

EVOTION

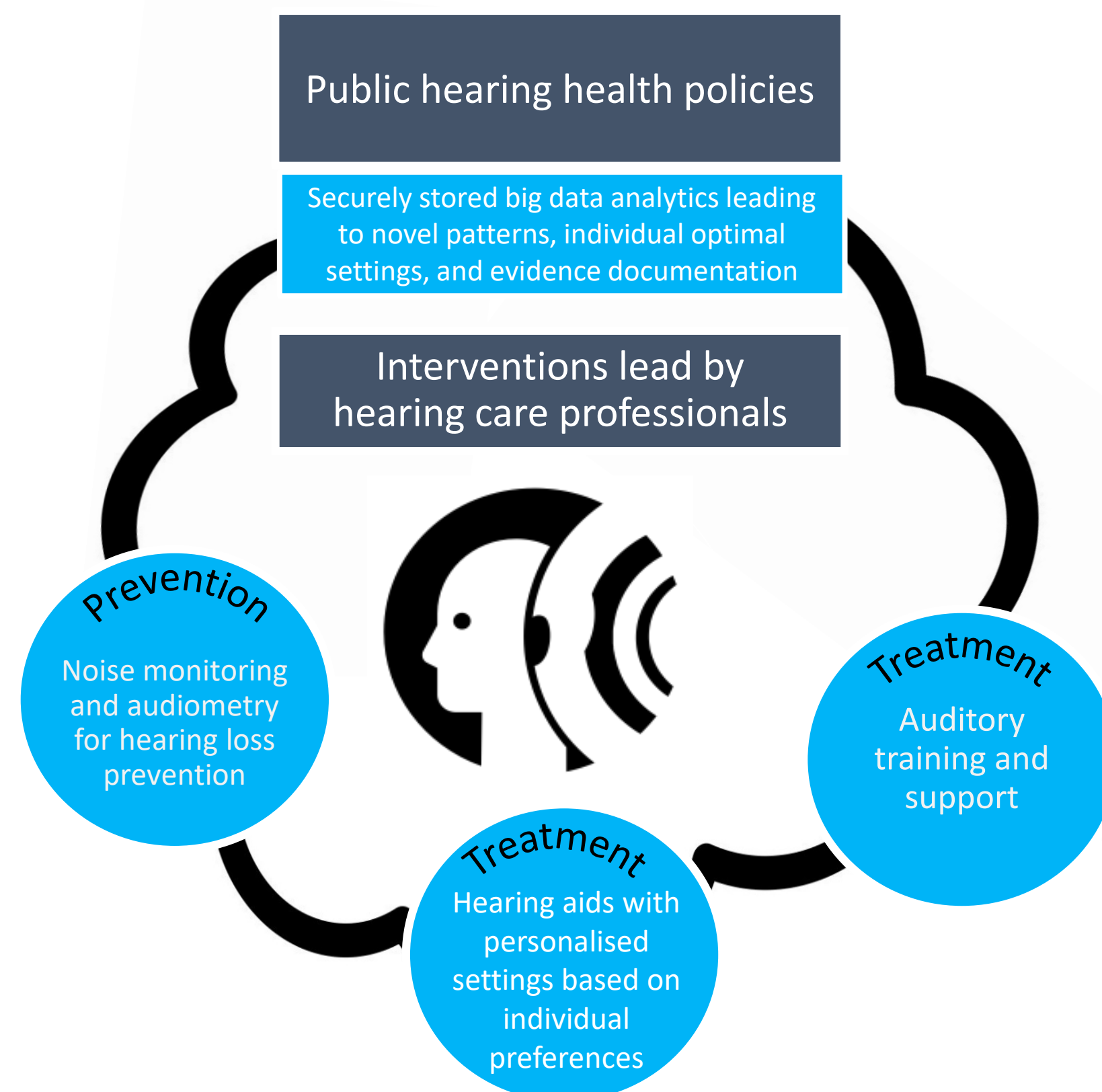
BIG DATA SUPPORTING PUBLIC HEARING HEALTH POLICIES

HEALTHCARE AND FUTURE HEARING AID REHABILITATION:

The 4 Ps

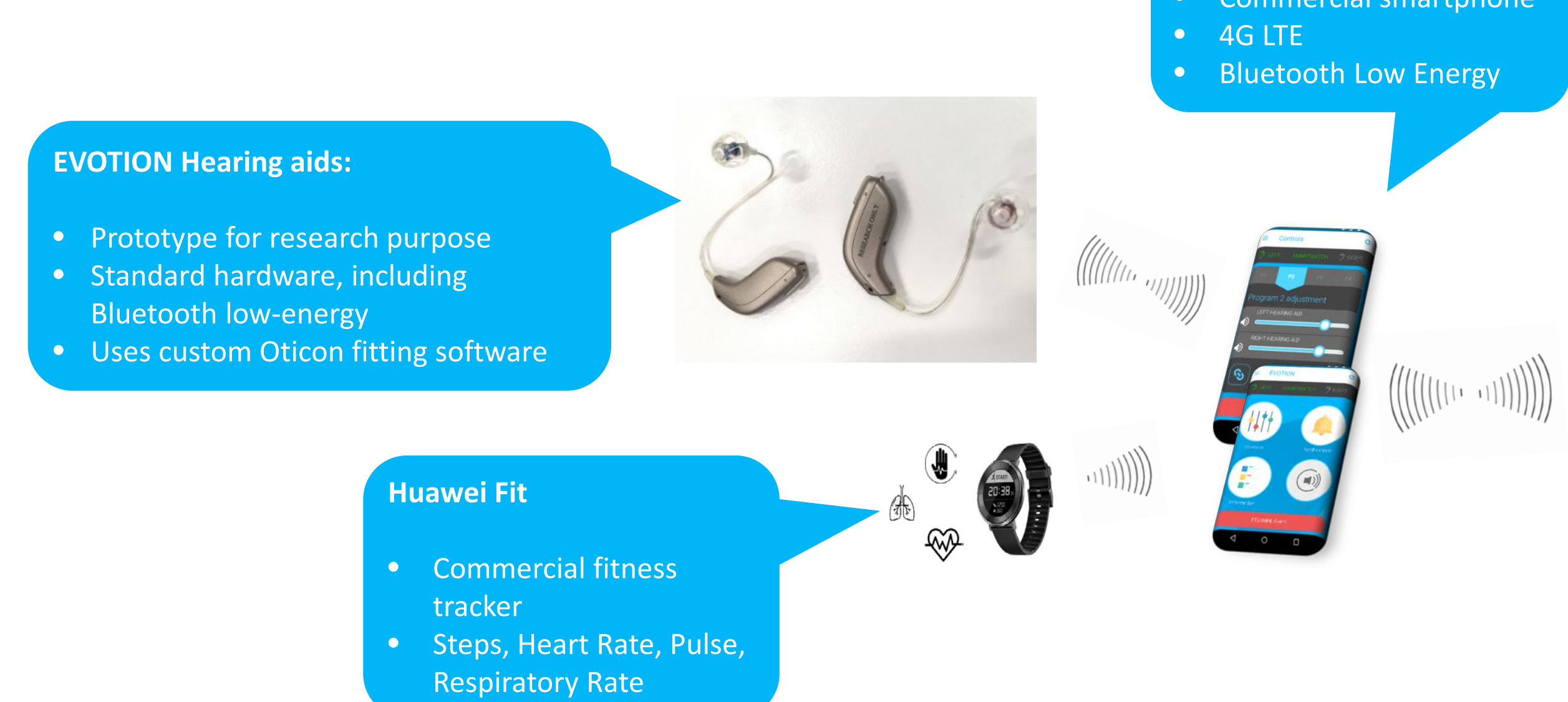
- PERSONALISED,
- PREDICTIVE,
- PREVENTIVE AND
- PARTICIPATORY

EVOTION provides a platform to collect heterogeneous data related to hearing loss and perform big data analytics to inform and guide public health-policy-makers regarding hearing loss prevention and management.



Concept and approach

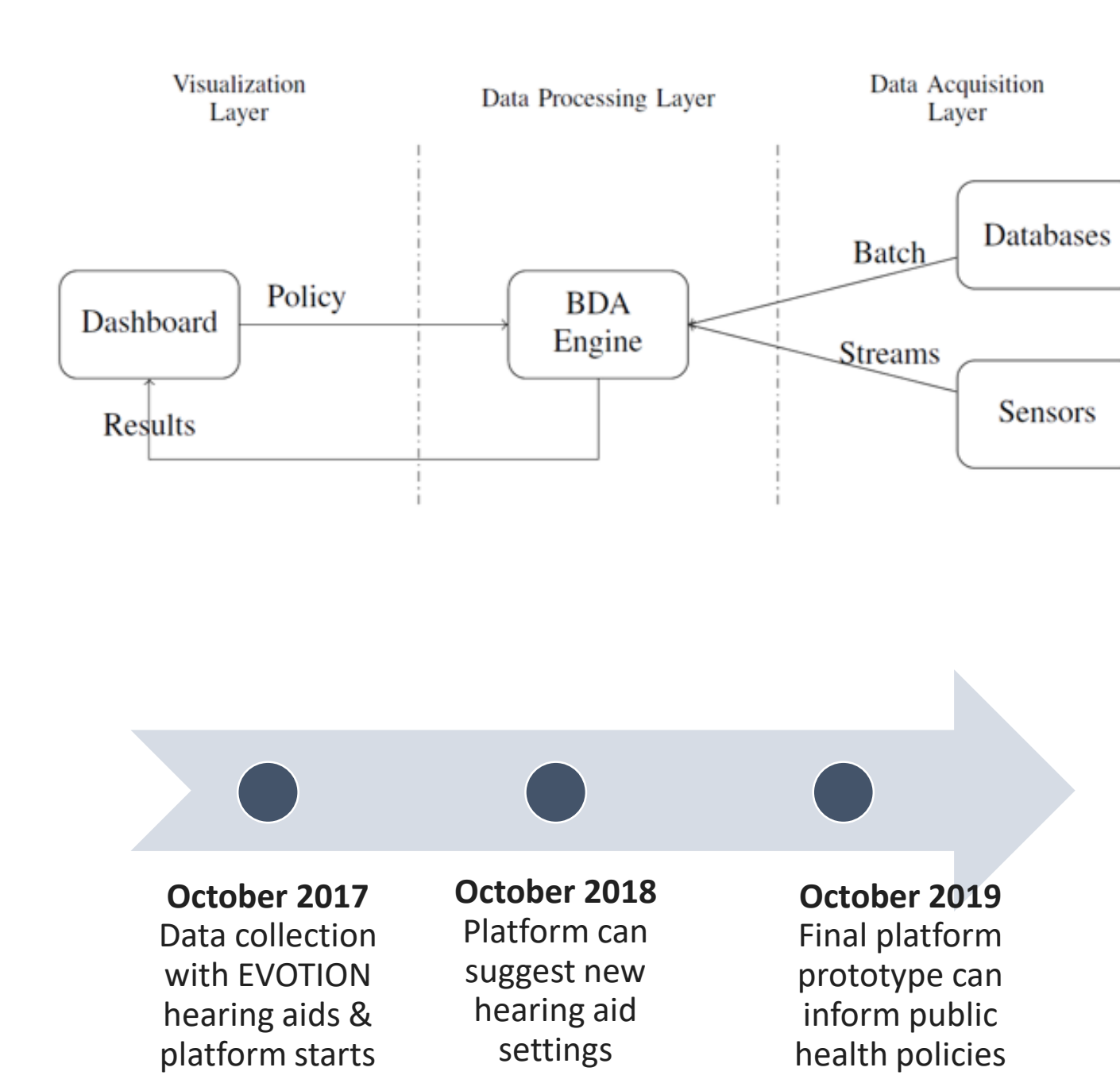
1000+ Hearing aid users



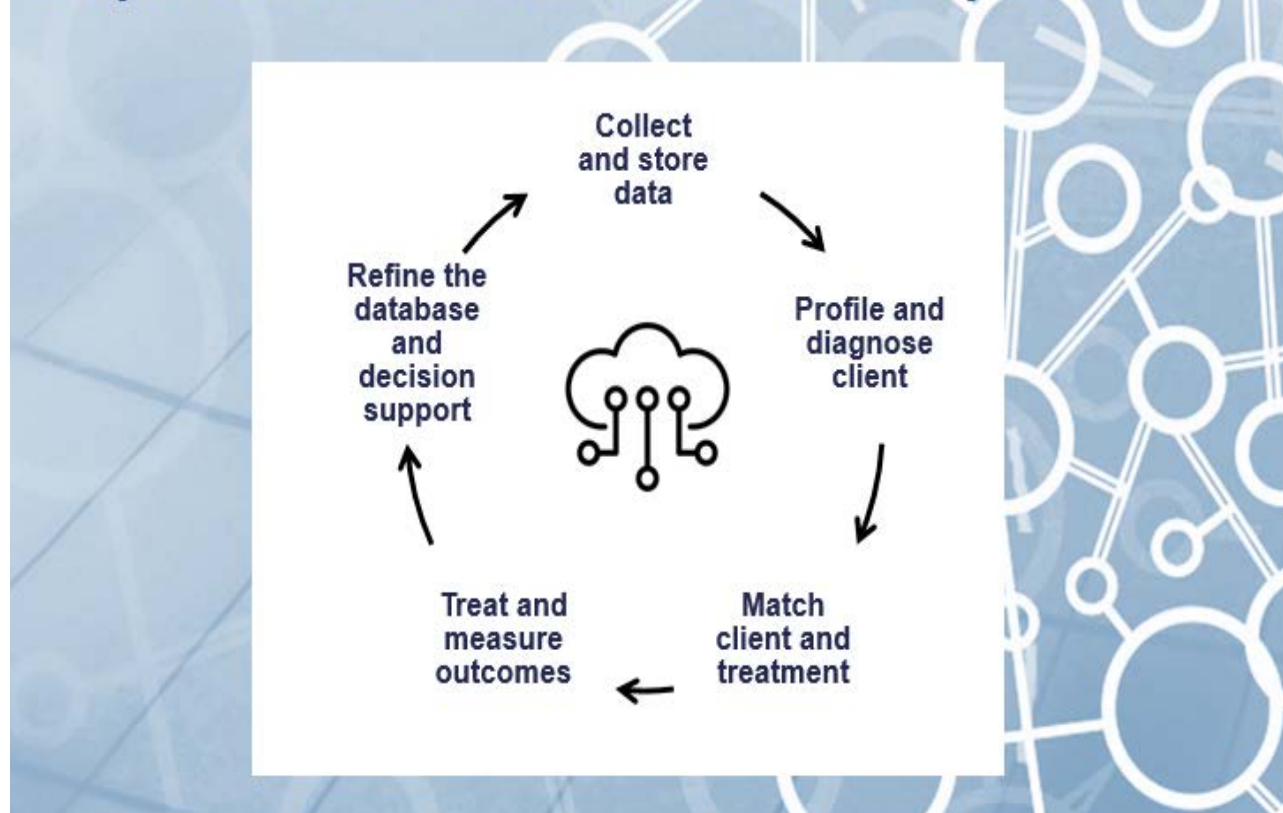
Data Types

Generic Data Type	Specific Data Type	Means of capture			
		HA	Sensor	Mobile	Clinic
HA logging	Periods of HA usage	X			
	Use and adjustment of HA controls	X			
TTS episode related	Predicted TTS values due to noise exposure and time required for recovery	X		X	
	Time of occurrence and severity of actual TTS episodes	X	X	X	
	Self-administered PTA at 4kHz			X	
Audiological	PTA in quiet				X
	Speech in Noise			X	
	Reaction time (in Speech in Noise and Digit span tests)	X		X	
	Satisfaction with HA usage			X	X
Physiological	Heart rate		X		
	Respiratory rate		X		
	Pulse		X		
Cognitive	Cognitive assessment				X
	Digit recall test for auditory working memory			X	
Mood and quality of life	Mood and anxiety monitoring				X
	Quality of life				X
Clinical and medication	Diabetes				X
	Obesity				X
	Family history of HL				X
	History of medications				X
	Duration of HL				X
Behavioural and lifestyle	Cause of HL				X
	Watching television	X		X	
	Participating in conversations and meetings	X	X		
Personal	Rating of HA ease or difficulty to use			X	
	Socioeconomic status				X
	Education level				X
	Presence of significant others				X
	Age				X
Occupational	Gender				X
	Personal carer				X
	Employment history and current status (including noise exposure)				X
Environmental	Location		X	X	
	Noise type, frequency spectrum and level	X			
	Outdoor activities (e.g. conversations)	X	X		

Big data analytics (BDA): Layers and components



Steps from data to better health care / policies



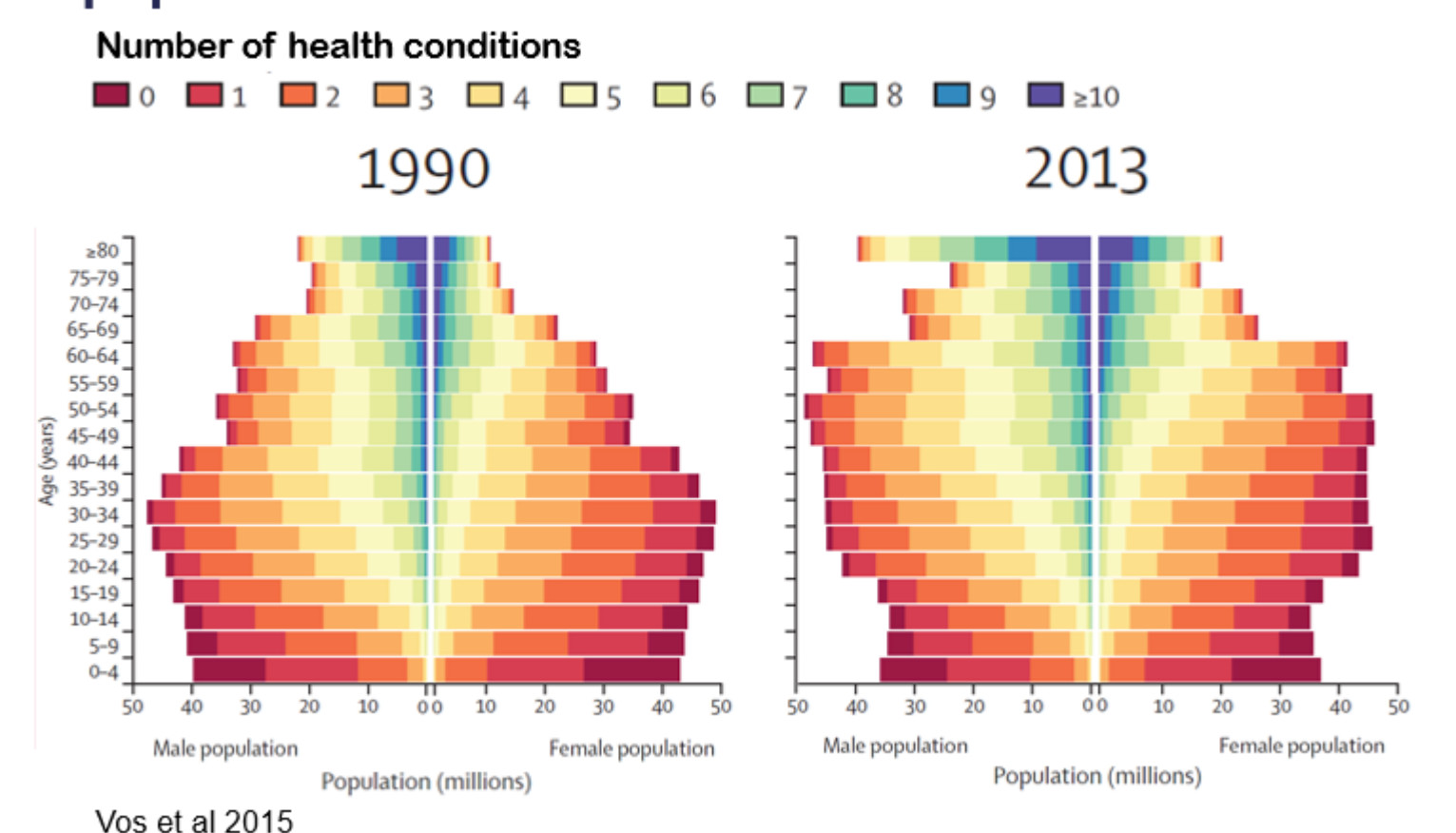
Medico Bazar, DTU, 7 MAR 2018

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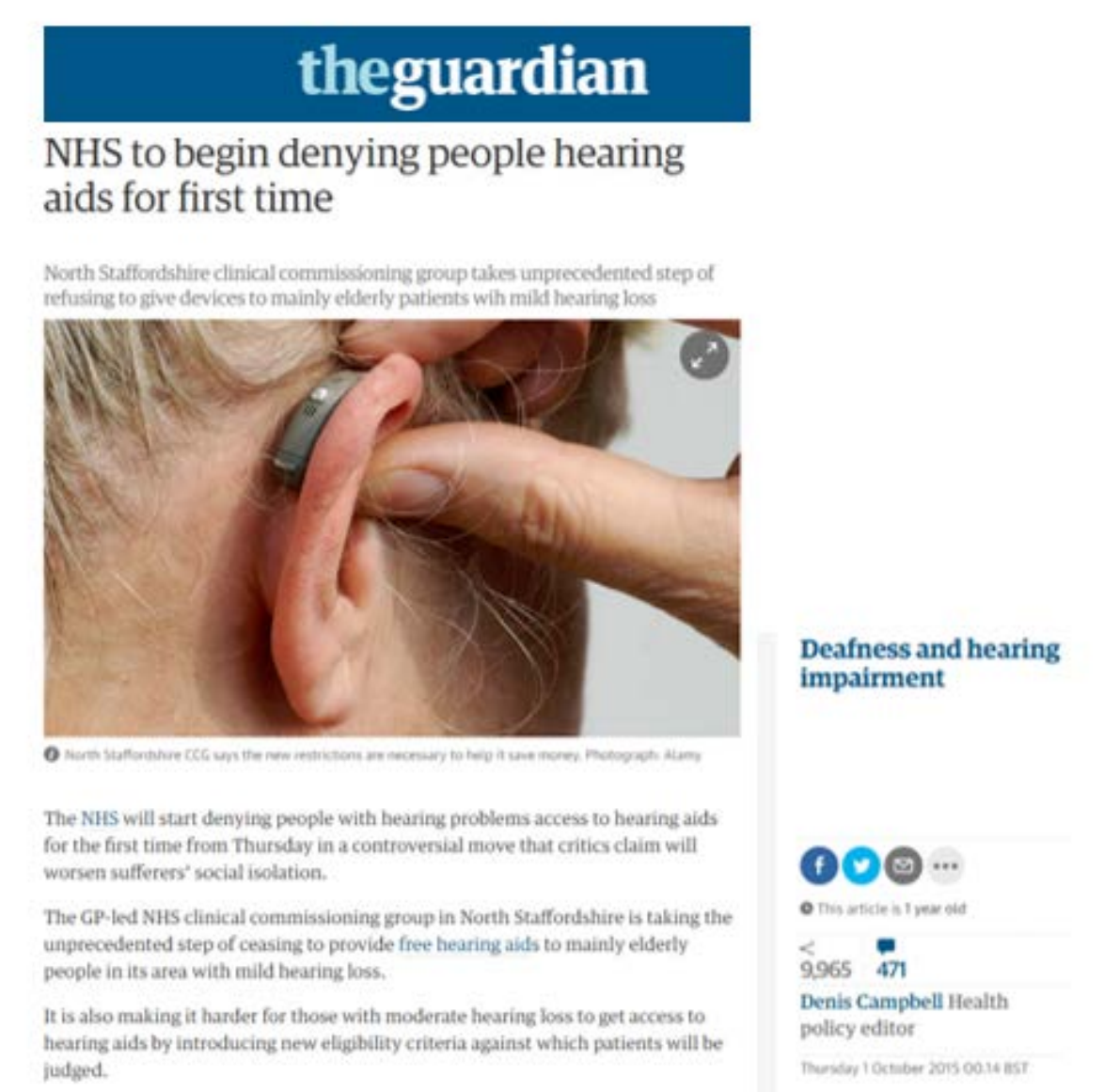
A European Research Project Generating Big Data Evidence & Decision Support for Public Hearing Health Policies

EVIDENCE-INFORMED HEALTH POLICY

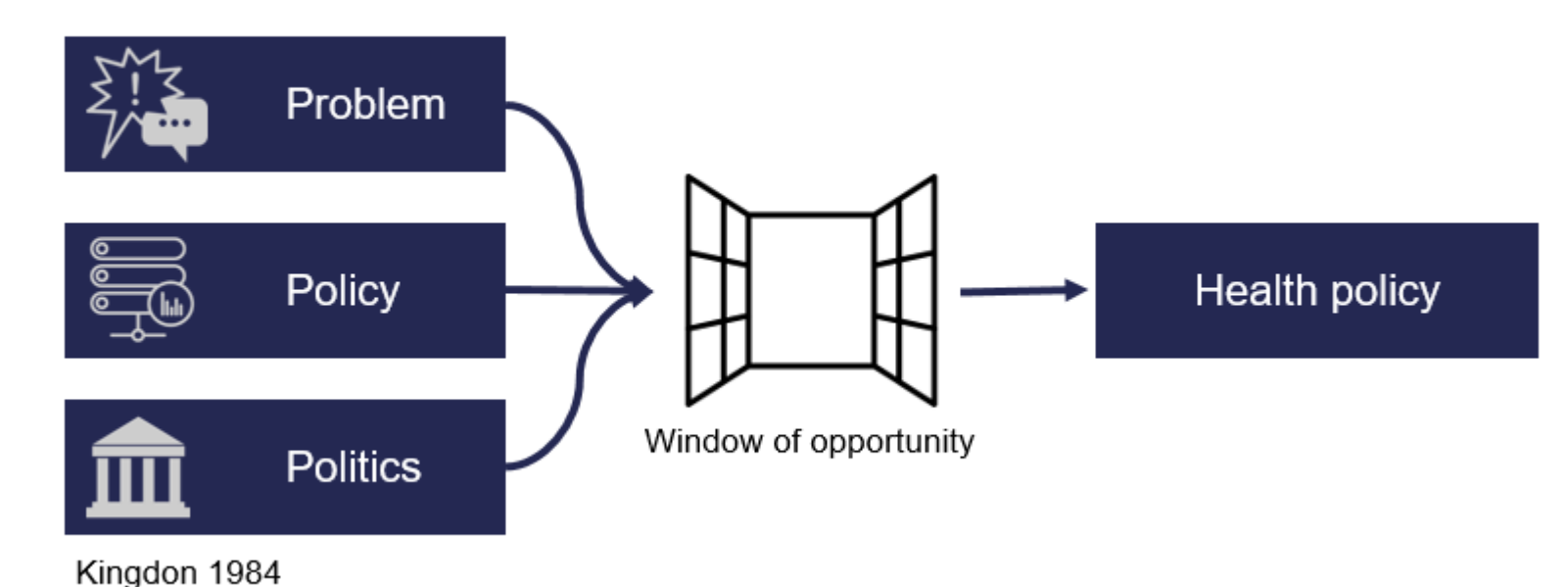
New health policies: An older and more sick population



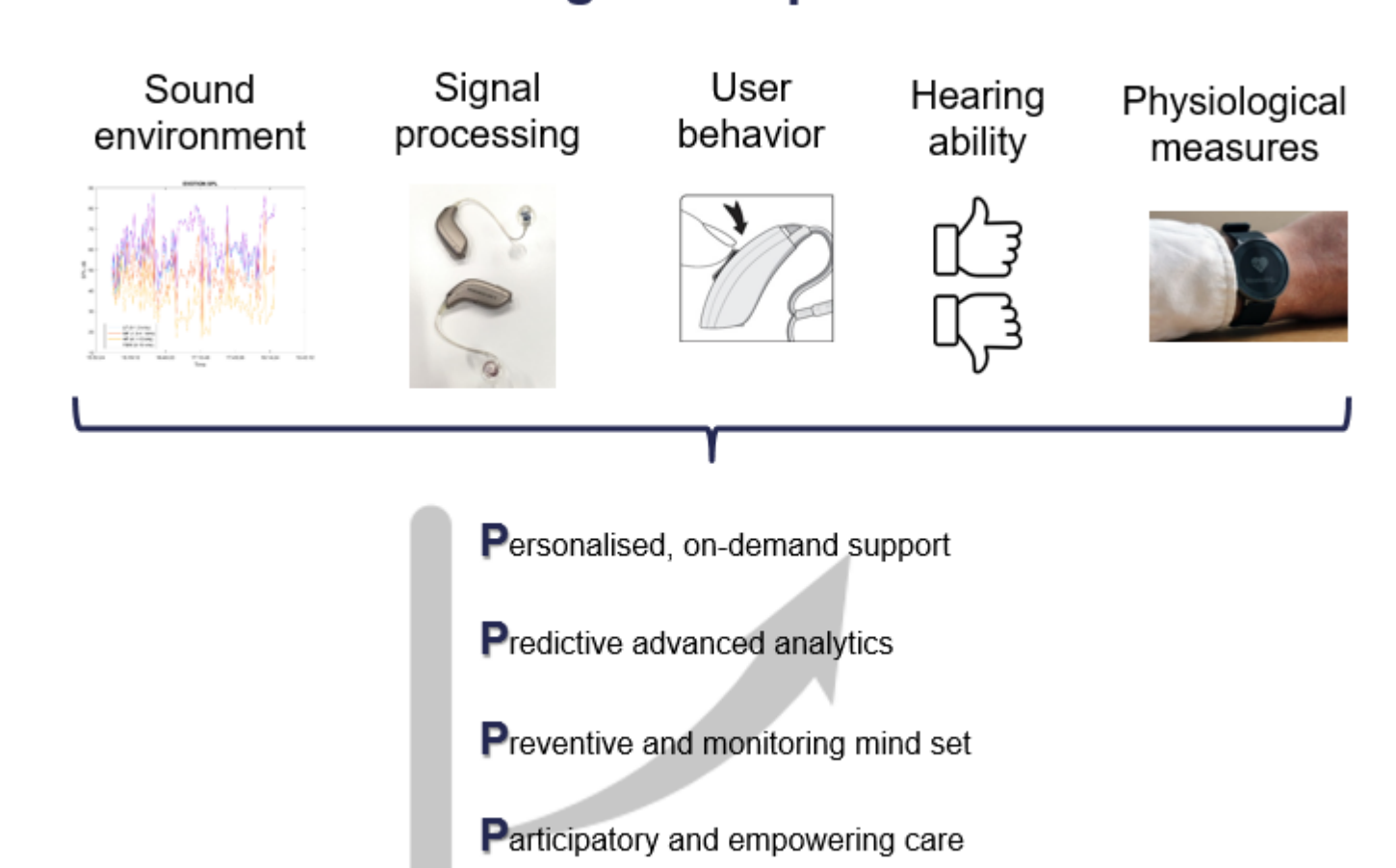
New health policies: Tough choices ahead



Agenda setting: Convergence of three streams



Goal: Better hearing health policies for all



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KEY DATA

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