out an investigation into the driving forces affecting the future skills and competences of the health workforce and their implications.

The horizon scanning findings are described in a series of reports, available at: www.healthworkforce.eu

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System map

As part of this horizon scanning a system map was developed to describe the causal relationships between variables.

This is an application of systems thinking to workforce analysis which is informed by Frederic Vester, who argued for alternative approaches to considering futures in complex systems, for example:

‘We want to know what events will occur, but we look outside instead of concentrating on the system itself and how it is going to behave’ (Vester, 2012).

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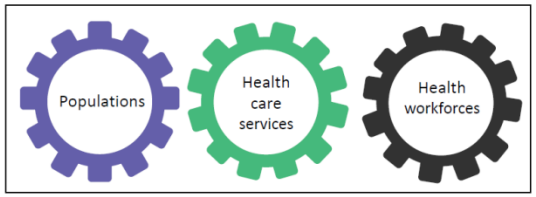
System map

These slides build the system map to show how it may be used in other horizon scanning projects and also how it can be applied specifically to health workforce futures.

Orange circles are used to highlight what the different symbols used in the system map men.

As the system map builds blue is used to highlight specific variables.



Later a different colour scheme is used to explain how variables were classified for further analysis.

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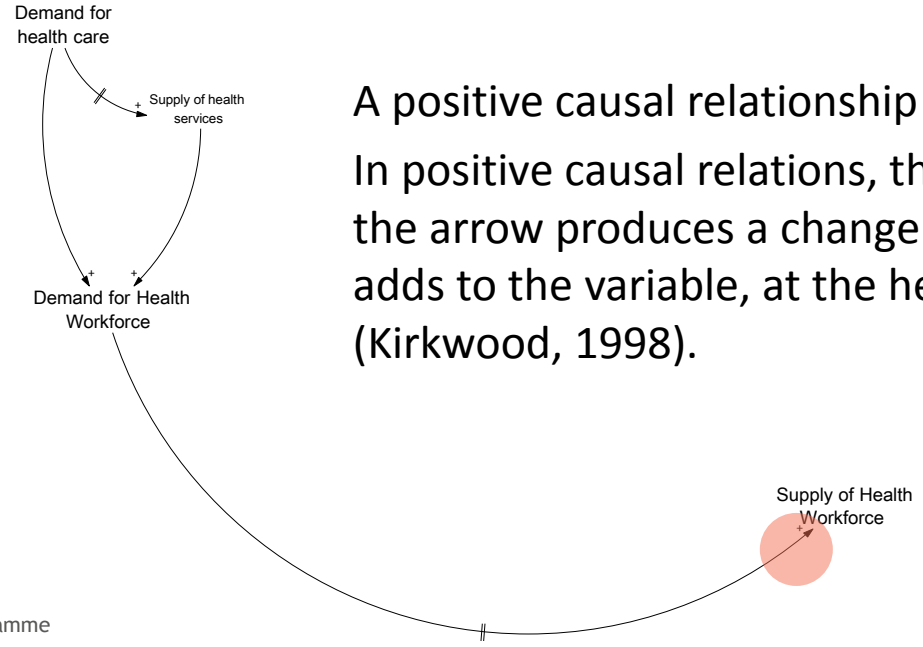

A positive causal relationship is shown as a +.

In positive causal relations, the variable at the tail of the arrow produces a change in the same direction, or adds to the variable, at the head of the arrow (Kirkwood, 1998).

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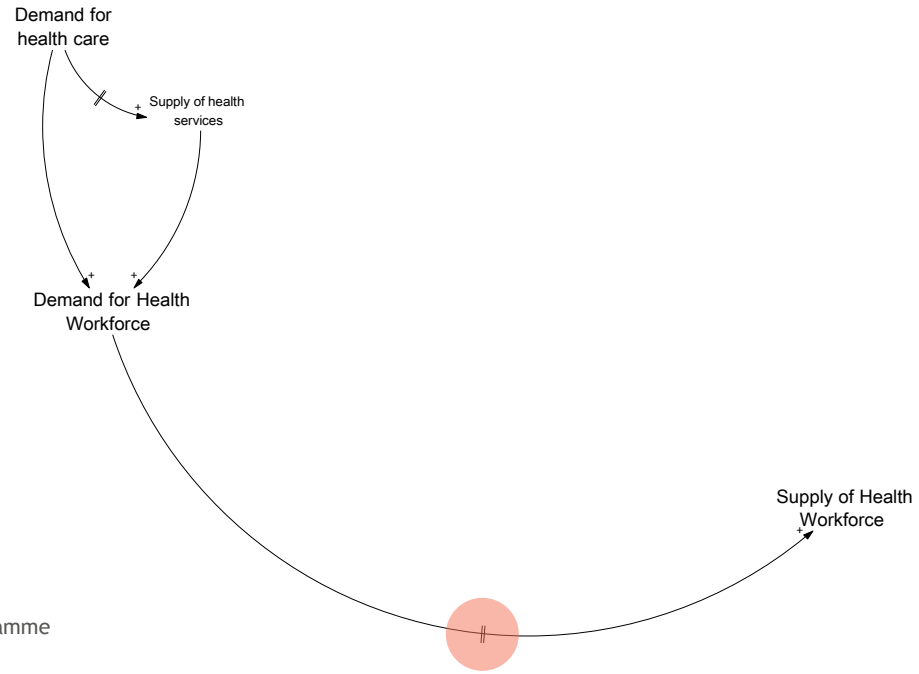
The system map also contains double lines on bars which indicate that there is a time delay in the relationship.



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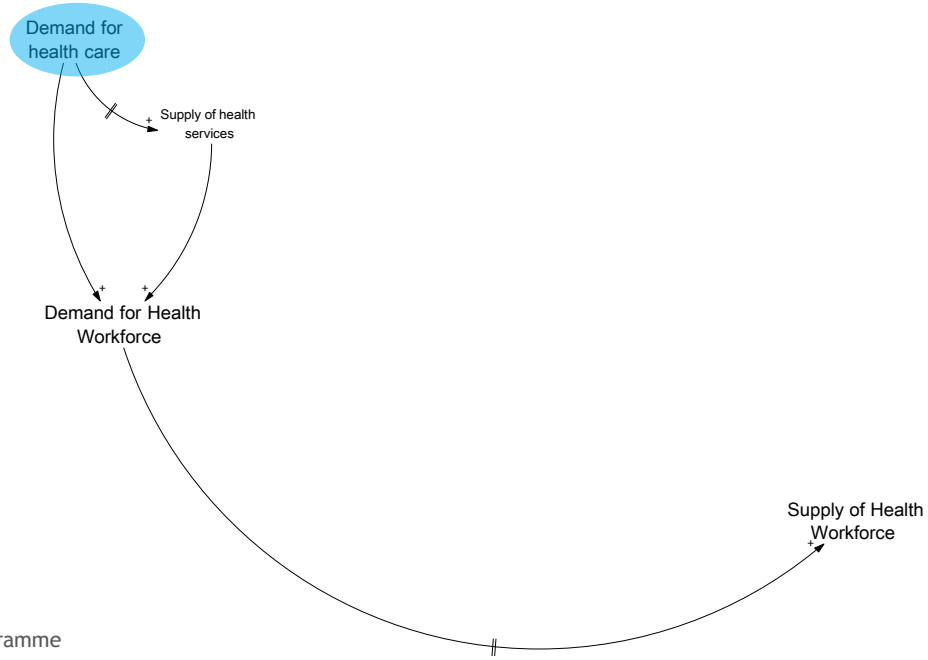
An important concept which has informed the system map is approaching the demand for healthcare as a derived demand (McGuire et al, 1989).



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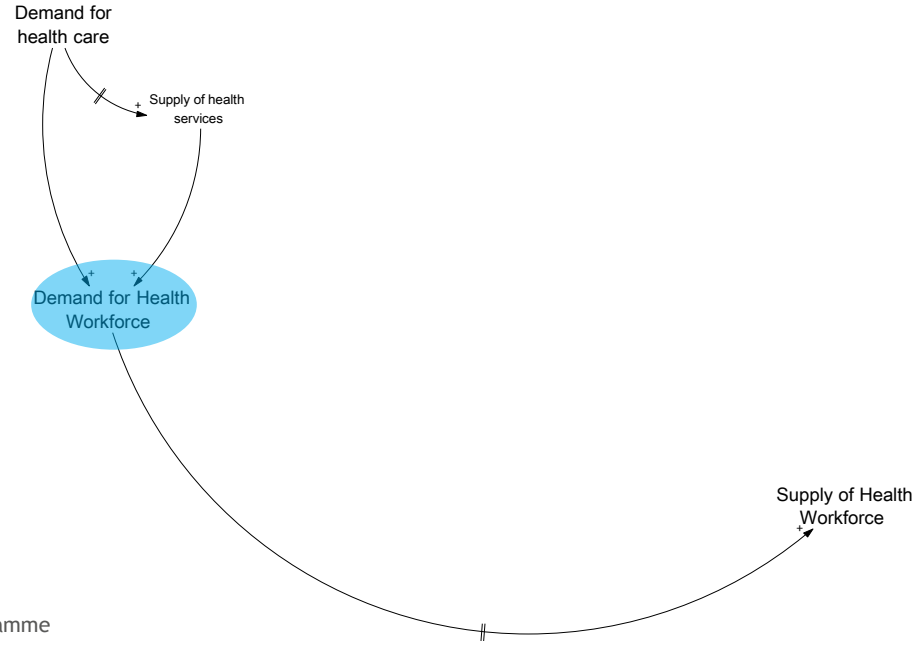
Further, ‘demand for health workers is derived from the demand for health care, in turn derived from the demand for health’ (McPake et al, 2014).



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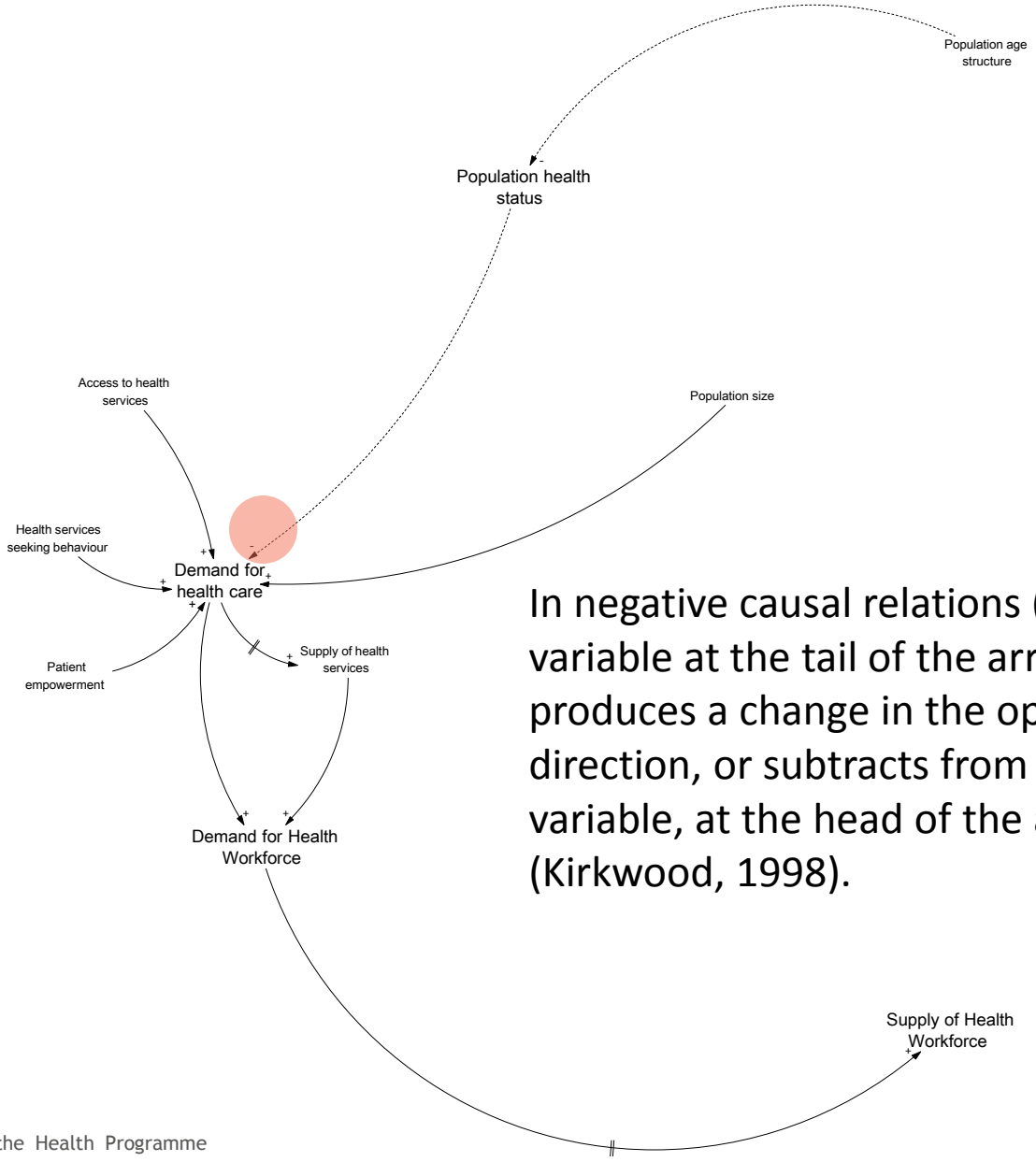

In negative causal relations (-) the variable at the tail of the arrow produces a change in the opposite direction, or subtracts from the variable, at the head of the arrow (Kirkwood, 1998).

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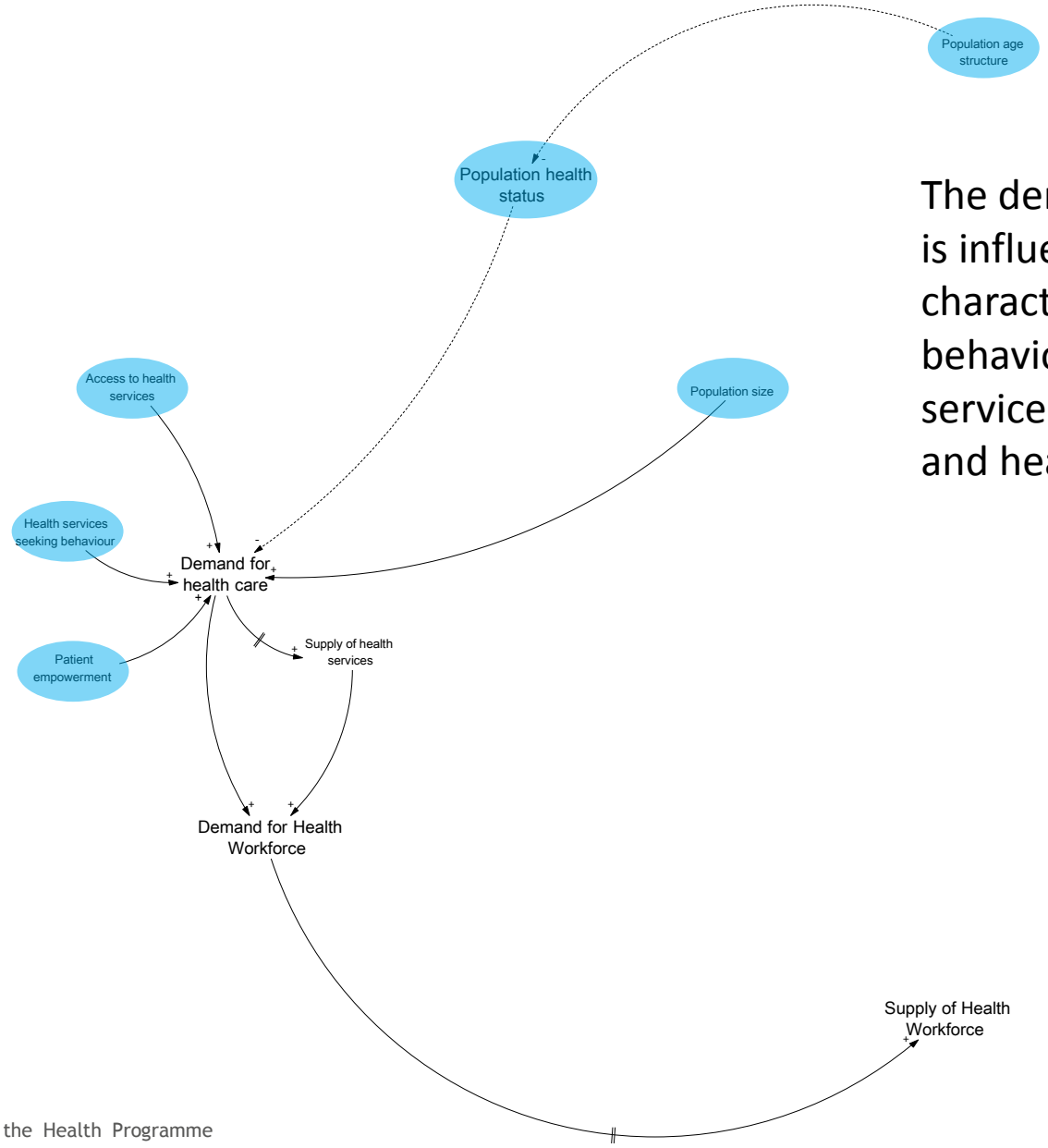

The demand for healthcare is influenced by population characteristics and behaviours, such as health services seeking behaviour and health status.

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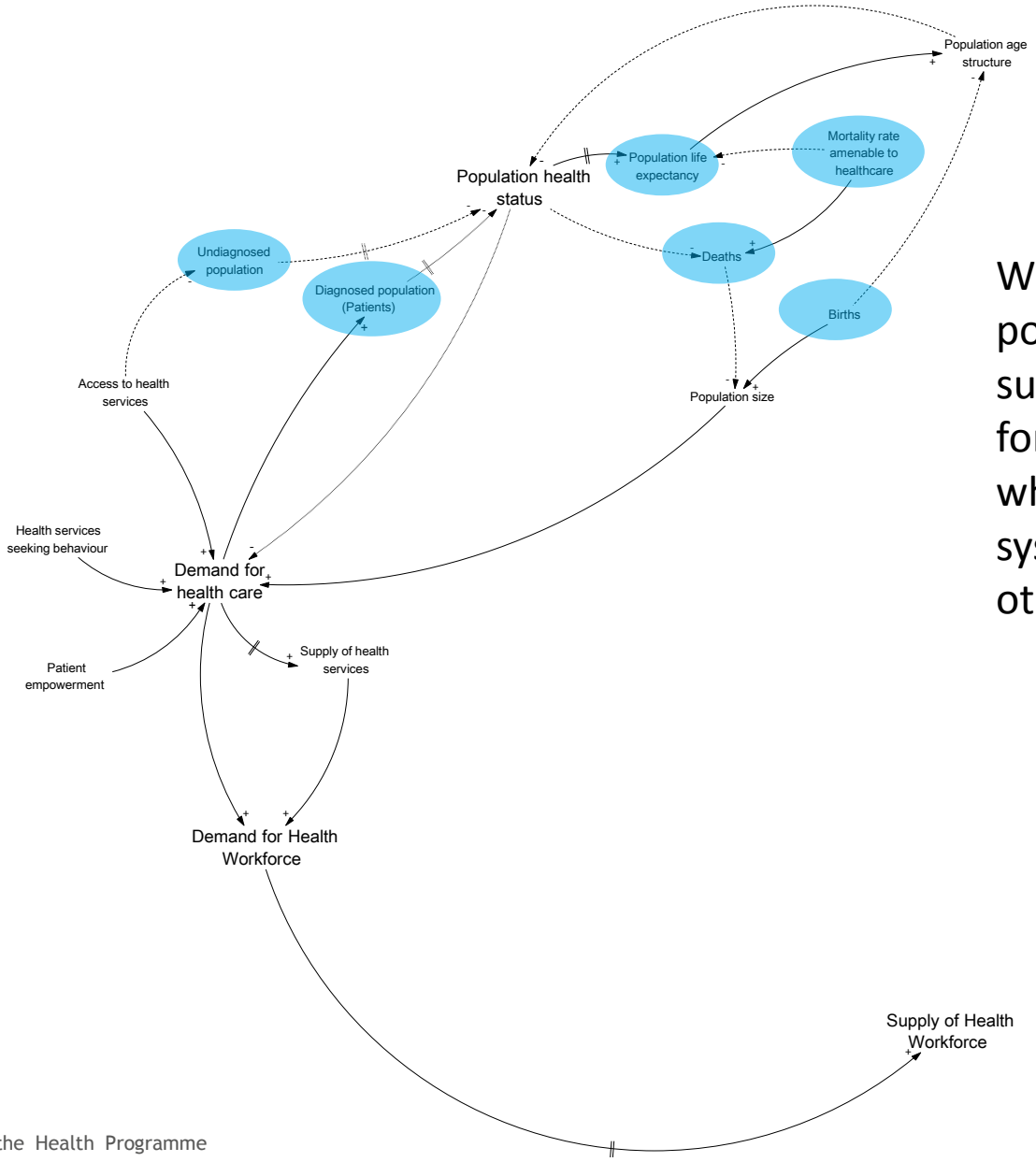

Which then link to other population characteristics, such as life expectancy, to form feedback loops, where the variables in the system influence each other.

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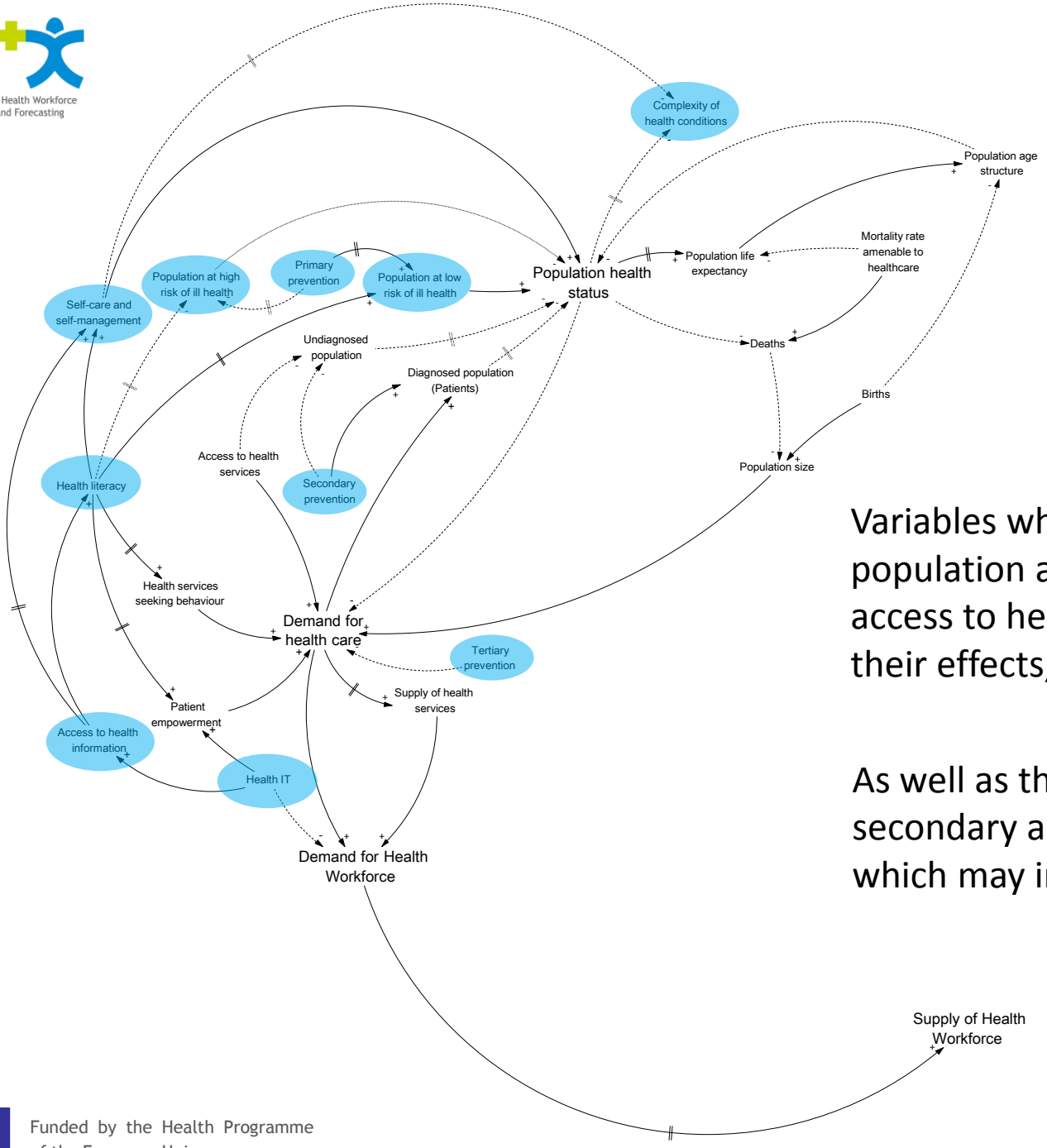

Variables which are related to the population at risk of ill health and access to health information, and their effects, are then added.

As well as the location of primary, secondary and tertiary prevention which may influence this demand..

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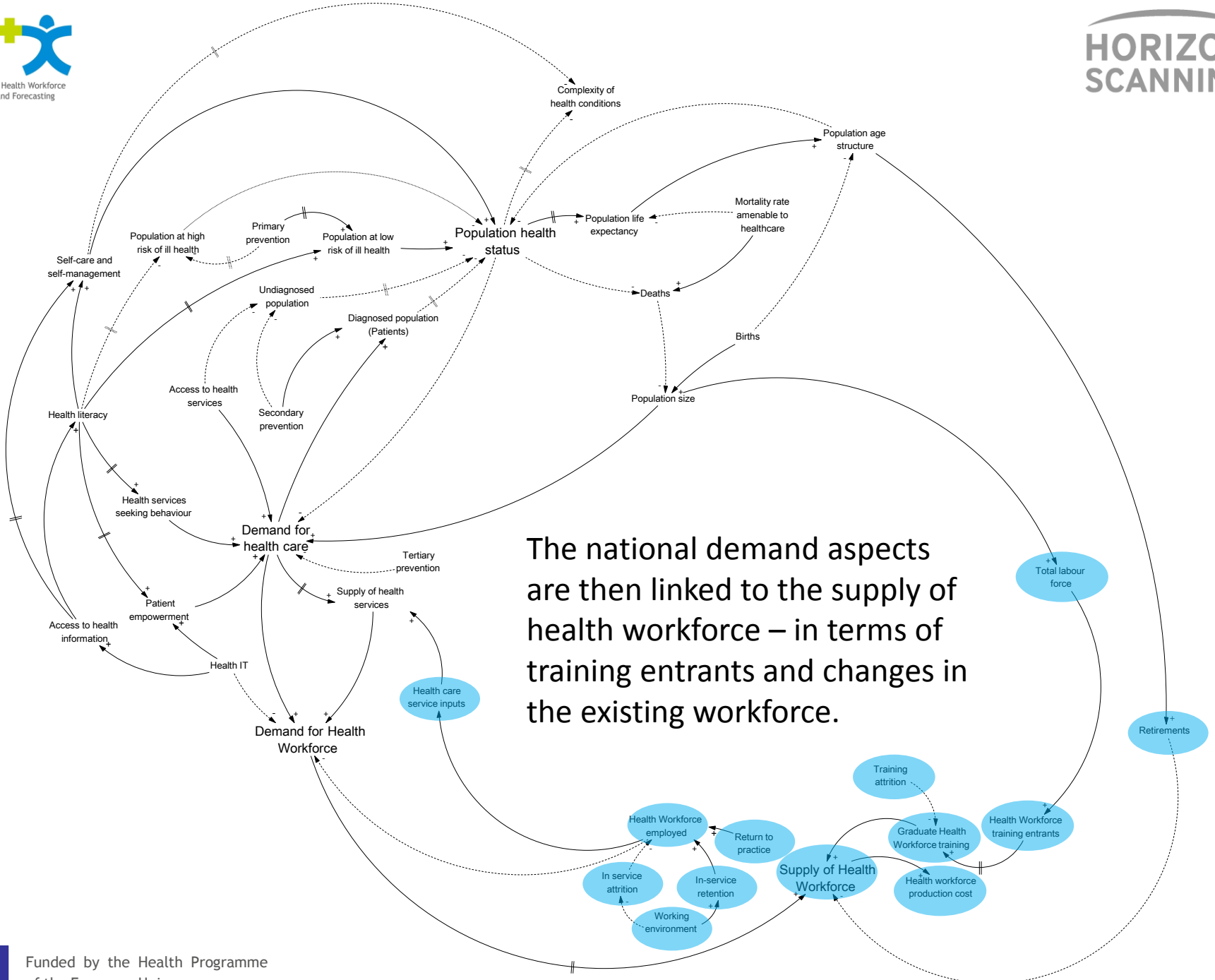

The national demand aspects are then linked to the supply of health workforce – in terms of training entrants and changes in the existing workforce.

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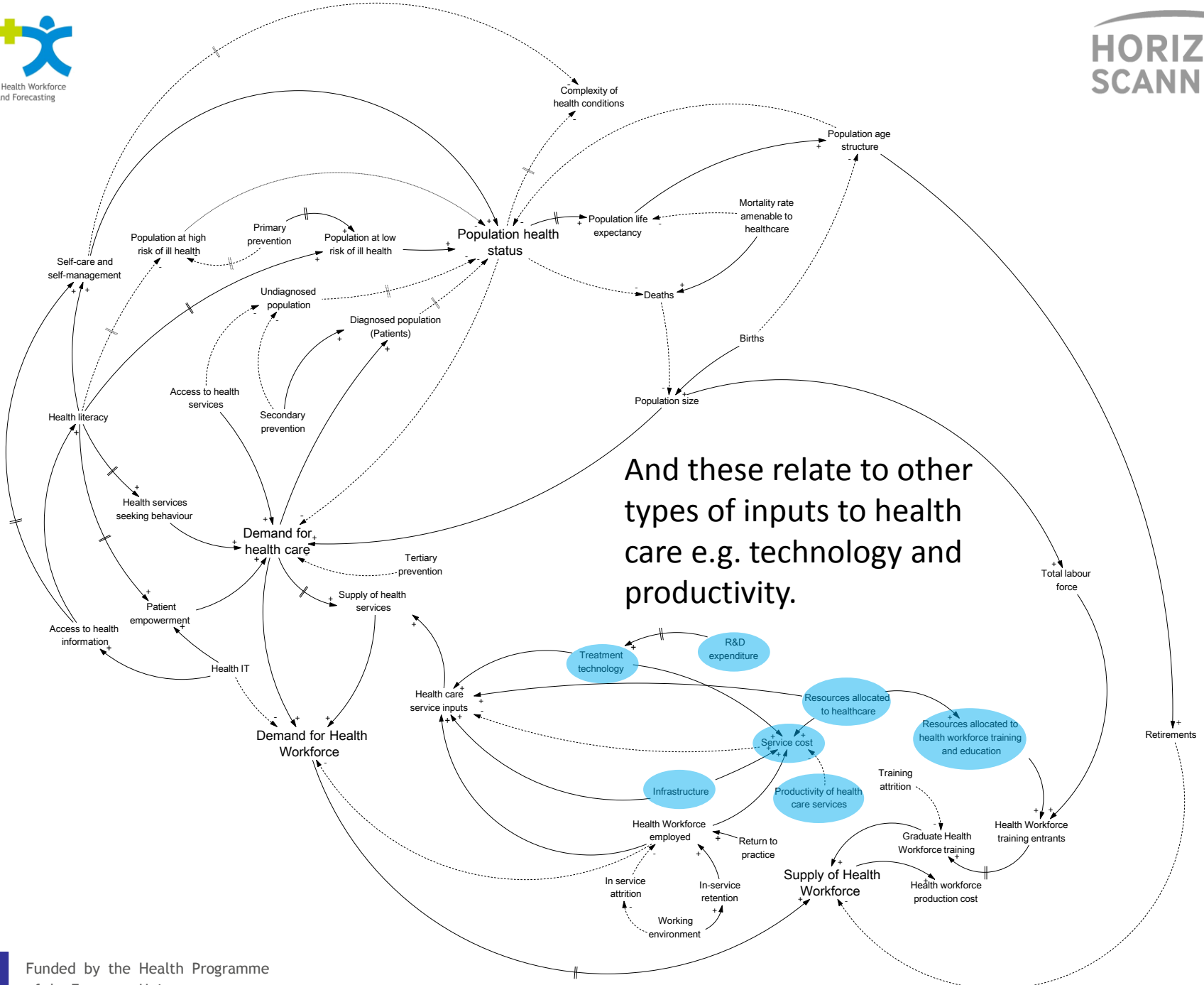

And these relate to other types of inputs to health care e.g. technology and productivity.

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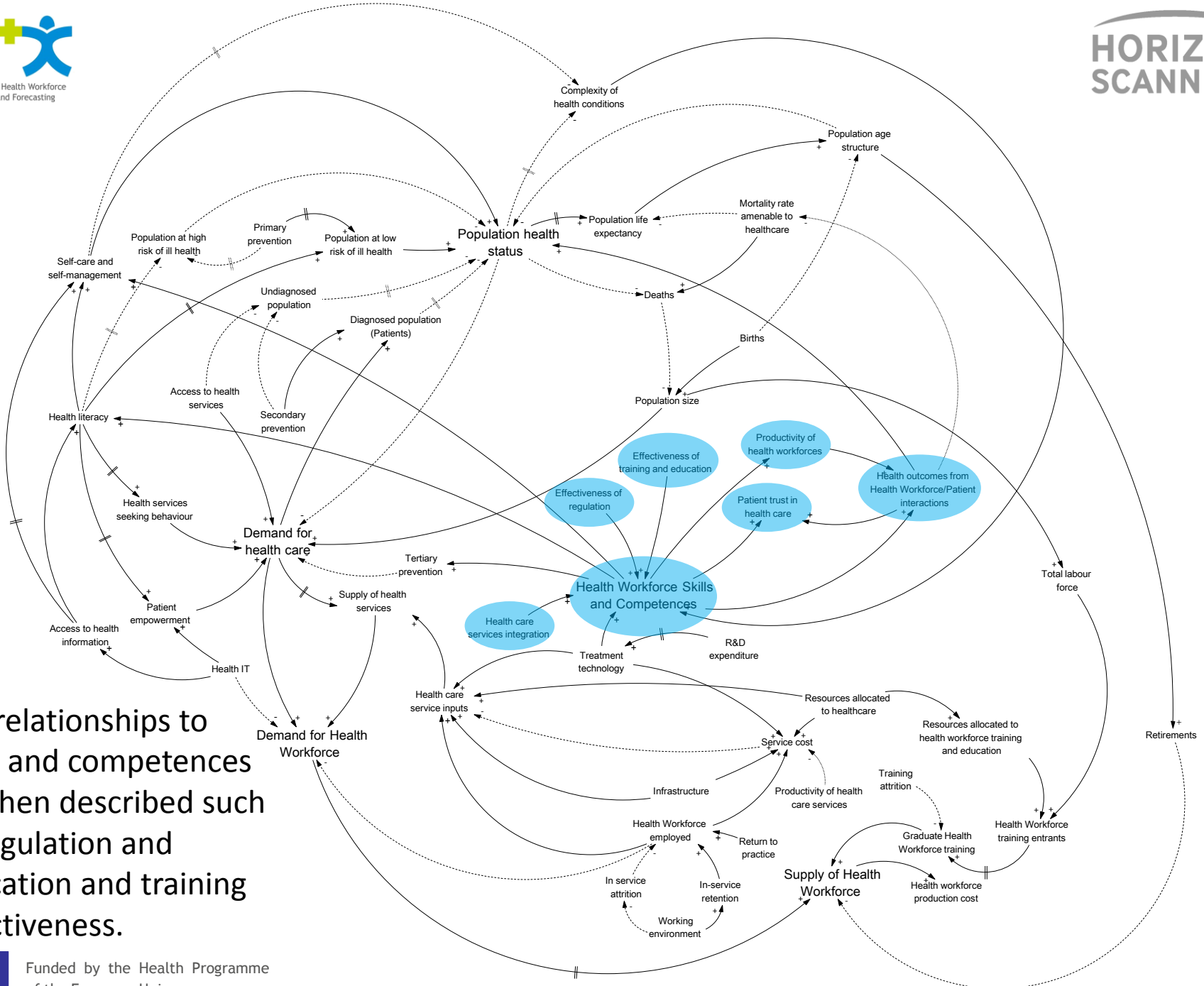

The relationships to skills and competences are then described such as regulation and education and training effectiveness.

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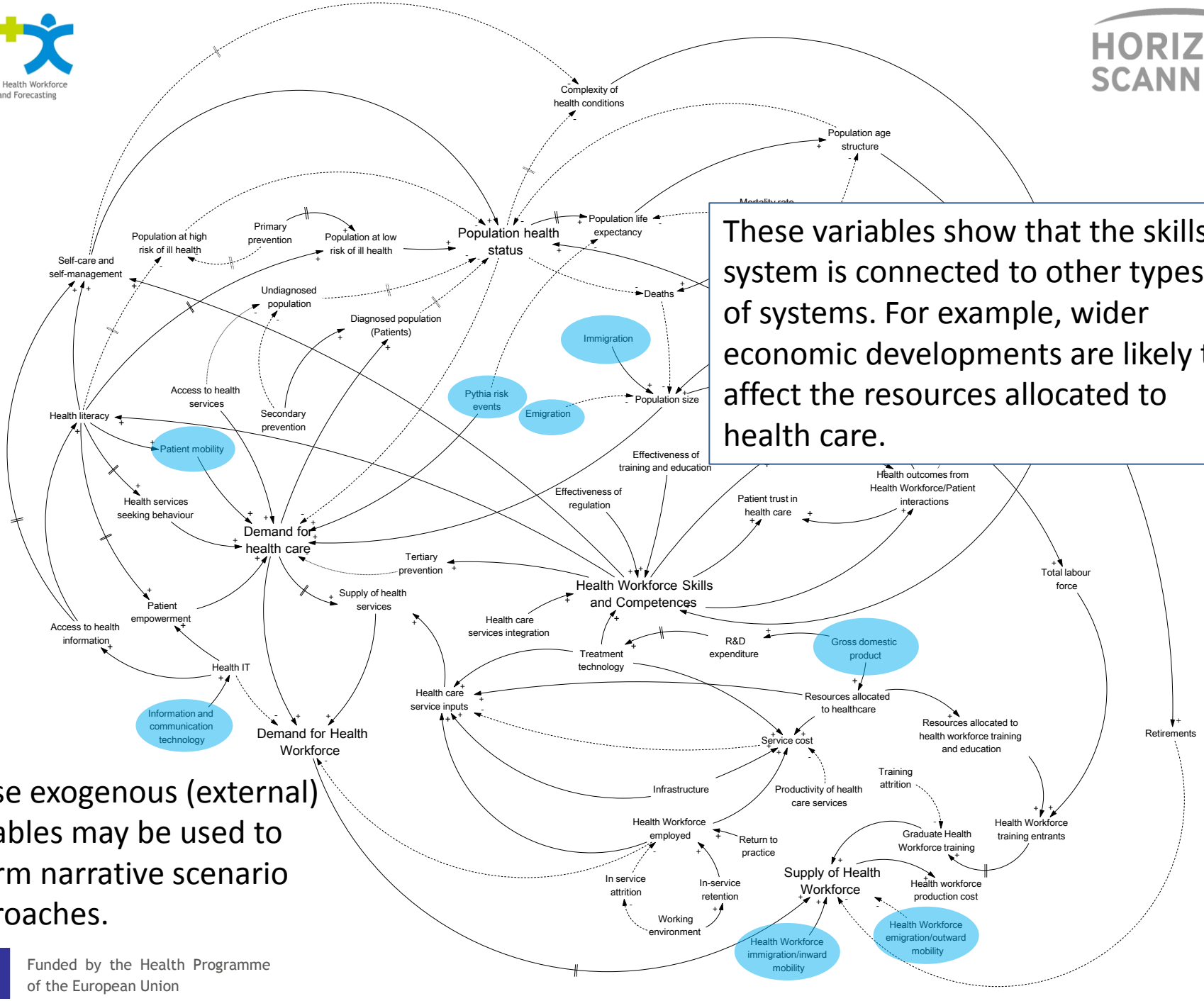

These variables show that the skills system is connected to other types of systems. For example, wider economic developments are likely to affect the resources allocated to health care.

These exogenous (external) variables may be used to inform narrative scenario approaches.

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Linking the system map to trends and directions

To simplify the system map (and to link it to further research to describe the known trends and potential directions of factors in the future) variables were classified as belonging to one of three sections:

1. Populations
2. Health services, and
3. **Health workforces.**

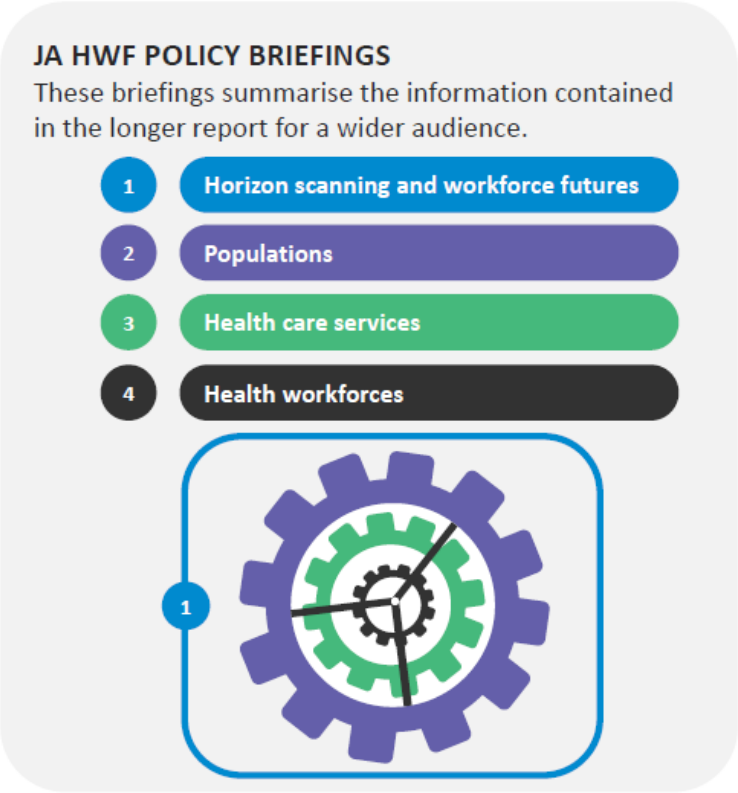
REPORT ON FUTURE SKILLS AND COMPETENCES

To simplify the complex system described in the report, drivers of change are considered in terms of one of three inter-related areas, where change in one area causes changes in the others.

Linking the system map to trends and directions

This classification locates the health workforce (at a macro level) within the specifics of their health services, themselves affected by factors and forces which will affect future skills and competences, and within populations, of which they are also a part and which produce demands for health care services.

The report and policy briefings use this structure to explain the trends and the potential skills implications. The classification of variables is shown on the next slide with different colour bubbles.



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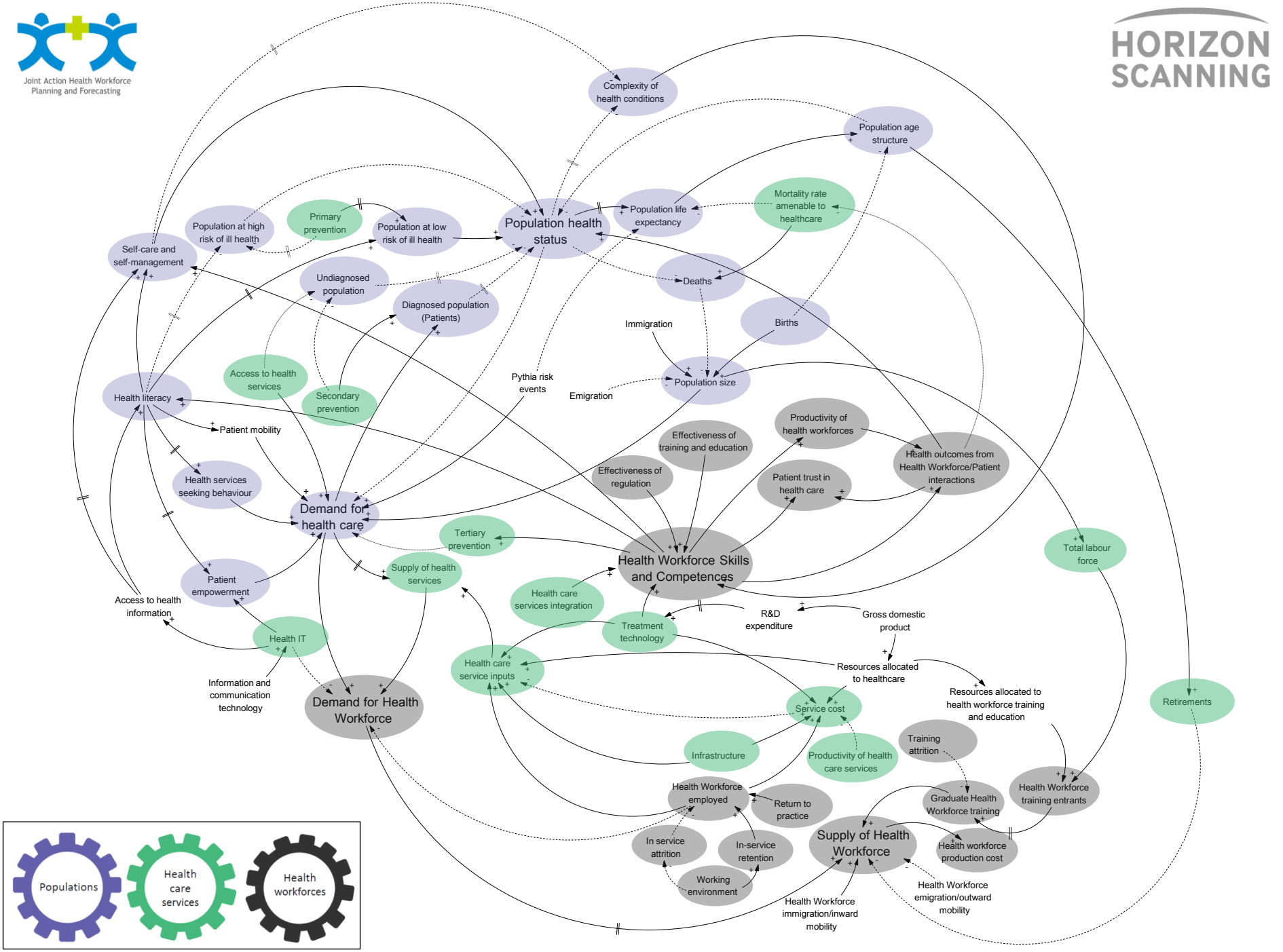

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