



## The Public Health Status and Foresight report 2014: Four normative perspectives on a healthier Netherlands in 2040



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### ABSTRACT

Policy-oriented foresight reports aim to inform and advise decision-makers. In value-laden areas such as public health and healthcare, deliberative scenario methods are clearly needed. For the sixth Dutch Public Health Status and Forecasts-report (PHSF-2014), a new approach of co-creation was developed aiming to incorporate different societal norms and values in the description of possible future developments. The major future trends in the Netherlands were used as a starting point for a deliberative dialogue with stakeholders to identify the most important societal challenges for public health and healthcare. Four societal challenges were identified: 1) To keep people healthy as long as possible and cure illness promptly, 2) To support vulnerable people and enable social participation, 3) To promote individual autonomy and freedom of choice, and 4) To keep health care affordable. Working with stakeholders, we expanded these societal challenges into four corresponding normative scenarios. In a survey the normative scenarios were found to be recognizable and sufficiently distinctive. We organized meetings with experts to explore how engagement and policy strategies in each scenario would affect the other three societal challenges. Possible synergies and trade-offs between the four scenarios were identified. Public health foresight based on a business-as-usual scenario and normative scenarios is clearly practicable. The process and the outcomes support and elucidate a wide range of strategic discussions in public health.

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### 1. Introduction

It is well established that political decision-making processes in public health and healthcare involve trade-offs between competing interests and values [1–3]. Due to the fact that there is no consensus about a single most important goal, policy decisions in public health and healthcare can be contested in numerous ways [4,5]. Even the commonly recognized major public health goals of improving health and reducing health inequalities can be in tension with one other and deciding which to prioritise is a normative decision [6,7]. All decisions will have implications for sectoral budgets and priorities and will imply certain opportunity costs [8]. Moreover, health policy issues are likely to involve social considerations

beyond health outcomes alone - such as questions of equity, justice, or morality [9,10]. For instance, a decision to increase taxes on tobacco involves a normative decision about whether policymakers should intervene in this matter [11,12]. On the one hand, incompatible goals may lead to dilemmas in policy making that seem resistant to solution. On the other hand, a policy decision aimed at one goal may have positive effects on other goals as well: a win-win strategy [13].

Policy-oriented health foresight reports aim to inform decision-making processes [14,15]. In their scoping review on the use of the scenario-method in the context of health and health care, Vollmar et al. concluded that the scenario method is well suited for this purpose [16]. A wide spectrum of strategic aims is covered by heterogeneous variants of the scenario method [17–19]. Despite their large potential thus far, scenario methods are rarely used in public health [20].

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In general, three classes of future scenarios can be distinguished [19,21], answering the questions: what *will* happen (descriptive scenarios, trend extrapolations, business-as-usual scenarios); what *could* happen (foresighting, strategic scenarios) and what *should* happen (normative scenarios, desirable futures, critical futures). From the emerging literature on scenario methods, it is well established that for value-laden areas such as public health and healthcare, descriptive scenarios may not suffice and deliberative scenario methods are needed [15,22,23]. In these methods, foresight is considered less as problem solving than as a process of argument or debate [24]. This view sits well with the work of Weiss [25], who holds that a principal use of research for policymaking is conceptual: a source of enlightenment and a way of thinking about an issue [26].

## 2. The Dutch Public Health Status and Forecasts report (PHSF)

The Dutch National Institute for Public Health and the Environment (RIVM) has published a Public Health Status and Forecasts report (PHSF) every four years since 1993. The PHSF integrates research data on public health and identifies future trends in public health in the Netherlands. The report has grown into ‘an authoritative and structurally used source of information for government agencies and the public health sector’ [27]. In 2002, the Dutch Public Health Act gave the report an official status in public health policy making [28]: every four years, the PHSF provides the policy themes for the publication of a ‘National Health Memorandum’ by the Ministry of Health [29].

The format and focus of the PHSF have changed, reflecting developments in public health and policy making [28]. The percentage of people living with chronic illnesses has risen. In response to rising health care expenditures, a number of health system reforms have been implemented in the Netherlands. As a result, many public health functions and responsibilities were transferred from national to local authorities. Consequently, local Community Health Services started to translate the national PHSFs into their own local PHSFs. De Goede et al. studied the usefulness of these local reports for the development of local public health policy [30]. They concluded that local PHSFs did not fully connect to the existing belief systems of policy makers: “We noticed a constant tension between a medical, epidemiological approach (public health frame) guided by the national PHSF report, and a more societal frame.” [30]. Local PHSFs focused on priorities such as alcohol, overweight and depression, and neglected welfare issues such as social cohesion in neighborhoods, informal care and social participation of disabled people.

De Goede et al. pointed at a more general problem in evidence-informed public health policy making: the persistent disconnection between academic epidemiological research and the societal reality of national and local policy makers [2,31–35]. On the basis of a comprehensive review, Oliver et al. recommended public health researchers to involve stakeholders with diverse perspectives and lived experiences in their research [36]. Society’s “diverse perspectives are crucial for inclusive framing of ‘wicked’ public health issues that seem incomprehensible and resistant to solution” [5]. These new directions in evidence-informed policy research are clearly in line with the aforementioned literature on foresight and scenario methods [15,22].

In this article, we describe the sixth PHSF ‘A Healthier Netherlands’ [37], for which we developed a novel approach of co-creation to bring epidemiological research and societal perspectives together. The major future trends in population health and its determinants were used as a starting point for a deliberative dialogue with stakeholders to identify and formulate the

most important societal challenges for the Dutch health system. Working with these stakeholders, we expanded these societal challenges into four perspectives. These perspectives are “frames” that highlight certain aspects of a problematic situation, while obscuring others in order to define issues, diagnose causes, make moral judgments and suggest remedies [38,39]. To identify potential interrelationships between the perspectives, we organised meetings with experts to explore how engagement based on each particular perspective would affect all societal challenges. This approach was designed to clarify areas in which positive spin-offs could occur and win-win strategies could be created (opportunities). It would also identify areas in which negative side-effects could arise and where political and other choices would be necessary (options or dilemmas).

## 3. Materials and methods

Generally, The Netherlands is considered a pioneer and one of the most active countries in the field of foresight, in general, and policy-oriented foresight, in particular [15]. In The Netherlands, policy-oriented foresight is highly institutionalised [14,16,40]. In 2010, the Dutch Scientific Council for Government Policy (WRR) explored the practices of futures studies connected to policymaking in the Dutch national government. They offered a comprehensive conceptual framework that facilitates and structures thinking and communicating about the future [15].

According to the WRR, the future is not determined, nor is it an empty space in which we can move unhindered. The challenge for futures studies is to appropriately address both its open and its non-empty character. In policy fields for which it is not sensible to assume continuity or stability, or normative consensus, normative futures studies can provide added value by explicitly taking social and normative uncertainties into account. Images of the future are presented in terms of desirability/undesirability, related to values or political standpoints [15]. This method emphasises that images of possible futures are not neutral but represent particular desires, values, cultural assumptions and world views [41].

Inspired by the WRR-report [15], we chose a normative scenario approach for the sixth PHSF. The report consists of three components: (a) a trend scenario for population health in the Netherlands up to 2030; (b) future scenarios based on four normative perspectives; and (c) opportunities and options for health policy making.

### 3.1. A trend scenario for health in the Netherlands until 2030

A trend scenario assumes a continuation of historical trends with no new or additional policies being implemented (‘business-as-usual’) [15]. This trend scenario of the PHSF-2014 was based on analysis of historical trends and on a combination of demographic and epidemiological projections. If there were no adequate historical trend data available, a demographic projection was made, supplemented by findings from literature studies and assessments by experts. The future trends extended to 2030, whenever possible the time horizon was expanded to 2040 [42].

### 3.2. Future scenarios based on four normative perspectives

A normative scenario approach has successfully been utilised in the Dutch field of nature policy. In the Nature Outlook 2010, Van Oostenbrugge et al. described the past and present situations of nature in The Netherlands and identified various policy problems [40]. Part of the analysis of the past and present nature policy was a ‘deliberative dialogue’ [43] with stakeholders to make the various motives of people for being involved in nature conservation or development explicit. Important motives were found to be the intrinsic value of nature, the esthetic quality of nature, the

sustainable use of natural re-sources, and the utility of nature. A comparison of the problems and the motives provided four challenges for nature policy. These were in turn used to define four normative scenarios, describing alternative desirable futures of nature. By doing this, the scenario team inspired the discussion about the direction of nature policy [40].

To develop normative scenarios for Dutch population health and healthcare, we organised a similar participatory process in which more than 100 stakeholders were involved from a broad range of sectors (health professional, patient organisations, unions, students, insurance companies, national and local health policy makers). The major trends in population health and health care served as a starting point for a deliberative dialogue with stakeholders to identify and formulate the most important societal challenges for public health. These challenges were expanded into normative perspectives on public health. Each perspective centers on one of the societal challenges, with the other challenges subordinated. For each perspective, an ideal-typical vision of the future was constructed, including a strategy to get there (a normative scenario). These scenarios are archetypical descriptions of alternative images of the future, created from different perspectives on past, present and future developments in Dutch health [18]. They help to imagine a range of possible futures if we follow a key set of assumptions and normative considerations [20,44]. They are hypothetical in the sense that none of them will become reality in isolation from the other challenges.

Three stakeholder meetings were organised. During the first meeting in December 2012 we presented the provisional trend scenario. We enquired the stakeholder's expectations, motives and ideas on the future of public health and healthcare. What would be their roles and responsibilities? What were the major visions of the future of public health? After the first meeting, the research group framed the visions and societal challenges into four perspectives on public health. For each of the perspectives, a future scenario was described in which the envisaged outcome could be achieved, with possible societal developments taken into consideration. During the second meeting in April 2013 we discussed the draft perspectives and scenarios with the stakeholders. They were asked whether they recognised them and to add content to the description of the scenarios. In a final session in June 2013 we discussed possible synergies (opportunities), dilemmas and trade-offs (options) between the four perspectives. During the whole participatory process all documents and workshop reports were publicly available through a website.

In November and December 2013, an independent research agency (TNS NIPO) carried out a survey in a representative sample of the Dutch adult population to test whether the four perspectives and their accompanying future scenarios were recognisable and sufficiently distinctive [45]. A total of 1176 members of an online panel were invited to participate, 876 (75%) filled in an online questionnaire. Their responses were reweighted for sex, age, region, education and social class to represent the Dutch adult population [45].

### 3.3. Opportunities and options for health policy making

To identify potential interrelationships between the perspectives, we organised four meetings with experts: Life expectancy and burden of disease (Feb 26 2014), Participation and exclusion (March 7 2014), Autonomy of civilians and patients (February 20 2014) and Health budget and economy (March 6 2014). Beforehand the experts received information on the trend scenario, the trends in three indicators (see Table 3), and on the four perspectives.

The expert sessions were held in a Group Decision Room (GDR), an 'electronic meeting room' that enables fast and efficient stakeholder dialogue with real-time exchange of opinions, feedback of

results, brainstorming and discussions [46,47]. Several studies have demonstrated the usefulness of GDRs [48].

The participants were asked to rate the effects of the perspectives and their strategies on the trends in three indicators up to 2040, compared to the trend scenario. We used a 5 point scale ranging from -2 (substantially deteriorated compared to the trend scenario) to +2 (substantially improved compared to the trend scenario). The experts were then each given the opportunity to explain their ratings anonymously. These ratings and explanations were displayed on the screen, and discussed. After the discussion participants were asked to enter their final scores. Eventually, each expert session resulted in 12 mean scores, ranging from -2 to +2 (see the rows in Table 4). These scores show how engagement based on each particular perspective would affect the other three societal challenges and make it possible to identify synergies (opportunities) and dilemma's and trade-offs (options). The duration of the workshop, including a break, was about three hours.

## 4. Results

### 4.1. A trend scenario for population health and health care in the Netherlands up to 2030

The trend scenario of the PHSF-2014 was based on analysis of historical trends and on a combination of demographic and epidemiological projections (assuming 'business-as-usual'). Population ageing was a key factor in the trend scenario. As a result of the increased number of elderly people, the percentage of people living with chronic illnesses, including dementia, will keep rising. The number of people with multi-morbidity will rise as well. These trends are in line with recent forecasts in several other European countries [49,50]. By 2030, Dutch life expectancy would increase by a further 2–3 years and the percentage of people living with chronic illnesses will rise to 40%. The difference in life expectancy between people with low and high levels of education would remain 6 years, or grow slightly. Some negative trends in lifestyle factors – smoking and overweight – have been mitigated, but it remains to be seen whether that will be sustained. The most uncertain of all trends was the future evolution and impacts of health care expenditures. It was not yet known what the longer-term effects would be of many of the planned or recently implemented policy measures [42].

### 4.2. Future scenarios based on four normative perspectives in public health

The aforementioned major trends in public health served as a starting point for a deliberative dialogue with stakeholders. Four societal challenges for public health were identified and formulated:

- 1 To keep people healthy as long as possible and cure illness promptly
- 2 To support vulnerable people and enable social participation
- 3 To promote individual autonomy and freedom of choice
- 4 To keep health care affordable.

Working with stakeholders, we framed these societal challenges into four perspectives on public health. These are entitled 'In the Best of Health', 'Everyone Participates', 'Taking Personal Control' and 'Healthy Prosperity' (see Table 1). Each perspective centers on one of the four societal challenges; the others are subordinate. For each of the perspectives, we have drawn up an ideal-typical vision of the future in 2040 (see Table 2).

According to the 'In the Best of Health' perspective, in 2040 the Dutch will live longer and enjoy the best health in Europe. They

**Table 1**  
Four normative perspectives on public health: societal challenges, concerns and motivations.\*

Perspective	In the Best of Health 	Everyone Participates 	Taking Personal Control 	Healthy Prosperity 
Societal challenge	To keep people healthy as long as possible and cure illness promptly.	To support vulnerable people and enable social participation.	To promote individual autonomy and freedom of choice.	To keep health care affordable.
Concerns and motivations	<ul style="list-style-type: none"> <li>- Long, healthy lives</li> <li>- Healthy lifestyles</li> <li>- Protection from health hazards</li> <li>- Effective prevention and care</li> </ul>	<ul style="list-style-type: none"> <li>- Protection and support for vulnerable people</li> <li>- No person excluded</li> <li>- Social participation by people with health problems</li> <li>- Prevention and care targeted at vulnerable groups</li> </ul>	<ul style="list-style-type: none"> <li>- We know best what is good for us</li> <li>- The quality of our own lives is the prime concern.</li> <li>- Government enables individual initiatives.</li> <li>- Health care providers listen to us.</li> </ul>	<ul style="list-style-type: none"> <li>- Prosperity for both current and future generations</li> <li>- Government retains wherewithal for education and other public services.</li> <li>- Insurance premiums stay affordable for individuals and employers.</li> <li>- Cost-effective care for those who really need it</li> </ul>

\* More information about the PHSF can be found at: <https://rivm.archiefweb.eu/?subsite=eengezondernederland#archive> (see English version).

**Table 2**  
Four normative perspectives on public health: ideal-typical visions of the future.

Perspective	In the Best of Health	Everyone Participates	Taking Personal Control	Healthy Prosperity
Ideal-typical vision of the future	In 2040 the Dutch are in the best of health. We live longer and enjoy the best health in Europe. Because we live healthy lives, there will be fewer chronically ill people. The government protects us against all risks, related to the environment, nutrition and care. But if we fall ill we get the best health care to quickly get healthy again. Treatments are continuously improving thanks to the latest technology. We don't smoke, eat varied diets and have sufficient exercise, all to stay healthy. This perspective aims at prevention and care that focuses on cure. Curing diseases and the prevention of premature death, That's what it's all about in <i>In the best of health!</i>	In 2040 no one is excluded: everybody participates. We help each other: we ensure that the vulnerable can contribute to society as well, and technologies enable us to do so. In this perspective it is all about participating, by either working, learning or caring. Not only are health and medical care important, but well-being and work as well. Rehabilitation and mental health care play an important role in this perspective. Thanks to our care anyone can participate, including the weak. That's what it's all about in <i>Everyone participates!</i>	In 2040 we decide for ourselves what is good for us! We take control to ensure our own quality of life. Our social networks are our support. Only if we ourselves ask, will we get help and we determine ourselves from whom we get help. We take matters into our own hands. In this perspective it is all about quality of life, and what that means, we will define ourselves. We determine what is to be included in care: alternative medicine, life coaches, the choice will be ours. People can decide for themselves what they do or don't do and choose when to be content or satisfied. We take personal control!	In 2040 health care spending will be under control and we will ensure our prosperity. We will take action against waste and fraud. We will be looking to ensure sensible and efficient care. Technology will reduce our costs. We need to make sure our care stays affordable. There are so many other things we want to spend our money on: education, pensions or tax cuts. Prosperity will increase and the Netherlands will also remain financially healthy. In this perspective, you are healthy if you don't generate costs that must be reimbursed by your health insurance. Ensuring we pay only for those who really need it. No more, no less. Prudent and economical, with the government and health insurance companies as referees. That's how we can achieve healthy prosperity!

don't smoke, eat varied diets and have sufficient exercise, all to stay healthy. In the 'Everyone Participates' perspective no one will be excluded: everybody participates. People help each other, to ensure that the vulnerable can contribute to society as well. The third perspective, 'Taking Personal Control', people will decide for themselves what is good for them! People will take control to ensure their own quality of life. In the fourth perspective, 'Healthy Prosperity', in 2040 health care spending will be under control to ensure prosperity. Actions will be taken against waste and fraud.

As can be seen in Table 3, notions such as 'health', 'prevention', 'health care' and 'quality of care' have different meanings in each perspective. According to the 'In the Best of Health' perspective, 'health' is understood mainly as the absence of disease. By contrast, in 'Everyone Participates' clinical diagnoses are irrelevant, since social participation is the vital concern. The third perspective, 'Taking Personal Control', contains no universally valid conception of health. Individual people determine that for themselves. In the

fourth perspective, 'Healthy Prosperity', 'health' stands mainly for as little health care spending as possible.

Furthermore, the interpretations given to the notion of 'quality of care' are different in each perspective (see Table 3). Under 'In the Best of Health', health care quality means that illnesses are cured and premature death is avoided. Under 'Everyone Participates' the emphasis is on the effects of health care on social participation. In 'Taking Personal Control', each individual determines what good-quality care is, and in 'Healthy Prosperity' good care is primarily cost-effective care for those who really need it.

The survey in the Dutch adult population showed all four perspectives to be recognisable and sufficiently distinctive [45]. When the respondents were forced to choose, 'Everyone Participates' was found to have most supporters (38%). Then came 'In the Best of Health' (27%), 'Healthy Prosperity' (21%) and finally 'Taking Personal Control' (14%) [45].

**Table 3**  
Four normative perspectives on public health: definitions of health, prevention, care and quality of care and crucial outcomes.

Perspective	In the Best of Health	Everyone Participates	Taking Personal Control	Healthy Prosperity
Definition of health	You're healthy if you do not have a disease; a healthy lifestyle is a healthy diet, sufficient exercise and not smoking.	You're well if you participate.	Health primarily means quality of life; individuals determine for themselves what that involves.	You're healthy if you generate no costs for curative or long-term care.
Definition of prevention and care	Care consists of prevention and curative treatment.	Care extends beyond medical care and includes services for welfare, occupational health, mental health and rehabilitation.	Prevention and care are broad notions that may include alternative medicine and life coaching.	Collectively funded care is narrowed to essential services.
Definition of health care quality	Quality care means curing the ill and preventing premature death.	Quality care enables social participation, with a particular focus on the vulnerable.	Quality care ensures well-being, as determined by each individual.	Quality care is relevant and cost-effective, as determined by the health ministry and insurance companies.
Crucial outcomes	Mean overall population measures of life expectancy, recovery rates and lifestyles.	Differences between population groups in employment, education and societal inclusion.	Individual self-reported quality of health.	Overall budget impact.
Three indicators for expert sessions	- Life expectancy at birth - Percentage people with chronic illness in population - Burden of disease (in DALYs)	- Employment of people with chronic disease - Social participation with physical disabilities - Socio-economic differences in perceived quality of health	- Self-control - Self-reported quality of health - Shared decision making	- Per capita health care costs - Household consumption - Labor productivity per hour

#### 4.3. Opportunities and options for public health policy making

To identify potential interrelationships between the four public health perspectives, we organised four expert meetings to explore how engagement based on each particular perspective (see the columns in Table 4) would affect indicators of the societal challenges (see the rows). The green diagonal in Table 4 is self-evident: all perspectives are expected to foster improvements on their own indicators.

Table 4 indicates that according to the experts promoting health and longevity from the Best of Health perspective, results in fewer activity limitations for people with long-term illnesses. That could improve their participation – one of the concerns in the Everyone Participates perspective. Conversely, when from the Everyone Participates perspective more effort goes into boosting educational and labor participation in vulnerable social groups, the overall burden of disease could lighten – one concern in the Best of Health perspective. In due course, improvements in health, education and labor productivity will jointly foster greater affluence, an important outcome in the Healthy Prosperity perspective. However, putting more effort into improving health and participation may lead to higher health care expenditure. That could be at odds with another important goal in the Healthy Prosperity perspective – controlling health care expenditures. More participation and more health care expenditures could have conflicting effects on societal prosperity.

If more room is created for diversity and freedom of choice – concerns under the Taking Personal Control perspective – there will be some vulnerable groups that are insufficiently equipped to cope with it [51]. That makes them unable to fully participate in society, a concern in the Everyone Participates perspective. If effort is made to enhance participation in vulnerable social groups on the basis of the Everyone Participates perspective, their participation will improve. In turn that could enhance well-being, autonomy and shared decision-making – concerns in the Taking Personal Control perspective. Providing support and assistance to vulnerable groups could lighten the disease burden for the entire population, which is one concern in the Best of Health perspective.

Many policy papers advocate a stronger role for individual citizens and patients. Efforts from the Best of Health perspective to improve health and longevity could increase pressure on people to practice healthy living, thereby potentially placing limits on their autonomy and on shared health decision-making – concerns in the Taking Personal Control perspective. Similar consequences could arise if freedom of choice in health care were to be constrained on the basis of the Healthy Prosperity perspective, in an attempt to curb rising expenditures. Autonomy and freedom of choice could be in jeopardy if priority is given to other concerns.

## 5. Discussion

Policy-oriented public health foresight reports aim to inform decision-making processes. It is well established that political decision-making processes in public health involve trade-offs between competing interests and values [2]. For value-laden areas like public health, descriptive scenarios (projections) may not suffice and deliberative normative scenario methods are needed [22]. In these methods, foresight is considered less as problem solving than as a process of argument or debate [24].

Since 1993, the Dutch Public Health Status and Forecasts Reports (PHSF) have developed into the source par excellence for integrated knowledge about public health in the Netherlands [27]. For the sixth PHSF: *A Healthier Netherlands* [37], the major future trends in public health were used as a starting point for a deliberative dialogue with stakeholders to identify and formulate the most important societal challenges for public health. Working with these stakeholders, we framed these societal challenges into four normative scenarios. These scenarios help to imagine a range of possible futures. In the PHSF-report, we deliberately did not formulate a preference for any one perspective [37,52].

The ageing population was the key factor in the trend scenario. As a result of the increased number of elderly people, the percentage of people living with chronic illnesses, including dementia, will rise. This is in line with recent projections in other European countries [49]. Four societal challenges for public health were iden-

**Table 4**

The outcomes of four expert meetings to explore how engagement based on each particular perspective (see the columns) would affect indicators of the societal challenges (the rows).

				
<i>A long life without disease</i>				
Life expectancy	+1.6 	-0.5 	-1.2 	-0.7 
Prevalence chronic diseases	+1.2 	-0.3 	-0.8 	-0.2 
DALY's	+1.1 	+0.3 	-1.1 	-0.6 
<i>Participation of vulnerable people</i>				
Participation of people with chronic disease	-0.1 	+1.3 	-0.6 	-0.4 
Participation of people with disabilities	-0.1 	+1.4 	-0.1 	-0.6 
Socioeconomic differences in experienced health	0.0 	+0.6 	-0.6 	-0.6 
<i>Autonomy and freedom of choice</i>				
Mastery and sense of control	-0.8 	+0.4 	+0.8 	-0.2 
Subjective well being	-0.5 	+1.2 	+0.2 	-0.3 
Shared decision making	-1.0 	+0.2 	+1.1 	-1.0 
<i>Sustainable health care costs</i>				
Total health care costs	-1.1 	-1.3 	-1.3 	+1.2 
Household consumption	-0.8 	-0.2 	-0.3 	+1.3 
Labor productivity	+0.5 	-1.3 	-0.3 	+0.3 

-  substantially improved compared to the trend scenario (scores between +0.4 and +2.0)
-  slightly improved compared to the trend scenario (scores between +0.2 and +0.3)
-  in line with the trend scenario (scores between -0.1 and +0.1)
-  deteriorated compared to the trend scenario (scores between -2.0 and -0.2)

tified and formulated: to keep people healthy as long as possible and cure illness promptly, to support vulnerable people and enable social participation, to promote individual autonomy and freedom of choice and to keep health care affordable. These challenges and their corresponding perspectives are clearly recognisable [1,45].

The perspectives can be recognised in recent academic articles on public health [51,53]. For example, three of them – 'In the Best of Health', 'Taking Personal Control' and 'Healthy Prosperity' – have been captured in the well-known Triple Aim framework for quality improvement in health care. In a recent review, Mery et al. proposed to include equity on a population level (a goal in 'Everyone Participates') as an additional fourth aim [53]. Furthermore, in a tool to include values in evidence-based policy making for breast cancer screening, all four challenges were identified as relevant principles [1].

The perspectives can be of help in strategic discussions that take place within and between various groups of stakeholders. They clarify issues where choices or additional efforts need to be made, as when prevention measures clash with individual freedom of choice and autonomy. It may help to solve wicked public health issues that seem incomprehensible and resistant to solution, and to co-create solutions that will have traction and legitimacy [5].

The first PHSFs were published during a period of gradual changes in public health policy in the Netherlands; the primary emphasis was on continuity. The central principles of policy were

to keep people healthy as long as possible, to cure the ill as rapidly as possible, to support people with disabilities and to promote social participation. In hindsight, 'In the Best of Health' and to a lesser extent 'Everyone Participates' were the leading perspectives in the earlier PHSFs. This may explain the tension between a medical, epidemiological approach (public health frame) and a more societal frame of the policymakers in local health policy making, as was described by De Goede et al. [30]. Since that time, changes in the field of public health and healthcare have gained quite some momentum. Vocal citizens now make their demands known in public debate, in doctors' surgeries and via social media. Commercial firms have discovered health as a growth market and an economic recession has diminished the belief in unlimited growth [37]. As a result, policy makers in national and local public health definitely need insights from the other perspectives as well.

A parallel development can be found in discussions on quality of health care, and guidelines in particular. For example, in Dutch nursing homes the quality of care has been anchored in strict guidelines for food intake and the prevention of infectious diseases [54]. These guidelines – inspired by the ideas central to the In the Best of Health perspective – leave not much room for optimal wellbeing, as determined by the individual inhabitants and their families. For example, families may not be allowed to bring the inhabitant his favorite food for his birthday.

In the Best of Health had been the leading perspective for the development of clinical treatment guidelines as well [1,55]. However, in recent guidelines recommendations take into account resource use (Healthy Prosperity), equity and financial accessibility (Everyone Participates) and shared decision making (Taking Personal Control). Interestingly, social outcomes in terms of employment or social participation (Everyone Participates) are seldom addressed in clinical guidelines [55].

Our ultimate goal was to have our analyses being put to use in a wide range of strategic discussions and determinations. In some areas this is happening. The Ministry of Health, Welfare and Sports, for instance, has employed the trend scenario in formulating long-term objectives for its National Prevention Programme (NPP) [56]. The Netherlands Organisation for Health Research and Development (ZonMw), the funding organisation for health and health care research, has given the four challenges a central place in its Fifth Disease Prevention and Health Promotion Programme [57].

To familiarise national and local health policymakers with the PHSF-2014, we developed a serious game that can be played at both national and local levels [58]. It is available in Dutch on the website [game.eengezondernederland.nl](http://game.eengezondernederland.nl). Several community health services have contacted us about employing this scenario method – which involves stakeholders, projections and perspectives – at the local level [58]. Interest has also been expressed from the health care sector, partly in response to a series of articles about the PHSF-2014 in the Dutch medical journal [42,52,55]. In the most recent PHSF, published in 2018, the perspectives have also been used. For example, the most relevant health trends in the future were selected to cover the main facets of the different perspectives. Three important challenges were selected in such a way that they were relevant from two or more perspectives [59].

## 6. Conclusions

No consensus exists on the most desirable future for public health and healthcare in the Netherlands. The ultimate answers will depend on the normative preferences that people have about which societal challenges are most important. The four perspectives that we have been exploring have made that diversity in visions more explicit. This can be of help in strategic discussions that take place within and between various groups of stakeholders. We have highlighted a number of different opportunities for establishing links between various stakeholders and interests. One conclusion of our exploration has been that measures to address certain challenges may also lighten other challenges. Efforts to improve health tend to stimulate social participation, thereby boosting societal prosperity. Fostering participation by vulnerable groups may lead to greater personal autonomy. Focusing explicitly on ‘side-effects’ such as these helps to forge links between the various public health challenges. And in cases where challenges do not seem compatible, such a focus on ‘side-effects’ can clarify issues where choices or additional efforts need to be made, as when prevention measures clash with individual freedom of choice and autonomy.

## Declarations of interest

None.

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