



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Drinking water & the RIVM

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National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Content

- General introduction RIVM
- Drinking water research @RIVM
- Legal framework (drinking) water quality
- Dissertation



RIVM: Dutch National Institute for Public Health and the environment



FOUNDED IN 1909,
SITUATED IN BILTHOVEN
NEAR UTRECHT



OWNED BY THE MINISTRY
OF HEALTH, WELFARE
AND SPORT (VWS)



2018: 1880 EMPLOYEES



INDEPENDENT
KNOWLEDGE
ORGANIZATION



Three knowledge domains



Environment and Safety



Public Health and Health Services



Infectious Diseases and Vaccinology



RIVM will move to Utrecht Science park in 2025

Core tasks RIVM

- Advise the national government and other government bodies as well as professionals and private citizens
- Implement prevention programmes
- Monitor public health, diseases, and quality in nature and the living environment
- Contribute to preventing, combating and controlling incidents and crises
- Conduct scientific research and collect, clarify and share the available scientific knowledge.



RIVM will move to Utrecht Science park in 2025

Main commissioning

- Ministry of Health, Welfare and Sport
- Ministry of Infrastructure and Water Management
- Ministry of Economic Affairs, Agriculture and Innovation
- Various government inspectorates
- Provinces and cities
- European Union
- United Nations



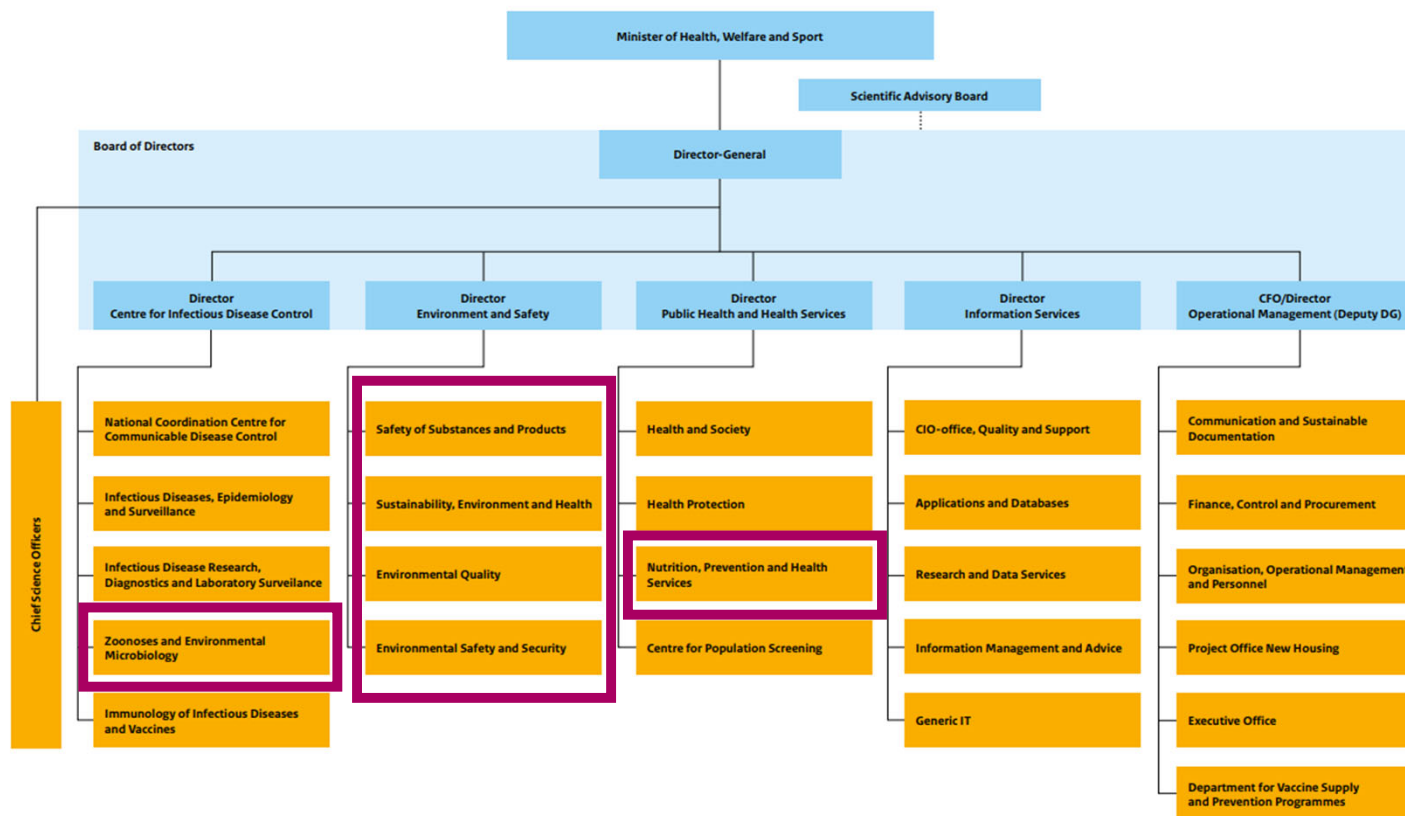
Drinking water related activities

- › Development of health based guideline values
- › Reporting water quality situation to the government
- › Guidelines for protection of raw water sources
- › Risk assessment of (new) chemical substances and microbiological contaminants
- › Security of the drinking water infrastructure
- › Emergency response
- › Research new challenges drinking water quality and quantity (drug waste, drought, new substances)





Drinking water research @RIVM



Tap water in the Netherlands is safe and healthy: how do we know that?

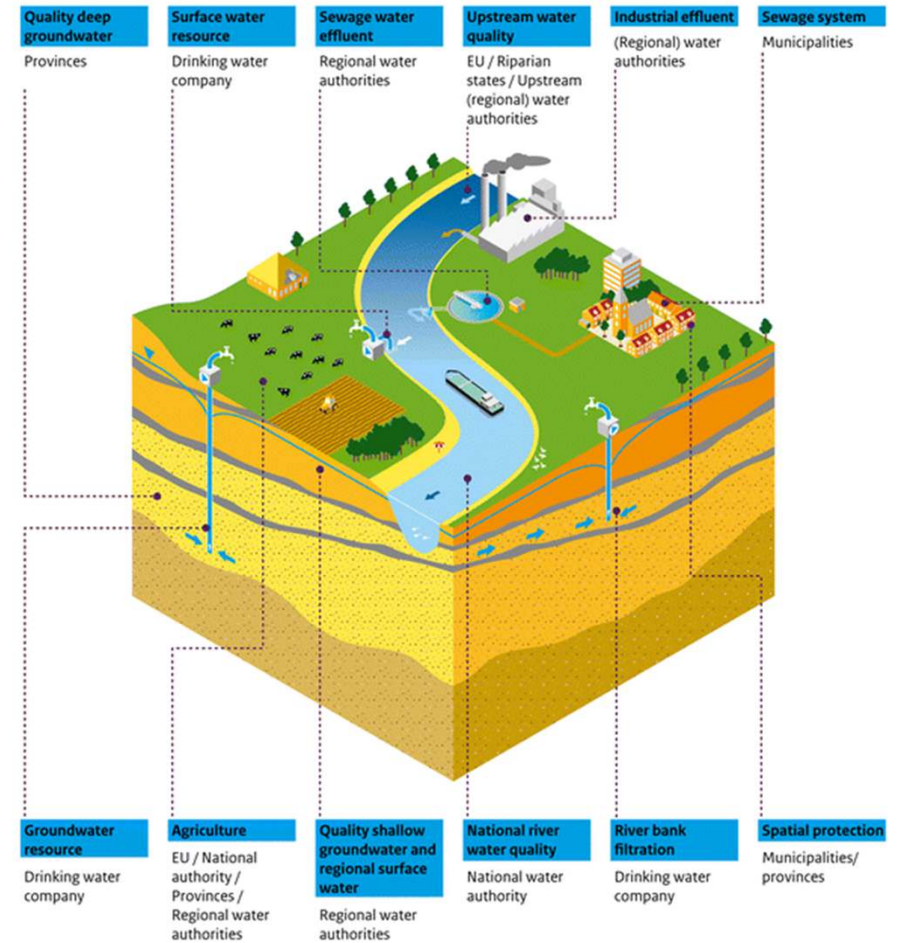
Ministry of Infrastructure and Water Management





Who is responsible for water quality in the Netherlands?

Different responsible parties and different legal frameworks



Source: Wuijts (2020) Towards more effective water quality governance



Regulations (EU and NL) relevant for contaminants in (drinking) water (resources)

	Relevant regulations for chemical contaminants	
	<i>Europe</i>	<i>Netherlands</i>
Drinking water quality	Drinking Water Directive (DWD) (EU) 2020/2184 (revision of 98/83/EC)	Dutch Drinking Water Act (2015)
Surface water quality	Water Framework Directive (EU) 2000/60/EG	Water Act (2009)*
		Water Quality Requirements and Monitoring Decree (2009)
	Priority Substances Directive (EU) 2013/39/EU	
Municipal and industrial wastewater effluent quality	Urban Waste Water Directive (EU) 91/271/EEC	Water Act (2009) (for discharges to surface water)*
		Environmental Protection Act (1979) (for discharges to the sewer)*
		General Provisions Act Wabo (2009) (for discharges to the sewer)*
Groundwater quality	Groundwater Directive (EU) 2006/118/EC	Environmental Protection Act (1979)*
		Fertiliser Act (1986)
		Pesticides and Biocides Act (2007)
		Soil Protection Act (2017)
		Water Act (2009)

* These regulations will be collected into the Environment and Planning Act by 2023



Dutch drinking water act and – decree

(implementation EU DWD)

Different water quality standards for chemical contaminants:

- > Human health related
- > Organoleptic (smell/taste/colour)

Limited list of standards for chemicals, therefore also a signaling value for other anthropogenic contaminants in drinking water (1 µg/L)

- If concentration of a new substance > 1 µg/L for more than 30 days, a provisional health based guideline value is derived
- This also done if concentration is structurally > 0.1 µg/L in surface water used for the production of drinking water (part of the protocol monitoring and review of drinking water sources WFD).



PS-DRINK project

- > Early identification of potential emerging chemical and microbial contaminants in drinking water resources using literature mining;
- > Evidence-based prioritisation of policy action on emerging contaminants using a decision support tool;
- > Risk communication strategies tailored towards information needs of consumers.





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PS-DRINK project – Prioritisation model



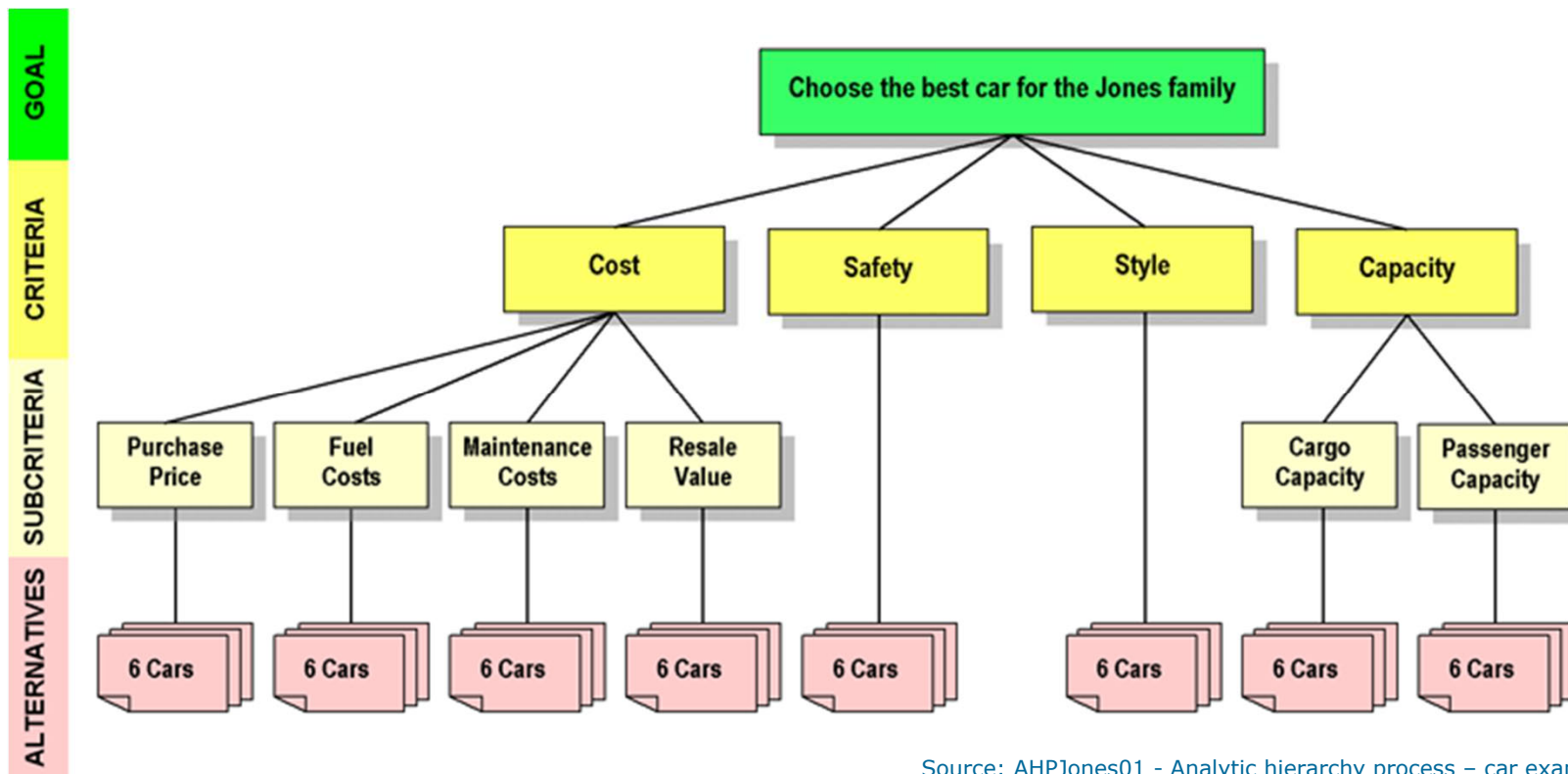
- › Model developed with 47 experts to prioritise contaminants with uncertain drinking water risks for further action
- › Uncertain hazard and exposure information can be taken into account
- › Model can be used for risk-based monitoring purposes

More information:

- [Website PS-DRINK](#)
- [Dissertation J Hartmann, TU Delft](#)



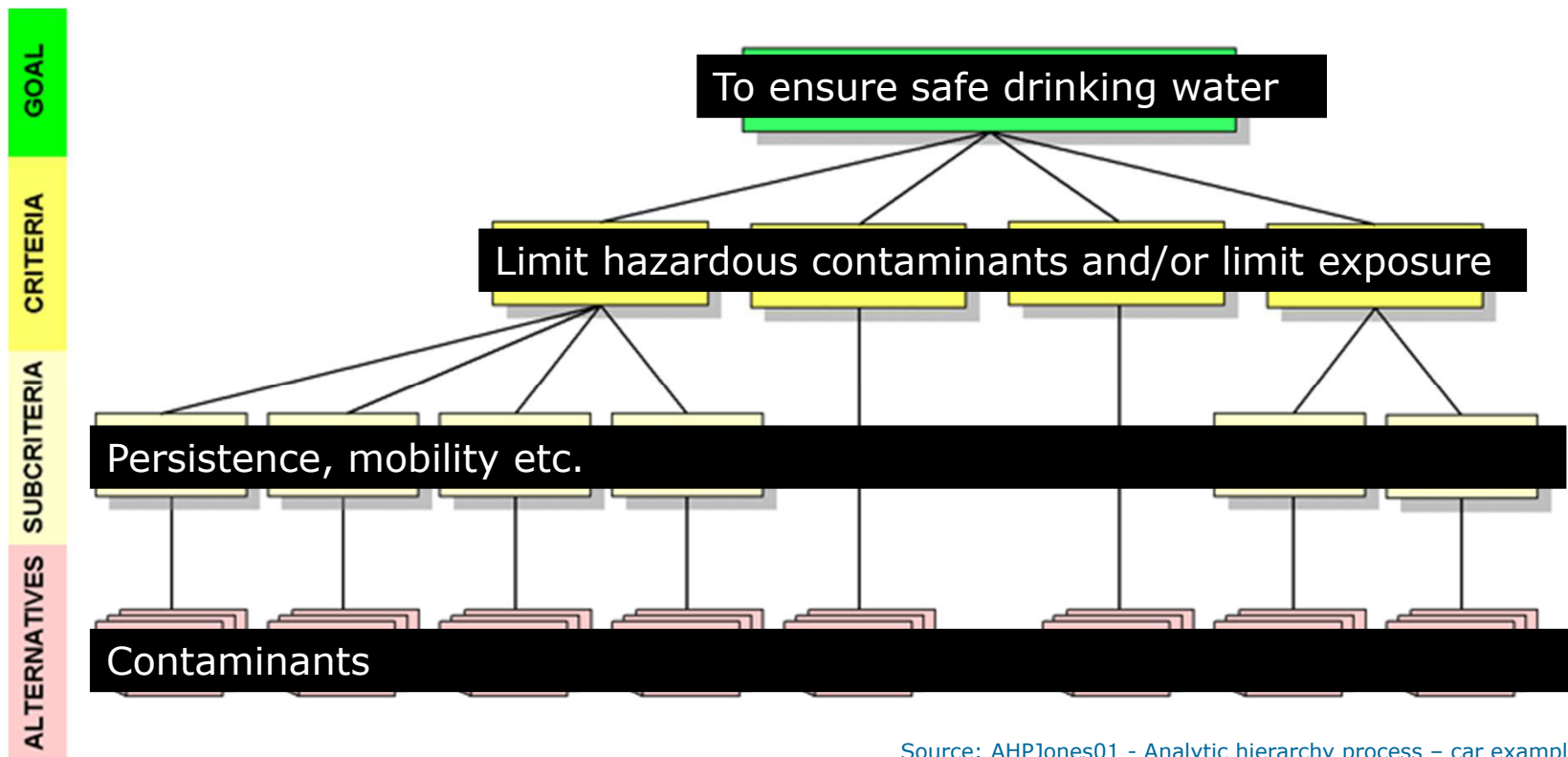
Example of model structure (AHP)



Source: [AHPJones01 - Analytic hierarchy process - car example - Wikipedia](#)

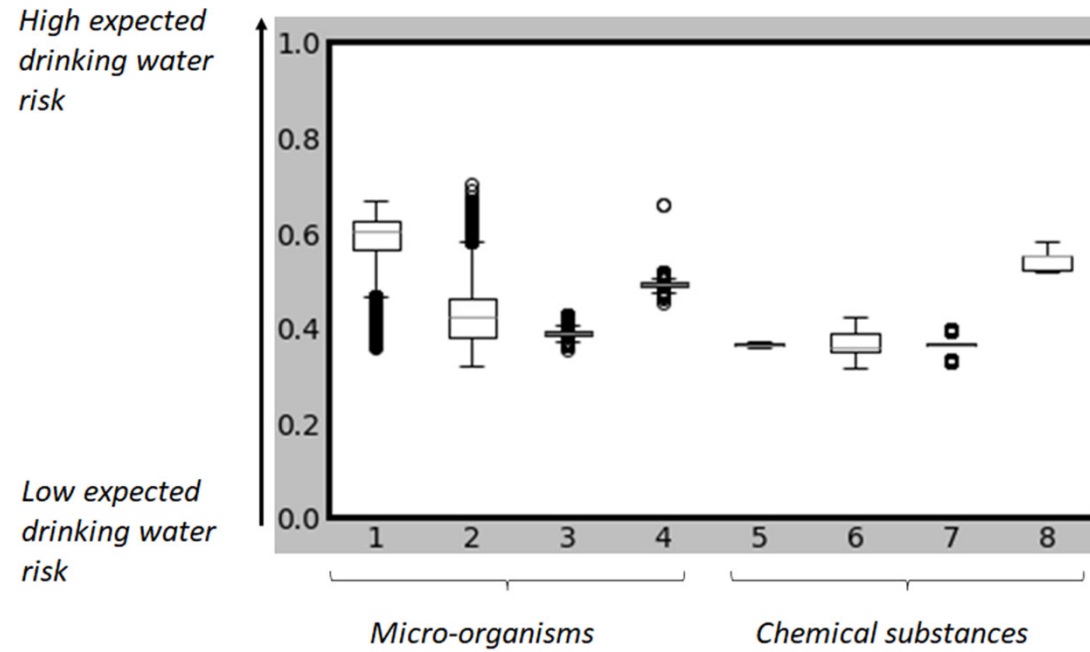


Structure model to prioritise contaminants of concern





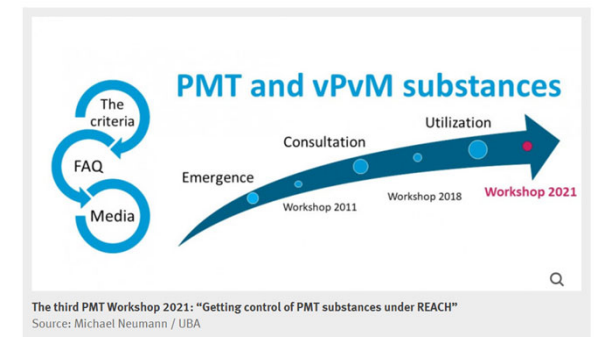
Results of prioritisation model





Practical application integrated approach

- > Combination of text mining & prioritisation model can be used for risk-based monitoring and was shown effective for early identification of emerging drinking water substances with monitoring campaign
- > Part of prioritisation model is used for screening methodology for persistent, mobile and toxic (PMT) chemicals





Thank you for your attention!

Interested in working for the RIVM drinking water team? We have vacancies!

- [Projectleider waterkwaliteit](#)
- [Onderzoeker Drinkwaterkwaliteit Data en modellen](#)
- [Onderzoeker Drinkwaterkwaliteit Materialen en veiligheid](#)
- [Onderzoeker Drinkwaterkwaliteit Bronnen](#)