Consenting on essential oral health care benefit basket

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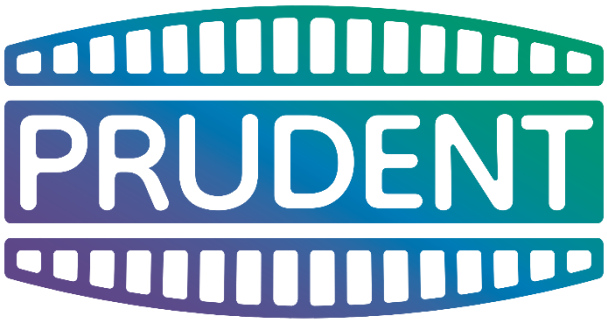

PRUDENT

Prioritization, incentives and resource use for sustainable dentistry

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Contents

Abstract

Introduction

Most countries worldwide cover oral health (OH) only partially within public systems compared to other health services. As a result, OH care can incur financial hardship for those in need and is the second main driver of catastrophic health spending in Europe. Efforts to improve OH coverage and integration into public health systems have gained momentum; however, the lack of consensus on defining 'essential' OH and how to set an essential OH benefits basket remains a challenge.

Objectives

This study aims to address these research gaps by conceptualizing what is deemed 'essential' in OH care in Europe and exploring criteria and perspectives to inform systematic and evidence-based prioritization mechanisms.

Methods

Study Design: This exploratory qualitative study employs focus group discussions (FGDs) to gather diverse perspectives on essential oral health (OH) services. Ethical approval was obtained from Newcastle University (Ref: 33388/2023).

Participants and Recruitment: Employing a maximum variation sampling strategy, participants were purposefully sampled. We recruited 33 experts in OH, law and health economics from Denmark, Estonia, France, Hungary, Netherlands, Portugal, and the UK, and the 182 members of the general population in Germany and Hungary.

Data Collection and Analysis: Data collection involved open-ended discussions and was conducted in English and French, utilizing a specially developed topic guide. Thematic and content analyses were conducted using ATLAS.ti 22, involving coding, theme development, and category structuring.

Findings

The definition of 'essential' in OH is a fluid and context-specific concept, varying with individual, cultural, socioeconomic, and temporal factors. 'Essential' in OH was also associated with Maslow's hierarchy of needs pyramid. A third dimension of 'essential' OH is 'good' OH, encompassing both survival functions and psychosocial needs, and recognized the strong link between oral health and general health. Participants highlighted broader factors beyond coverage of OH services, such as the impact of high sugar consumption on oral health. Participants stressed the importance of achieving various goals within the OH system, including equity in access, quality of care, responsiveness, and affordability, to enhance overall oral health outcomes.

When discussing the considerations to define OH coverage, participants recognized the diverse forms an OH benefits basket could take, including positive or negative lists of services, conditions, or population groups. Regarding the decision-making process, interdisciplinary involvement of stakeholders like patient representatives and oral health professionals was deemed crucial, emphasizing evidence-based decision-making. Various criteria for decision-making were mentioned, including contribution to OH, economic factors, people-centered care, societal values, and feasibility, aiming for effective and equitable access to care, while considering resource implications and administrative burdens

Most OH service groups were considered essential, particularly preventive measures, with individual preventive oral services being most frequently labeled 'essential' (n=49). Population-wide and self-care prevention measures followed as the second essential group of services (n=44). Emergency care was also frequently regarded as essential (n=40). Diagnostic oral services, advanced oral healthcare, and treatments for prevalent oral health issues were also considered essential, albeit to a lesser extent. When asked to prioritize population groups for coverage under limited resources, participants favored coverage for ‘everyone’ or coverage ‘based on need’. Children and adolescents were highly prioritized, followed by high-risk patients, older adults, and low-income populations. Notably, no population group was classified as non-essential across all focus group discussions. Cosmetic dental services were seldom seen as essential for specific population groups, except for a few instances linking them to low-income populations.

Conclusions

This work highlights the complexities of defining an OH benefits basket and proposes a four-step model to guide its formulation, emphasizing transparency, evidence-based decision-making, and stakeholder involvement. The study advocates for equitable coverage, particularly for vulnerable populations, reflecting a nuanced understanding of 'essential' OH services, with a consensus on prioritizing preventive measures and urgent care, especially for children.

Introduction

Most countries worldwide cover oral health (OH) only partially within public systems compared to other health services, meaning that many services and/or populations groups are not covered publicly, or that costs are only partially covered publicly. For example, in OECD countries, government and compulsory insurance spending as proportion of total health spending make up only 32% for dental care, while it is 87% for hospital care (OECD, 2021). As a result, OH care can incur financial hardship for those in need, and is the second main driver of catastrophic health spending in Europe (World Health Organization and International Bank for Reconstruction and Development / The World Bank, 2021). Globally, catastrophic expenditure on OH is more prevalent among wealthier, urban and larger households and in higher income countries. Yet, the negative effects of limited public spending on OH are underestimated, as lower-income and vulnerable households report higher rates of unmet needs, with negative consequences on individuals' health (Masood et al., 2015; Thomson et al., 2019; World Health Organization and International Bank for Reconstruction and Development / The World Bank, 2023). The threats in inadequate coverage of OH include not only financial hardship, but for those who forgo (adequate) care, the exacerbation of oral diseases can lead to high disease burdens, including infections, emergency hospital admissions, or even death (Bayetto et al., 2020; Williams et al., 2019).

The need to better cover OH and integrate it into public health systems has recently gained increased momentum in policy agendas (Benzian & Listl, 2021; Winkelmann et al., 2023). For example, since 2019, the WHO has been developing a global oral health action plan that aims to integrate oral health care into the UHC (WHO SEVENTY-FOURTH WORLD HEALTH ASSEMBLY, 2021; World Health Organization, 2021). At the same time, the Lancet established a Commission for Oral health[1] (The Lancet, n.d.) to create evidence, support the improvement of access to OH globally and reduce inequities. In parallel, the World Dental Federation published the "FDI Vision 2030" advocating for delivering optimal oral health for all. One of the three pillars is the inclusion of "essential" oral health services into the general medical health care systems by the year 2030 (Michael Glick, 2021). Yet neither these initiatives or their documents define what is an essential oral health service or the set of criteria to be used in defining those. In addition, a framework on how to define an essential benefits basket is still lacking (Jashni et al., 2023). A systematic review found that having an OH benefits package is a precondition to integrate OH into primary care (Christian et al., 2023), but it does not specify how to set or define this package. The WHO defined a "basic package for OH" two decades ago (2002), focusing on low-income countries (Frencken et al., 2003). This package was meant to be the starting point for countries to develop their own context-specific benefits packages of OH, but does not guide on how to do that. Moreover, to our knowledge, this list was not revised or updated since then.

Unlike other health services, public coverage of OH varies widely across countries (Henschke et al., 2023; Klingenberger et al., 2021). Many high-income countries in Europe and Canada commit to a minimum level of basic dental care that usually includes preventive care, such as routine oral exams, X-rays, fillings, management of gum diseases and tooth extractions (Allin et al., 2020; Henschke et al., 2023; Winkelmann, Gómez Rossi, Schwendicke, et al., 2022) (although for most population groups these still require co-payment from individuals). Yet, even in those countries there are many fewer prioritization mechanisms, or OH technology

[1] http://oralhealthcommission.org/about-the-commission/

assessment tools, and the way OH benefits baskets are set is less systematic, evidence-based and transparent than other health services (Winkelmann, Gómez Rossi, & van Ginneken, 2022). Little is known about how to define "essential" when it comes to OH and how to set an essential OH benefits basket.

The present work aims at filling two research gaps. The first is to conceptualize what is "essential" in the context of OH care in Europe. The conceptualization is a starting point for policymakers to consider how to approach the inclusion of OH into the health system. Specifically, it is important for policy makers to understand aspects of OH care deemed essential beyond specific services. The second research gap this study aims at filling is exploring the criteria deemed important to define an OH service as "essential". More specifically, and deriving from the criteria, the third objective is to explore what types of services and populations are considered essential to be covered. This information may support policymakers when creating a context-specific, systematic, evidence-based and transparent prioritization mechanism when including OH into the health system's benefits basket. This qualitative study explores the perspectives of OH professionals and the general population, including both patients and those who forgo care, to have a broad and complete range of ideas, preferences and needs. These objectives fulfill the achievement of T2.2 as per the PRUDENT research proposal (see Box 1 below). The following section describes the methods applied to achieve these aims. Then, the results are presented, followed by a discussion, implications for policy makers, and conclusions.

Box 1: Objectives of T2.2, from the research proposal

As per the PRUDENT proposal, the aims of D2.1 are to report on the achievements of T2.2, that aimed "to establish a consensus on what constitutes essential oral care" (WP2) (pg. 5). Specifically, PRUDENT proposed co-developing, together with citizens and oral health experts, a first consensus on what an essential oral health care benefit basket should include in the European context.

This task included the use of focus group discussions, to build consensus on public preferences on oral health care coverage. The aim is to co-develop a shared vision of citizens' and professionals' views and priorities of insurance coverage for oral health care, and on their preferences of patient incentive mechanisms (e.g. regular dental check-ups entitle to higher cost coverage). This task will allow us to establish the relative value of possible insurance packages. The list of prioritized issues for oral health coverage will serve to inform WP3 and the consecutive case studies in WP6.

Methods

In the following paragraphs the methods applied in this study will be presented.

Study design

This is an exploratory study applying a qualitative approach and collecting data from focus group discussions (FGDs). This study is part of the PRUDENT project (WP2), which uses a transdisciplinary research approach to develop and implement an innovative and context-adaptive framework for optimal financing of oral health care that enables access to essential oral health care for everyone without causing financial hardship. The study, data collection tool and methods received ethics approval from Newcastle University (Ref: 33388/2023).

Study participants, sampling and recruitment strategies

With the aim to identify heterogeneity in the perspectives regarding what is an essential service in the context of oral health in Europe, we applied a maximum variation sampling strategy (Patton, 2014). Participants were purposefully sampled from two population groups across eight european countries (Denmark, Estonia, France, Germany, Hungary, Netherlands, Portugal, UK). A total of 215 participants were recruited, of which 73 were included in the current analysis (see table 1). We chose population groups with different levels of experience with oral health care, both from the supply and demand side. The first group were experts, members of the PRUDENT consortium. The group included professionals from various areas such as experts in OH, dentists, dental hygienists, health economists, lawyers and legal health experts, academics specialists in public health or health systems and funding (see table 2). This method is appropriate for identifying and selecting individuals that are especially knowledgeable about or experienced in the subject matter (Creswell & Plano-Clark, 2011).

The second group was members of the general population, and included both users of OH services and those who forgo care. Participants were purposefully sampled based on a two-step set of criteria. The first step was based on inclusion and exclusion criteria:

- Inclusion criteria: individuals aged 18 years or more, who are eligible for OH care covered by the public benefits package of the health system in their country of residence.
- Exclusion criteria: individuals younger than 18, and those that are not able to communicate, including those that cannot communicate in the local language.

The second step attempted to further increase variation in opinions and provide a rich range of perspectives, and added the following to criteria purposefully sample participants: age groups (18-30; 30-50; 50-70; 71+), levels of education (higher and else), and being responsible for other people/dependents (yes/no).

In Germany, recruitment was done from master students of public health at the Berlin School of Public Health. In a second step, more FGDs will collect data from a more varied range of ages and education levels. In Hungary, participants were recruited from the Semmelweiß University and associated hospital. Three subgroups were invited to participate: Non-dental patients from Semmelweiß University hospital and their family members (if available); circle of acquaintances from the HU team; students were recruited directly in the Semmelweiß University's faculty of dentistry. Due to time constraints, data collected in Hungary (23 sessions of FGD) were not yet analyzed and is not presented here, but will be included in the final analysis.

No monetary or other form of compensation was given to any participant. All participants read and signed an informed consent form agreeing to participate in the FGD (see annex X).

Table 1: Participants included in the analysis

	Experts	General population from Germany	General population from Hungary*
Number of participants included	33	40	142
Number of FGDs	5	6	23
Average number of participants per FGD	6.6	6.6	6.2

*Due to time constraints this data is excluded from the analyses in this report but will be part of the scientific publication

Table 2: Experts' characteristics

Background						
Specialized dentists	Dentists	Oral Health hygienist	Public Health	Health Economist	Health System specialist	Law specialist
2	11	1	5	9	1	4
Country of residence						
Denmark	Estonia	France	Hungary	Netherlands	Portugal	UK
2	2	5	4	8	3	5

Data collection and analysis

Data collection started in June and ended in August, 2023. Data were collected through an open-ended topic guide specially developed for this study (see Annex). It included four questions, with the first two about the concept of 'what is essential for OH', and 'what is an essential OH service'. For questions 3 and 4, participants were shown a table (see table 3) and were requested to select the services and population groups considered essential to be covered. The topic guide was adapted according to the population group and amended after the first session of discussions. The questions were asked during focus group discussions, conducted in English, French and Hungarian, with an average duration of one hour, depending on the number of participants. FGDs with the experts were conducted, recorded and transcribed verbatim via Zoom and Microsoft Teams softwares. FGDs with the German population were conducted in person, and audio recorded and transcribed verbatim with Notta software. FGDs with the Hungarian population were conducted and recorded digitally via zoom, transcribed with Alrite software, then checked for quality manually. Transcripts in

Hungarian and French were translated via DeepL software into English, followed by another quality check.

Thematic and content analysis was conducted with ATLAS.ti 22. Data were divided into three main domains of the research project. The two first domains were analyzed using a thematic analysis approach. It included (1) codes from questions 1 and 2 related to conceptualizing 'essential' in OH, and (2) codes from questions 1 to 4 related to considerations to define the OH coverage. The third part included codes from questions 3 and 4, which were analyzed using a content analysis approach (Hsieh & Shannon, 2005).

Thematic analysis of the data involved familiarization with the transcripts, coding, and finally, building themes (Braun & Clarke, 2006, 2014). Intercoder validity was applied throughout the whole process: all transcripts were read, analyzed, and coded independently by three researchers, who then cross-validated and reconciled the coding. The coding process was half inductive and half deductive, with the codes emerging from the transcripts of questions 1 and 2; and when analyzing data collected from questions 3 and 4, codes were initially build based on the oral health services' framework (Winkelmann, Gómez Rossi, & van Ginneken, 2022). Codes were discussed, compared, and further developed repeatedly between the involved researchers.

Table 3: Types of services (Scope)

Type of benefit	Services and procedures
Population-wide and self-care prevention measures	Community water fluoridation, salt fluoridation, fluoridated toothpaste, and maintaining oral hygiene
Emergency and urgent oral health care	Infection, swelling, pain, or serious bleeding
Diagnostic and preventive oral services	Early detection, X-rays (bitewing, periapical, full-mouth), Oral cancer screening, Removal of plaque, calculus and stains from the tooth structures, Fluoride application (varnish, gel) Fissure sealant, Oral hygiene, Dietary or smoking cessation advice
Treatments for the most prevalent oral health problems	Most curative and basic restorative services including fillings and root canals, extractions, oral and maxillofacial surgery
Advanced oral health care	• Prosthetic or orthodontic services • Major restorative care, including dentures, bridges, inlays/onlays, and crowns
Cosmetic dental services	Teeth whitening, tooth bonding, Dental veneers

Source: Winkelmann et al (2022) Oral health care in Europe –Health in Transition (HiT) Review 2022 https://tinyurl.com/OBSoralhealthHIT

Data for the content analysis was based on answers from questions 3 and 4 and analyzed into four steps. First, the groups of services from the table were classified by participants into five levels of 'qualifiers' ranging from "essential" to "non-essential". Second, we analyzed data regarding the populations covered in combination with qualifiers, to understand which population groups should be prioritized. Third, population groups that were created in the previous step were combined to the services to examine the frequency to which OH services are prioritized for each population group. This helped us draw conclusions about which services are relevant for whom.

Findings

Conceptualizing ‘essential’ in OH – thematic analysis.

We identified 64 codes from questions 1 and 2 as relevant to conceptualizing what ‘essential’ means in OH. These were grouped into four categories: Perspectives on ‘essential’ for OH; Definition of ‘good’ OH; Essential services; and Broader OH considerations (Figure 1).

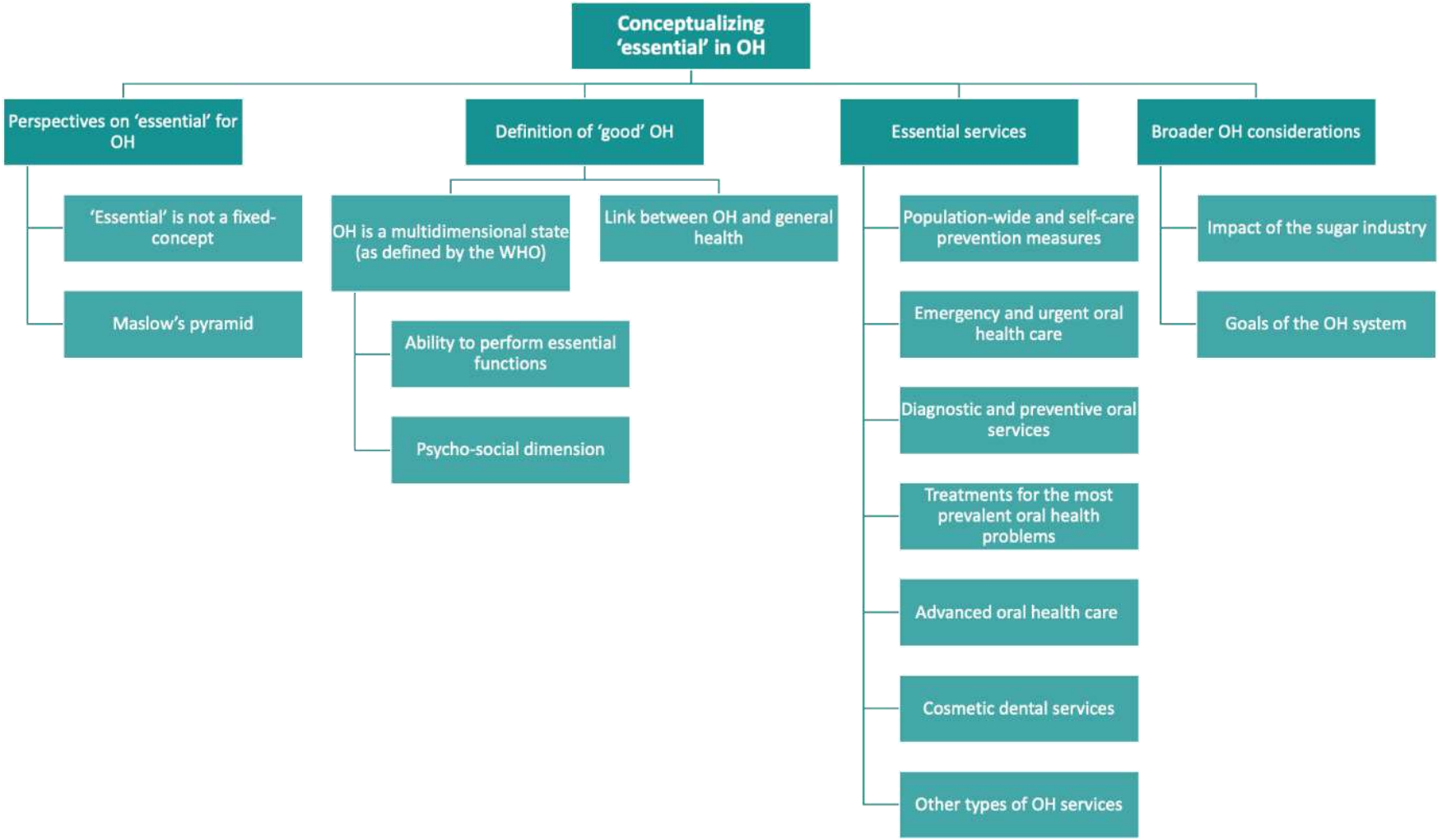

Figure 1. Themes and categories that conceptualize 'essential' in OH

Perspectives on 'essential' for OH

When asked what 'essential' means, many participants (92 quotes across all FGDs) mentioned ideas that revolve around the broader notion that essential is not a fixed concept. Essential was indeed often seen as individual-specific, meaning that it may vary with age, health status, gender; and context-specific, meaning it may vary with culture, socio-economic status, country of origin, or over time. As expressed by participants from the general population and expert groups:

"I don't know if it's really anything but like inter-individuality. In one sentence. It varies from individual to individual. And you can't make any general statements for this. So, you have to ask every person's context." [General population, Germany]

"I think that the essential differs from different parts of the society and in different countries too, of course. So, essential is not the same for everybody." [Expert]

Some participants also mentioned that essential may vary with time as it varies throughout an individual lifetime but may also differ now compared to past and future decades, notably due to practice and material innovations and the evolution of the standards of living. As illustrated by one of the experts:

"[…] there are more and more people who do not access fluoridated toothpaste, […] Historically, fluoridated toothpaste was implemented in the 70's-80's. It used to represent almost 95 % of the toothpaste market and 15-20 years ago it was considered granted the fact that everyone was brushing their teeth with fluoridated toothpaste but today, for many reasons, this is challenged." [Expert]

Other participants described 'essential' related to specific levels of "Maslow's pyramid". Maslow's pyramid of needs is a hierarchy of five levels of human needs: physiological needs (e.g., air, water, food), safety needs (e.g., employment, resources, health), love and belonging (e.g., friendship, sense of connection), esteem (e.g., respect, self-esteem, recognition), and self-actualization. These levels go from bottom to top, and fulfilling one level of needs requires for the lower levels to be fulfilled as well (A. H. Maslow, 2000; Guy-Evans, 2023). In the context of OH, participants argued that defining the level of 'essential' for OHC could be based on that hierarchy of needs, as depicted with this discussion between experts *"- Maybe you may have to start with the pyramid, where you must have a home, have food. Go to the essential needs, the needs that are really fundamental […] - Physical activity as well. I think there is sleep. Maslow's pyramid? - Yes, exactly. So, there are fundamental needs, and this is the basis."* [Expert]; while others described the meaning of 'essential' by referring to vocabulary such as 'basic needs' or 'survival needs', which can be associated with the different types of levels described in Maslow's pyramid, as expressed by a German participant *"Still struggling with what I understand from the term essential. I was wondering does essential mean that I need it? That I really have to have this to maybe survive or something that could be as essential. Like I need drinking, that's essential for me."* [General population, Germany].

Definition of 'good OH'.

There was a consensus among participants that OH is a multidimensional status, as it is captured by the WHO definition. 'Good OH' is indeed defined by the WHO as a state of health that enables individuals to perform essential functions of eating, breathing, and speaking, while also integrating psychosocial dimensions such as mental health, wellbeing, self-confidence, socializing, and working (World Health Organization, 2023). Participants from the

general population were not aware of the WHO definition before question 2, yet all focus groups mentioned most of the ideas relating to the 'good OH' definition even before they saw the WHO definition.

'Good OH' was often described by participants as the absence of pain, symptoms, or impact on daily life:

"Essential is everything that keep everybody healthy without pain." [General population, Germany]

"I would say that not having pain or any discomfort is essential." [Expert]

While there was a consensus on the ability to perform essential functions as 'good OH', participants in all groups also mentioned the psychosocial dimension such as mental health, social integration, or general well-being:

"Mental health gets bad because someone isn't feeling comfortable with their oral aesthetics. Then, the person might not able to take care of their oral health. So, it declines." [General population, Germany]

"[…] There's probably less emphasis on the kind of life-threatening aspect and possibly a bit more emphasis on the appearance aspect, which will potentially lead to psychosocial, well-being and mental health consequences, which may not be true of other aspects of health to such a great degree. So, I think all of those things are present in both health and oral health. It's just that the emphasis is different." [Expert]

Within the psychosocial dimension, the impact of the mouth and teeth aesthetics on both how individuals are perceiving themselves and are perceived by others was mentioned by many participants as a central element on one's 'good OH', as depicted by these participants:

"[…] talking about the psychosocial dimensions, it could be really important to have these beautiful teeth to maybe also feel confident." [General population, Germany]

"[…] not only for the health, but also for also for mental health. Because if you don't have good teeth, then everybody can see it directly." [General population, Germany]

Additionally, some also highlighted the strong link between oral health and general health, as OH may both impact individuals' general health, as illustrated by this participant *"We had a trauma surgeon where I was working, his first thing was also to look at people's mouths because he said that a lot of pain, like back pain and neck pain, actually comes from your teeth […] [oral health] is connected to a lot of different body pain. […]"* [General population, Germany], and be impacted by the general health, as expressed by this participant "[…] if there is a serious bleeding or an infection […] [caused by the] teeth or oral infections, it can impact the heart." [General population, Germany].

Essential services.

Participants mentioned the service categories stated in table 3 as essential, even before they saw the table. As expressed by experts, specifically preventive care, *"I suppose if you're starting up from a very sort of raw basis, it should be ensured that we have functioning dentition, and probably a lot of that is to start off with the preventative system."* [Expert], and emergency care *"I think it is relatively straightforward to say that whenever there is an emergency or severe pain situation, this is type of care is essential."* [Expert].

Cosmetic services were also mentioned as potentially essential to certain individuals for which it would greatly impact the psycho-social well-being. Yet, as illustrated by this discussion, the role of aesthetics was highly debated in all groups:

"- Yeah, I would agree. So, everything that need to be done in order to make sure that the person is kind of healthy. So, nothing like aesthetic, but yeah, to prevent anything painful or to sustain the function of the teeth and the oral functions in general.

- Well, I would agree with that. So, sustaining the oral functions and basically creating anything that isn't purely aesthetic.

- I am not so sure if you would only look at the function, but also a little bit about the aesthetics and stuff, because I think [well-being] is really important for your health, and I think that it should be the ultimate goal when looking at all health service." [General population, Germany].

Participants also mentioned other types of services that do not figure in Table 3 as essential, notably cancer care, rare disease care, and health education, as highlighted by this expert:

"[…] but we forget maybe the premalignant lesions and the tumor in oral healthcare. So, oral medicine and oral health is not [only] about dental and prosthodontics. That is why I think it is very important premalignant lesions and these mucosal lesions for a patient. And I think it has needs and prioritization." [Expert]

Broader OH considerations.

In all groups, broader elements, other than services were mentioned as essential for OH. One element notably refers to the impact of the sugar industry on OH. It was indeed argued that high sugar consumption, especially at an early age, directly contributes to an increase in prevalence of OH conditions, that in turn, increase OH needs and OH services' demand, as explained by one of the experts:

"There is sugar consumption in society as a whole, which is the main driver of at least carries I would say. So, I would like to also consider in the whole discussion, what is essential when it comes to improving our health? With things like sugar consumption or design of food. We are talking about things like sugar taxation, food labeling and so on. I think it cannot clearly be separated from each other because it all enters the production of our health." [Expert]

Moreover, many participants mentioned the goals of the OH system as defined by the WHO's building blocks framework (World Health Organization, 2007). The goals include coverage and access to services and technologies, quality of care, responsiveness, improved health outcomes, financial and social protection, and efficiency. According to participants, it is essential that the OH system achieves these goals, more specifically enhance equity in opportunities and OH outcomes, provide a sense of safety, aim for transparency, safeguard affordability, is well-functioning, ensure access to care, and integrate sufficient resources, notably in terms of work force, as summarized by this expert:

"[…] there should be like this whole infrastructure of a good system so that if you have a problem, you can go to a healthcare provider easily" [Expert]

Among these elements, timely access to care was a topic particularly mentioned, meaning 'the right care, at the right time, to the right person'.

Considerations to define OH coverage – thematic analysis.

The second set of themes identified were considerations to define OH coverage: Situational analysis; Type of benefits basket; Decision-making process; and Criteria for decision-making (Figure 2). This set included a total of 73 codes.

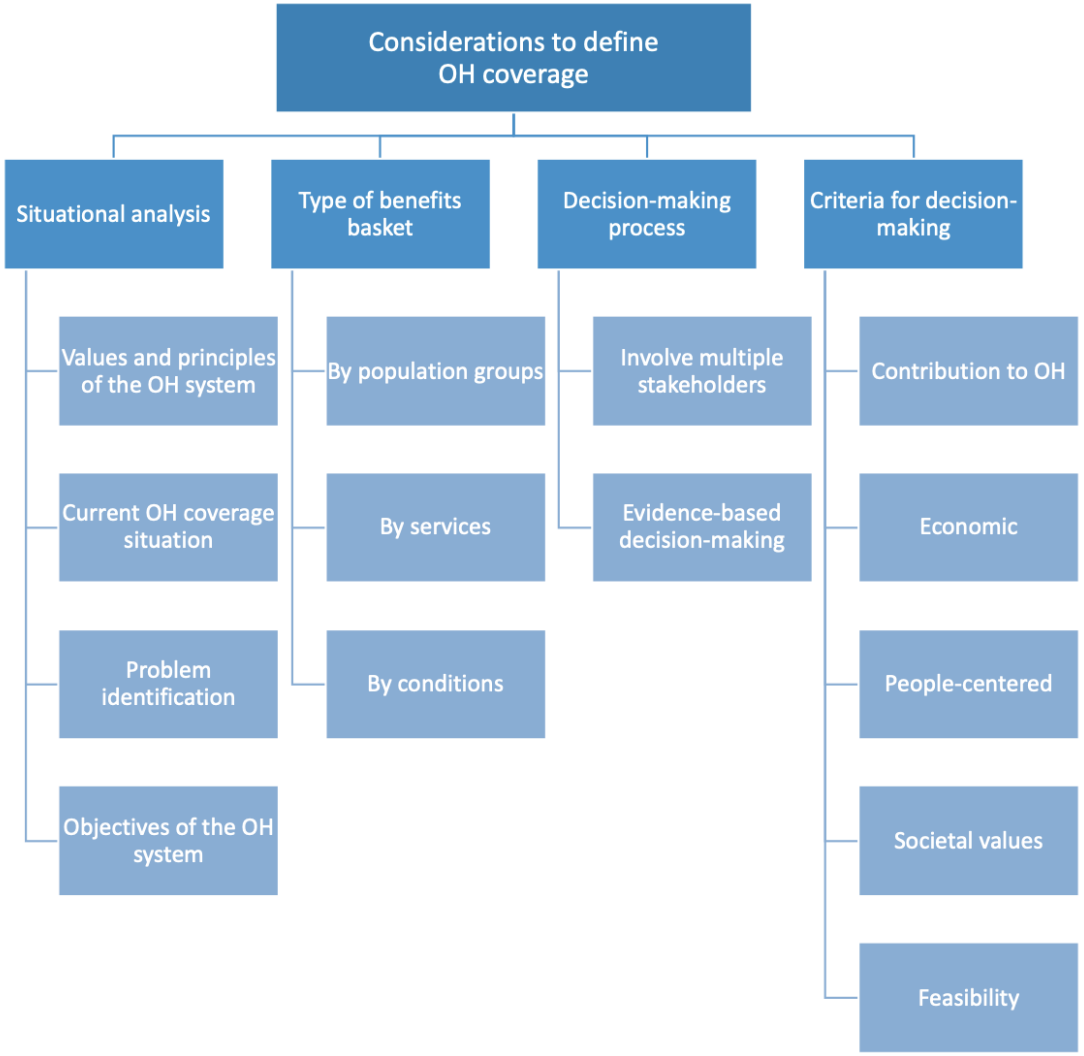

Figure 2. Themes and categories that summarize "considerations to define OH coverage"

Situational analysis.

When asked what essential means or which services/populations to cover for OH, many comments were raised on the current situation in the different OH systems. Some participants discussed the values and principles of the OH system such as solidarity, protection, or equity:

"Whether it reduces inequalities is a good question for these particular universal measures. So, where they do reduce inequalities yes, they would be high priority for me for investing." [Expert].

Others described the current OH coverage situation in their countries including the services and populations that are already covered. Three quotes show how participants' background and characteristics influence their perspectives:

"For example, kids are brushing their teeth. We have a special program [for OH prevention], they're brushing their teeth in kindergarten once a day." [Expert]

"So there actually are differences across countries, that children are covered more extensively than adults, at least in Denmark." [Expert]

"I think that's the solution right now, also in Germany [...] if you go yearly to the dentist, then you have some benefits afterwards." [General population, Germany].

Participants also identified certain problems that must be overcome when considering the OH coverage, notably access barriers for patients:

"In the Netherlands, we have a system where all youth until 18 years old can get free access to dental care. But even in that group, about 25 % will not go to the dentist at all because the parents just don't know how the system works. They don't know that it's free for their children and they probably do not go by themselves to the dentist too." [Expert]

A less obvious element such as the impact of patients' fear of dentists, can undermine acceptability of certain services, as expressed:

"I think that also anxiety on this topic plays a big role. Because I know a lot of people who have bad teeth and are anxious about the dentist, in consequence, they don't go. […]" [General population, Germany].

Finally, some participants also highlighted that to define OH coverage, it was first needed to set clear objectives for the OH system, notably to state what essential means in the chosen context:

"I actually think that it's quite funny that you keep asking us questions that build on top on the definition of essential, because we haven't started out by defining essential and then we need to define and use that term to talk even about further issues within that concept. So, I think it's very difficult to say anything before [defining]." [Expert]

Type of benefits basket.

Participants' perspectives on what should be considered when defining OH coverage reflect the multiple forms a benefits basket could take. A country's OH benefits basket may consist of a positive or negative list of services, as illustrated by this expert:

"[…] I think it's very difficult to have a list of essential services. And I think most health systems do a different exercise where they are not defining what is essential, but they are defining what is not essential and what shouldn't be covered. […]" [Expert]

Participants also mentioned that a benefits basket could be set based on a list of conditions:

"Well, if the condition induces significant limitations too, I would define the service that tries to ameliorate that as an essential healthcare service. […]" [Expert].

Finally, the benefits baskets could be a list of population groups:

"[…] So, we decided that we had to cover the children, then pregnant women, elderly people, disadvantaged elderly people" [Expert].

Decision-making process.

To define OH coverage, some participants argued that the decision-making process should be interdisciplinary and involve multiple stakeholders so multiple perspectives and considerations are taken into account. Notably patient representatives and oral health professionals should be involved in the process, as expressed:

"One is listening to, say, citizens or people in the society, and understand from them what they find relevant." [Expert]

"[...] just talk to people, talk to specialists." [Expert]

Additionally, participants emphasized that decision-making on coverage and the benefits basket should be evidence-based:

"Try to maybe use evidence-based on each measure [services and/or populations], to see which one works and which one can be kicked-out […]" [General population, Germany]

Criteria for decision-making.

A final point when defining OH coverage is the different criteria that may be used. The criteria mentioned by participants were divided into five categories: Contribution (of a service or technology) to OH; Economic considerations; People-centered care; Societal values; and Feasibility of implementation. This list of criteria is not exhaustive, and decision-makers could consider using a mix of criteria. Many participants mentioned that the covered services should be effective and contribute positively to OH:

"I guess it has to be effective. […] But it has to improve health in its broadest sense." [Expert]

This notion was particularly associated with the idea of evidence-based decision-making mentioned above. Economic criteria included cost-effectiveness, budget impact analysis, or the available resources and budget, as illustrated with the followings:

"Perhaps we shouldn't be choosing like this, but more from really just the traditional cost-effectiveness point of view. […] Where can we get the most gains for the money that we have just with the threshold?" [Expert]

Participants also highlighted that in OH, the quantity of care (e.g. number of annual check-ups) as well as the quality of the material used should be taken into account as it may impact the price of the assessed services:

"[…] then I think for all care, it's valid that you can do too much or too little of it. So, anything that's considered 'essential' can also become non-essential if you do too much or too little of it." [Expert]

"I think we're also considering that when we say that, for example, fillings are better than putting inlays only, realistically speaking, you could restore with either, […] but just one is a lot more expensive." [Expert]

People-centered criteria can refer to populations' preferences criteria, as illustrated with this example:

"There was a big study done […] basically showing that [a certain service] is completely ineffective, with no benefit whatsoever, but patients loved it. So, it's unnecessary for health, but if you do it on public preferences, you'll probably gonna be providing that. But if you do it on effectiveness, you'll probably not. Which is a funny one" [Expert]

It also relates to services' impact on quality of life, as expressed:

"[…] essential would again probably be something where it would, if not treated, have a huge impact on your quality of life." [Expert]

Yet, many participants suggested using a population-based care approach, consisting of targeting populations' health status and needs, and designing interventions that enable the provision of effective care. This approach potentially improves the health of these populations while respecting communities' cultural values and resources (Miller-Hoover, 2019).

"We want to, of course, ensure that the distribution of health care is based on the needs of the population." [Expert]

"There is a need for individualization. I think this definition makes clear that it can't be like one rule for everybody. [...] It should be tailored-made." [General population, Germany]

Additionally, participants highlighted that OH benefits basket should reflect the societal values such as reducing social inequalities or reinforcing equal access to care:

"I think in broadening the definition of what we consider essential and attributing that to what? […] there's a chance also to equalize social disadvantages in a way." [General population, Germany]

"I think because there is inequality in who goes to the dentist and who gets certain care, then if we just cover it for all children, at least for them we can try to sort of rule that out." [Expert]

Finally, a few participants also raised the question of the feasibility of using a certain criterion or covering a certain service or population. One example is the administrative burden that might be caused by coverage defined by income, and that could lead to administrative costs that outweigh the benefits:

"I think it would save resources if we just do [cover for OH services] for everyone because the bureaucracy of finding out who needs, like low income or this kind of stuff, I think, would take a lot of money." [General population, Germany]

Prioritization of services and populations for coverage in OH - content analysis.

Prioritizing groups of services for OH coverage

Figure 3 shows the results of "qualifiers" (prioritization) assigned to the groups of OH services presented in Table 3. Participants were asked which of the services they consider essential, which non-essential and further, in case of indecision, which services they would prioritize under limited resources. All groups of services were considered essential relatively frequently, and rarely as non-essential (see figure 3). Preventive measures were the group of services more commonly rated as essential, with Individual preventive oral services most frequently considered 'essential' (n=49). Population-wide and self-care prevention measures were the second group of services considered essential (n=44). After asking the participants for prioritizing the groups of services, beyond a dichotomous assessment of what is essential and what is not, most participants prioritized 'Individual preventive oral services' (n=54), whereas all other services were rarely or not at all given high priority.

Emergency care was also rated frequently as essential (n=40) and was the second group of services considered high priority (after individual preventive services), however, to a lower extent (n=12). The subsequent services considered essential were diagnostic oral services (n=28), advanced oral healthcare (n=28) and treatments for the most prevalent oral health problems (n=23), while the remaining types of services were visibly less often ranked as essential. However, as mentioned before, it is apparent that respondents were generally keener on assigning highly ranked qualifiers across all types of services compared to lower

ranked qualifiers. This finding is further supported by the additional option “all categories are essential” which was chosen in a relative high amount (n=15).

Regarding the low-rank qualifiers (‘non-essential’ or ‘low priority’), they were rarely attributed to services. Cosmetic dental services are an exception and were the most mentioned as “low” qualifier: “if needed” (n=9), “Low/not a priority” (n=13) and “non-essential” (n=17). However, cosmetic dental services were also mentioned as ‘essential’ (n=12), indicating the high degree of debate around this category.

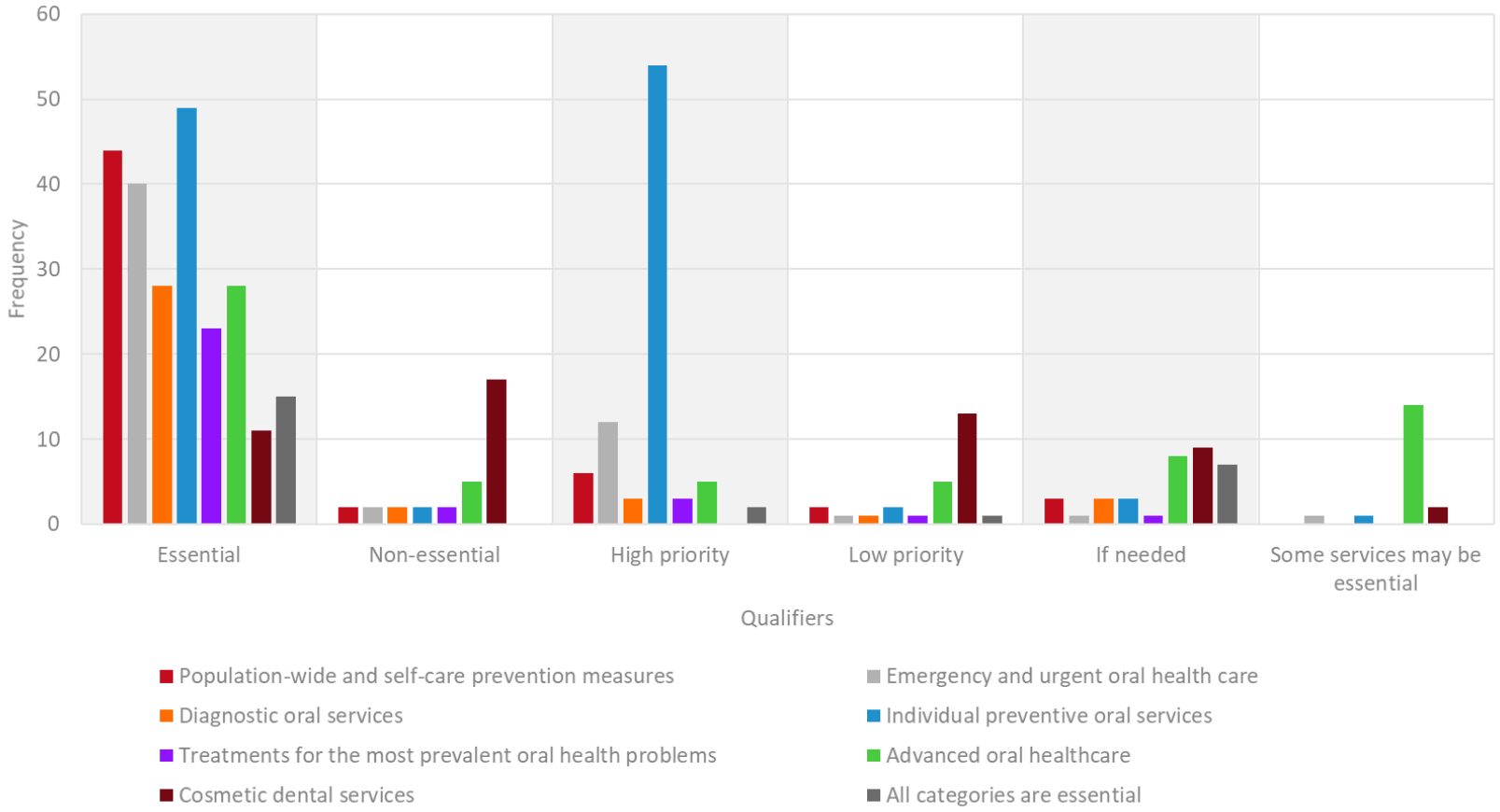

Figure 3 – Prioritizing groups of services for OH coverage

Prioritizing Population groups for OH coverage

After participants had assigned qualifiers to types of services, we asked them to assess which population groups they would prioritize in coverage under limited resources in an open question. Seven population groups were mentioned. These are children (and adolescents), young adults (e.g. students), adults (including working population), older adults, low-income population, high-risk population such as individuals with chronic diseases or disabled, pregnant women. Some participants did not define any priority group and mentioned 'everyone'.

Figure 4 summarizes the results of the population groups prioritized for OH coverage. A high share of responses considered essential to cover 'everyone' (n=14) or that 'everyone' should be covered based on need (n=7). Many participants actively refused to prioritize population groups and were in favor of equal coverage for all. This is reflected in the relatively lower number of responses to this question compared to the previous one. There was a high consensus that coverage for children and/or adolescents should be prioritized. Coverage of services for this population group was mostly classified as essential (n=15) or at least high priority (n=6). In second place, coverage was considered essential for high-risk patients (n=12). Older adults and low-income populations were both classified as essential with n=8, while (young) adults were less prioritized. Notably, not a single population group was classified as 'non-essential' across all FGDs.

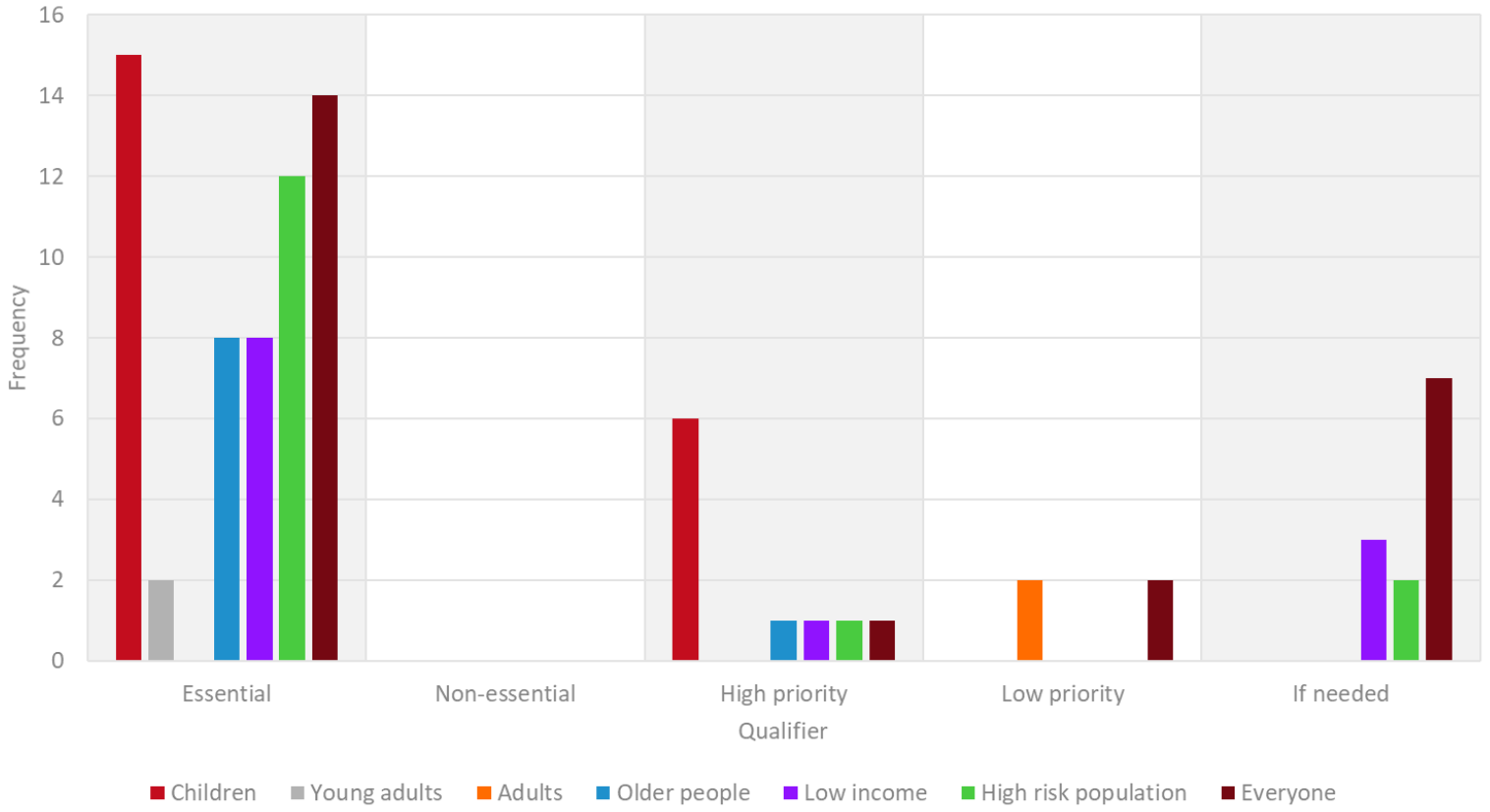

Figure 4 - Prioritizing Population groups for OH coverage

Which services are most essential for which population groups?

In a third step, we examined the combination of prioritization of groups of services and population groups. That allows to explore whether the importance of certain services varies across different population groups, and which services are most essential for which population groups. As shown in Figure 5, and in line with findings from figure 3, 'preventive services', both individual and population-wide, and 'emergency and urgent OH care' are mentioned most often, considered essential to be covered everyone. When refining the analysis of individual population groups, we found consensus that individual (n=17) and population-wide (n=11) preventive measures are essential for children and adolescents. This consensus decreases with the age of the population, with 'population-wide prevention measures' not being mentioned a single time in combination with 'older adults'. Not only 'emergency and urgent OH care' were classified as one of the most essential services (Figure 3) there was a consensus that everyone should be covered for this group of services, and prioritization is not possible.

Cosmetic dental services were rarely mentioned as essential to population groups, except for a few responses that linked the service as essential for low-income populations (n=3). Young population groups were more prioritized for services than other groups, while there was no particular type of service being prioritized for older adults, low-income or high-risk populations.

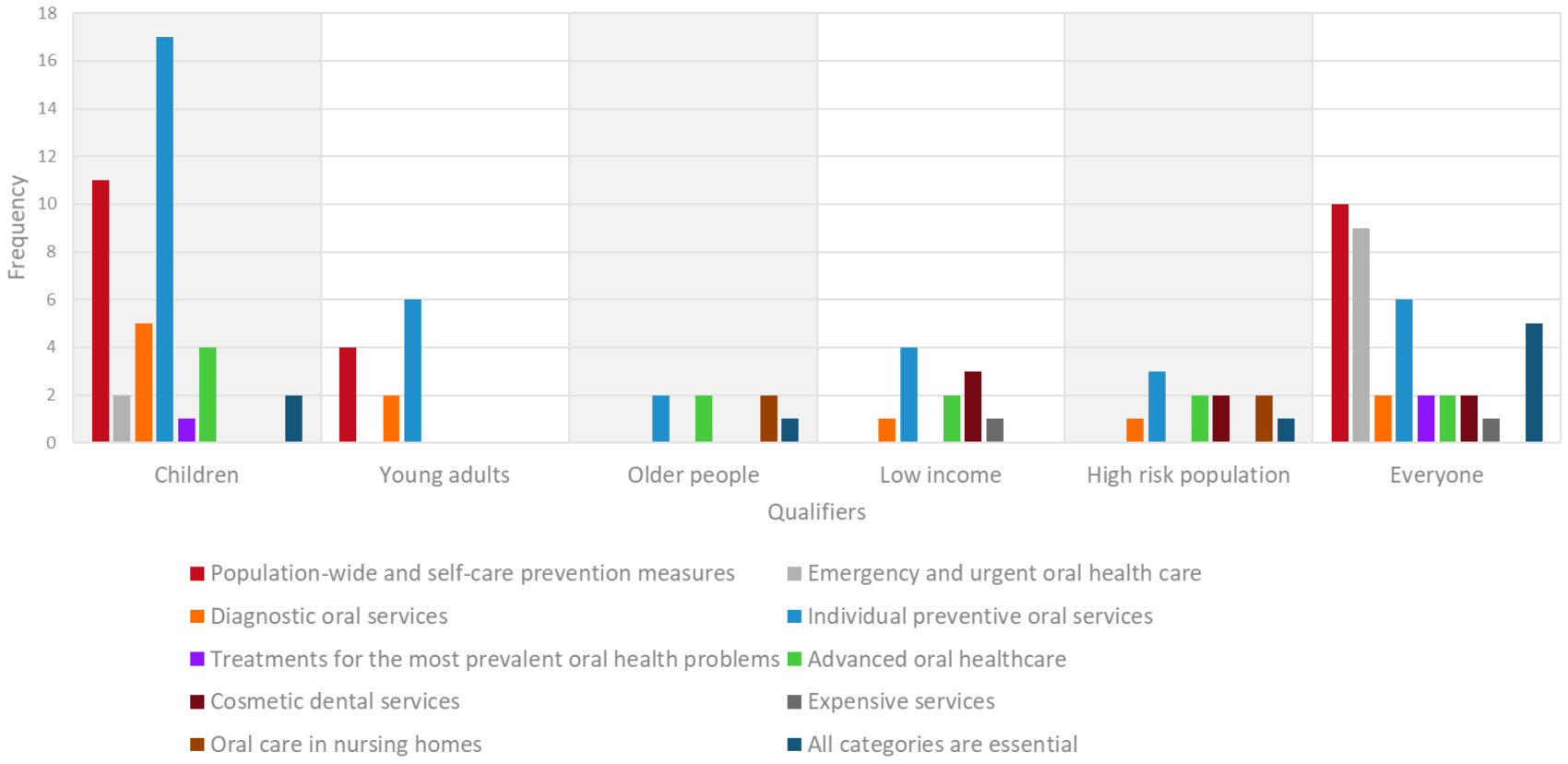

Figure 5 – Prioritization of Services and Populations for OH coverage

Discussion

The concept of 'essential' in OH is fluid, and is linked to 'general health'

We have conceptualized 'Essential' for OH through the perspectives of OH experts and the general population with four themes that resulted from thematic analysis. First, we understood that 'essential' is not a fixed concept and can vary across individuals, life stages, and time. At the same time, there can be a hierarchy of 'essential', related to the Maslow Pyramid, where first there are the survival needs to be met, with progress to other lesser survival needs. Still, each society, culture, or decision-maker can decide which level of the pyramid to define as 'essential'. Both categories convey the message that there is no one single or universal definition of 'essential' in OH, and that it is context specific. Following this idea, we understood that the definition of 'good' OH as described by the WHO (World Health Organization, 2023) is very broad and englobes the ability to perform the essential functions of the mouth while also meeting psycho-social needs. These two aspects indicate that the hierarchy of the Maslow pyramid does not always apply and that both dimensions of 'good OH' coexist in parallel. In addition, good OH promotes good general health and vice versa. Populations with poor general health are also at higher risk of OH. Therefore, what is 'essential' for general health might also be essential for OH, and the other way around. More specifically, the groups of services identified as essential by the participants of our FGD aligned with those commonly referred to in the literature even before showing them the table with the list of services (Winkelmann, Gómez Rossi, & van Ginneken, 2022). Finally, enhancing OH is about more than covering services. Sugar consumption is a risky behavior that increases the need for OH, and is of great concern for public health, requiring policy interventions such as expansion of OH coverage and integration of OH into general health systems (Peres et al., 2019; Watt et al., 2019). Following the same line, all the goals of a health system as defined by the WHO's building blocks framework (World Health Organization, 2007) were mentioned for the OH system, indicating that the integration of the two systems is not only desired, but also possible.

The process of setting an OH benefits basket can take many forms, but is aligned with the public policymaking process

Multiple elements should be taken into consideration when defining an OH benefits basket. The themes identified follow a four-step process: situational analysis, types of benefits baskets, decision-making process, and criteria for decision-making. The situational analysis includes a reflection on the values and objectives of the OH, as well as an assessment of the current OH coverage and the identification of the eventual problems of that current model. A benefits basket can take many forms, as it could result in a positive or negative list of services, conditions, and/or population groups, or a mix of the previous. The decision-making process should also be clear and transparent, by involving all OH stakeholders, while using an evidence-based approach. As presented in the findings, this last point was particularly emphasized by participants. Yet, in its latest global oral health status report (World Health Organization, 2022), the WHO pointed out that the oral health field suffered from significant data gaps, with less than a third of the countries worldwide having oral health surveillance data and only a few limited health data surveys are including (limited) oral health data. Many criteria may be used to select the services, conditions, and/or population for OH coverage, but should derive from the objectives of the OH system (Ghanbarzadegan et al., 2021). These include contribution to OH, economic, people-centered, societal values, and feasibility

criteria. Criteria may be used singly or in combination with other criteria and should be weighted to best respond to the identified problems and objectives of the OH system. Linking participants' answers with the first part on conceptualizing 'essential' in OH, the OH system, and therefore the decision-making process for coverage, should be transparent. There are robust priority setting tools available which take a multi-criteria decision analysis approach that would be useful for the OH context, specifically for the definition of a benefits basket (Listl et al., 2022; Vernazza et al., 2019, 2023). Yet, benefits baskets in OH often lacked clarity and the criteria that led to these choices were not always known (Manski et al., 2017; Vernazza et al., 2019). The steps identified in this study can inform the different stages of a public policy process. A commonly used framework for understanding public policymaking follows Sabatier and Jenkins-Smith (1993) 'stages heuristic' (Sabatier & Jenkins-Smith, 1993), which describes a four-step public policy model: 'policy identification or issue recognition' *or* 'agenda setting', 'policy formulation', 'policy implementation', and 'policy evaluation' (Buse et al., 2012; Fischer & Miller, 2017; Howlett & Giest, 2015). Agenda setting is summarized by Ozgur and Kulac (2017) as referring to documenting how problems arise and bringing the topics to the public political agenda for it to evolve into policy design (Birkland, 2017; Ozgur & Kulaç, 2017), which could be informed by situational analysis. The other three steps identified would inform the 'policy formulation' stage, which can be described as the phase when multiple policy alternatives may be generated to respond to the identified problem and end with the legitimation of the chosen policy (Ozgur & Kulaç, 2017).

There is consensus around the coverage of preventive and urgent care, but a debate regarding aesthetic services

Content analysis illustrated points of consensus and debate over an "essential OH coverage", including the groups of 'essential' services that should be covered, and the populations for which coverage should be prioritized. We found consensus about the prioritization of preventive measures on both, individual and population-wide level. The fact that teeth do not recover from decay, and there is reduced 'self-healing' process is well perceived by the participants. Prevention is seen as useful to detect and address oral health issues in an early stage, preventing them from worsening to more severe and costly health problems. The role of prevention has already been highlighted by (Benzian & Listl, 2021), who outlined preventive approaches as one of the most essential opportunities to improve global oral health. Many high-income countries already recognized and integrated that idea and included many basic preventive measures in the benefits basket (Allin et al., 2020; Henschke et al., 2023; Winkelmann, Gómez Rossi, & van Ginneken, 2022; Winkelmann, Gómez Rossi, Schwendicke, et al., 2022). However, gaps still exist, as there is limited availability of population-wide and self-care prevention measures (Winkelmann et al., 2023).

Emergency care and diagnostic oral health services were the second group of services considered essential, with a high degree of consensus that emergency care should be covered for 'everyone' (not only children). Emergency oral health care was found essential mainly because it manages pain, a central consideration when defining an "essential" service. Even in health systems with very limited coverage access to emergency care is supposed to be provided (Winkelmann et al., 2023). Diagnostics might be considered essential due to the connection with early detection of conditions and prevention. In addition, diagnosis is a precondition for treatment, therefore, essential for a benefits package to be effective. While emergency services is often covered, there remain limitations such as cost-sharing or a limited number of visits (Winkelmann, Gómez Rossi, & van Ginneken, 2022; Winkelmann, Gómez

Rossi, Schwendicke, et al., 2022). Already in 2003, the WHO recognized that emergency and oral urgent treatments should be one of three main pillars of a basic package of oral care(Frencken et al., 2003).

In contrast, cosmetic dental services were highly debated, being perceived both as 'non-essential' and as 'essential'. The role of social participation, integration and stigmatization and with this, maintaining or recovering self-confidence, mental health and social participation, drove the discussion about the relevance of aesthetics and thereby the relevance of cosmetic treatments and oral health care more generally (Benson et al., 2015; Campos et al., 2023; Pithon et al., 2014). Aesthetic dental treatments can promote self-esteem and self-confidence, which in turn, positively affects mental well-being and social participation, leading to reduced anxiety and depression. In many societies, poor oral aesthetic is still associated with stigma, which is associated with loneliness and social isolation, discrimination or negative stereotypes that come along with disadvantages on one's professional life (Newton et al., 2003). Cosmetic dental procedures can help to reduce these stigmata and the associated psychological distress (Matsuyama et al., 2021). A discrete choice experiment found that aesthetic treatments were crucial for participants choice of dental treatment (Felgner & Henschke, 2023). Yet, cosmetic treatments are largely excluded from coverage in most European countries (Winkelmann et al., 2023; Winkelmann, Gómez Rossi, & van Ginneken, 2022). Yet, while cosmetic care is primarily elective and often driven by individuals' preferences, emergency care addresses urgent needs, that if left untreated, could result in severe pain and symptoms or even death (Frencken et al., 2003). Therefore, emergency care was associated with good function of the mouth, while cosmetic services play less of a role in survival but rather social integration and mental health.

There is a consensus that children should be covered for various OH services, particularly for preventive measures

There was a wide consensus that children should be broadly covered, considering that teeth do not self-heal from decay and other diseases. High coverage of dental health services for children is crucial not only for their immediate well-being but also long-term oral (and overall) health, and social development. It promotes health equity and helps prevent a range of dental issues that can have lasting consequences if left untreated. Preventive dental care from early childhood to adolescence is considered key for preventing oral diseases later in adulthood (Igic et al., 2008). While a large share of respondents found preventive services essential to be covered for everyone, the largest proportion found it essential to cover prevention for children and adolescents, and some participants highlighted the importance to cover high-risk populations. This is in line with the current policy in many countries that already provide broader coverage to children while adults generally receive significantly less coverage, which bears fewer covered dental care benefits and sometimes high co-payments (Winkelmann, Gómez Rossi, & van Ginneken, 2022). Even though oral health care is mostly excluded from public coverage among EU states, (Winkelmann et al., 2023) found that there are often exceptions for vulnerable population groups such as children and people receiving low income. Still, there are countries such as Spain, that could better protect children, as coverage varies regionally and is less comprehensive (Henschke et al., 2023; Klingenberger et al., 2021).

Beyond clinical considerations, there was a consensus that high-risk populations should be covered, to narrow inequities in access to care. Providing more coverage to high-risk profiles prioritizes the health and well-being of vulnerable individuals while also leading to potential cost savings and improved overall public health (Winkelmann et al., 2023). Yet, low-income

group was considered twice as 'low-priority', indicating an ambivalent prioritization based on socioeconomic status. Many countries have specific regulations for the coverage of dental services for older people and/or other vulnerable population groups, including people with low income, homeless people, welfare recipients, pregnant women and persons with a greater need for dental treatment because of a particular condition, and partly these populations enjoy broader coverage that come along with less co-payments and more benefits (Winkelmann, Gómez Rossi, & van Ginneken, 2022). It is noteworthy however that across all FGDs not a single population group was suggested for exclusion (I.e. "non-essential") from coverage.

Limitations and initiatives for future work

Some limitations must be noted. First, our sample included a limited number of countries, particularly in respect of the general population samples, which do not represent all European countries. Next steps of work are already in progress to mitigate this limitation. First, we have expanded the range of countries to collect data from the general population and included Hungary and UK. These countries were further sampled to add variation in perspectives based on three main criteria. (1) countries with lower incomes than Germany; (2) health systems with different levels of (fewer) resources and workforce, and (less) generous OH coverage; and (3) different types health system models – the UK has a National Health System where the payer agencies are geographic entities and do not compete, Hungary has a National Health System with a single insurer, and other payer agencies that do not compete, and Germany has a National Health System with competing payer agencies (the sickness funds).

A second limitation is that in Germany the sample included only a narrow age-group that ranged between 20 and 40 years old. To mitigate this limitation, we are collecting data from more FGD that will include individuals from other age groups and levels of education.

Third, we have not included country-specific analysis and did not consider different underlying health-systems that might play a relevant role in the respondents' answer. Nor have we compared perspectives from the different population groups (OH experts and the general population). To mitigate this limitation, in our findings, we focused on the themes and categories that were "universal" and mentioned by participants from all countries and groups, and excluded those that were "context specific" and mentioned only by participants from a specific country or group of participants.

Strengths

Our work also shows several strengths. Within a short period of time, we were able to conduct multiple sessions with a large sample of n=73 participants from different backgrounds and countries. This helped to create a holistic picture of opinions from a broad range of population groups and provides rich, qualitative data offering in-depth insights into participants' perspectives, experiences, and opinions. Through FGDs, we captured a wide range of perspectives, and could identify issues of deliberation, divergence, consensus or debate, including those that may not have emerged in individual interviews or in quantitative data collected by surveys. Due to the group discussions in real-time, lively interactions we were able to probe and clarify responses, ask follow-up questions, and explore unanticipated topics during the discussion capturing ideas and opinions beyond the initial objective. In addition, the FGDs were characterized by high engagement and group dynamics, allowing participants to build upon each other's ideas and engage in spontaneous discussions. This led to a deeper

understanding of the complex and abstract concept of ‘essential in OH’, as well as more concrete ideas on how to set the coverage for OH.

Three researchers independently coded and analyzed the data and aligned the approaches iteratively. This guarantees a high degree of validity of the results. We elaborated a unique approach of conceptualizing what is essential in OHC, derived a novel framework of how to define “essential oral health services”. Finally, we have combined thematic and content analysis, two methods that complement each other, providing a deep and complete exploration of the data.

Conclusions and policy implications

‘Essential’ in OH is not a fixed concept and may vary across countries, populations and expectations. Yet it is clear that ‘essential’ englobes more than only surviving or the ability to perform the essential functions of the mouth. There is an intrinsic connection between OH and general health, particularly with psycho-social wellbeing. OH goes beyond covering ‘essential services’, and should encompass the environment such as the sugar industry, and other the goals of health systems such as providing equitable access to high quality care, in an efficient and responsive manner. Therefore, integrating OH into health systems is imperative.

This work highlights the complexities of defining an OH benefits basket and proposes a four-step model to guide its formulation, emphasizing transparency, evidence-based decision-making, and stakeholder involvement. Our findings on considerations to define OH coverage can support policymakers who wish to consolidate a benefits basket, that meets the health system’s objectives. The study advocates for equitable coverage, particularly for vulnerable populations, reflecting a nuanced understanding of 'essential' OH services, with a consensus on prioritizing preventive measures and urgent care, especially for children.

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Disclosure

During the preparation of this work the authors used chat open AI tool to support writing the abstract. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Annexes

Interview guides: PRUDENT experts, students, general population

- Participants are to be dispatched into n groups of 7/8 participants.
- Introduction to be read out loud to the entire group.
- Participants are allowed to take notes if they want to.
- The FDG(s) will be run in French/Hungarian/English.
- The "DOC2B_InterviewMaterial" is a copy of this document without the green notes. It is aimed as supporting material for Participants during the FGDs. Please feel free to print and distribute the document to all participants.
- For your convenience, please find a "getting ready" checklist at the end of this document.

Introduction

Duration: up to 15 minutes /!\ incl. signing the ICF (and dispatching participants into groups).

- The 15 minutes of introduction include: reading the introduction, distributing and signing the Informed Consent Form (ICF), (and dispatching participants into n groups).
- To maximise time:
  - The Informed Consent Form (ICF) can been circulated ahead of the FGD and can be distributed at the beginning of the introduction;
  - The recording device should have been tested ahead; and
  - The room should be arranged ahead, taking into consideration that, if there are different groups, they should be as far as possible from each other in order to avoid compromising the audio record.
  - If the FGD is run online, the meeting should be recorded and transcribed. Recording should be tested in advance.

PRUDENT project:

As mentioned in the Informed Consent Form, by agreeing to participate in this session, you are agreeing to be recorded. As we are on Zoom, your video will be recorded as well. If you do not wish for your face to appear on the video, feel free to turn off your camera. If there is no objection, I will now start the record.

Highlighted paragraph above to mention only if online. Please remember to start the recording at the end of the paragraph.

PRUDENT *(Prioritization, incentives and Resource use for sUstainable DENTistry)* is a 5-year EU-funded project which brings together investigators from The Netherlands, Germany, Portugal, Hungary, France, Estonia, Denmark, Ireland, Malta, Norway and the UK. The project aims to develop and implement a framework for countries wishing to improve coverage and financing of **oral health care** (OHC).

While oral diseases and conditions are the 3rd most expensive diseases to treat in the EU, many EU citizens have no access to oral health care without financial hardship.

Hence, in order to move the financing of oral health systems forward, PRUDENT uses a participative approach that is entirely focused on root causes underlying the current limitations of oral care financing.

You are being invited to take part in a focus group discussion as part of PRUDENT. This discussion aims to learn the perspectives of different stakeholders such as the general population and oral health professionals on "essential oral health care". The ultimate goal is to build consensus on public preferences on oral health care coverage.

Starting after the introduction, the focus group discussions will last approximately 1H15.

You are divided into groups of 7 to 8 participants and presented with four different questions, as well as the opportunity at the end of the session to share any additional comment you may have. You are welcome to speak freely throughout the session. There is no right or wrong answer.

Please, follow the instructions given by me while I chair the discussion. No specific material is required for this FDG except the "Interview Material for FGDs with the General Population" provided by the investigator. Questions follow a specific order and should not be consulted ahead, so please refrain from going to the next page until you are invited to do so.

NB: if the FGDs are organised online or if the interview material (DOC2B) for students is not printed, you can drop the last to sentences above.

Additional information:

- The Informed Consent Form in front of you notably indicates that all the information collected during this study will be treated with strict confidentiality. Your identity will be kept confidential, and your personal information will not be linked to any responses or reported in any way that could identify you. The data collected will be pseudonymized and used for research purposes only and stored securely.
- The signed forms will be collected by the investigator at the start of the focus group discussion.
- The Data Management Plan is available upon request to the investigators.

- ICF to collect before the start of the session. Please make sure all the ICF were collected before starting the session.
- ICF is a two-page document. Only the last page is needed, they can keep the first page if they want to.
- The following steps of this guide should be performed within each group.

Questions

- Welcome participants:
  - Present yourself and ask for participants' to present themselves as well; please ask them to state their country of origin and age. No need to give their surnames.
  - Remind them that there is no right or wrong answer, that we want to hear everyone, inform them that specific durations were allocated per question, and ask them to be mindful of the microphone (avoid any side noise).
- Distribute the **Interview Material for FGDs with the General Population** ("DOC2B_InterviewMaterial).
- As a general rule, the interview chair should provide as little additional information as possible. Yet, for each question, some probe questions are included in the interview guide, to use if participants find it difficult to give an answer or do not respond at all. If needed, please ask the questions following the proposed order.

1. From your perspective, what is essential when it comes to your general health?

Duration: 15 minutes

- Open question.
- Let participants answer on a voluntary basis at first, but then make sure every participant was given the opportunity to contribute.
- Be mindful of the time.

If needed, please refer to the following probe questions:

- **Question 1:** Can you think of certain attributes that have to be fulfilled to make a health service essential?
- **Question 2:** If you think of a specific personal experience where you felt that a certain health service was essential, what made it essential in that situation?

At the end of the time limit, ask them to go to the next page.

2. How would you define "essential oral care"?

Duration: 15 minutes

- Open question.
- Let participants answer on a voluntary basis at first, but then make sure every participant was given the opportunity to contribute.
- Be mindful of the time.

If needed, please refer to the following probe questions:

- **Question 1:** Imagine you are deciding on an essential list of oral health service to be reimbursed, based on which attributes would you define "essential"?
- **Question 2:** If you think about general health as in the first question, to what extent does it apply to oral health services?
- **Question 3**: If you list individual services, try to think about what exactly made these services essential.

At the end of the time limit, ask them to go to the next page.

Duration: 2 minutes to present the table and let them go quickly through it.

There are various ways of grouping or categorising Oral Health (OH) services. For the purpose of this research, we are using the groupings depicted in Table 1.

Table 1. Types of OH benefits and their associated OH services and procedures. *Source: Winkelmann et al (2022) Oral health care in Europe –Health in Transition (HiT) Review 2022* https://tinyurl.com/OBSoralhealthHIT

Type of benefit	Services and procedures
Population-wide and self-care prevention measures	Community water fluoridation, salt fluoridation, fluoridated toothpaste, and maintaining oral hygiene
Emergency and urgent oral health care	Infection, swelling, pain, or serious bleeding
Diagnostic and preventive oral services	Early detection, X-rays (bitewing, periapical, full-mouth), Oral cancer screening, Removal of plaque, calculus and stains from the tooth structures, Fluoride application (varnish, gel) Fissure sealant, Oral hygiene, Dietary or smoking cessation advice
Treatments for the most prevalent oral health problems	Most curative and basic restorative services including fillings and root canals, extractions, oral and maxillofacial surgery
Advanced oral health care	• Prosthetic or orthodontic services • Major restorative care, including dentures, bridges, inlays/onlays, and crowns
Cosmetic dental services	Teeth whitening, tooth bonding, Dental veneers

3. Based on the table above: Among the following groups of services, select the ones you consider essential. Explain why you consider them essential.

Duration: 14 minutes.

- Participants are allowed to take notes if they want to.
- Open question.
- Let participants answer on a voluntary basis at first, but then make sure every participant was given the opportunity to contribute.
- Be mindful of the time.

If needed, please refer to the following probe questions:

- **Question 1:** Which of these services do you consider essential and why?
- **Question 2:** Which criteria come to your mind while choosing these services?
- **Question 3:** And if you had to prioritise some services, which criteria come to your mind to choose among these services? (to use in case they are selecting all the services)

3. Who would you cover for these services under limited resources? Why?

Duration: 14 minutes.

- Participants are allowed to take notes if they want to.
- Open question.
- Let participants answer on a voluntary basis at first, but then make sure every participant was given the opportunity to contribute.
- Be mindful of the time.

If needed, please refer to the following probe questions:

- Question 1: Assuming you are advising the health policy makers from your country, which services would you prioritise for which population groups?
- Question 2: Which types of services are essential for whom? How do we define that?

At the end of the time limit, ask them to go to the next page.

4. Is there anything you would like to add? Or is there any question we didn't ask and we should have asked?

Duration: 10 minutes.

- Open question.
- Let participants answer on a voluntary basis at first, but then make sure every participant was given the opportunity to contribute.
- Be mindful of the time.

Conclusion

Duration: 5 minutes.

Many thanks for your participation in this study. During this exercise, we gathered information to:

- To conceptualise what is an 'essential' OH service; and
- To better understand your perspective and preferences regarding the **scope** (meaning the type of services reimbursed) and the **breadth** (meaning the population who can benefit from reimbursement) of OH services reimbursement.

This data will be included in the results from other FGDs performed among other groups, as well as health professionals and students in public health, within other PRUDENT partners' countries.

Informed Consent Form

Informed Consent, Team Datenschutz der TU Berlin, Version vom 5.1.2023

Title of Research Project: PRUDENT - Prioritization, incentives and Resource use for sUstainable DENTistry

Principal Investigator: Dr. Ruth Waitzberg, ruthw@jdc.org

Co Investigators: Lukas Schöner, Beatrice Durvy

Sponsor/Funding: the European Union, HORIZON2020

Project Duration: Jan. 2023 – Dec. 2028

1.Project Description:

Background & Purpose of Research: PRUDENT is a research study conducted by Department of Health Care Management, TU Berlin in collaboration with international partners across the EU. PRUDENT aims to develop and implement an innovative and context-adaptive framework for public coverage and optimized financing of oral care. It brings together top investigators from prestigious universities, public authorities and policymakers, civil society and patient organizations, health insurers, and health professionals, to achieve a step change in collective problem solving. As part of the study, we are conducting focus group discussions with key informants.

Invitation to participate: You are being invited to participate in a focus group discussion as part of PRUDENT. This focus group discussion aims to learn the perspectives of different stakeholders such as the general population and oral health professionals on “essential oral health care”. The ultimate goal is to build consensus on public preferences on oral health care coverage.

Procedures: If you decide to enrol in this study, you will participate in a focus group discussion, semi-structed in person or virtual (i.e., Microsoft Teams or Zoom) conducted by members of the research team. The focus group discussions will last approximately 1.5 hours.

Voluntary Participation & Early Withdrawal: Your participation in this study is voluntary. You can choose not to participate or refuse to answer a question or withdraw at any time without penalty or loss of benefits to you. **If you wish to withdrawal from the study, your data may still be used, unless you tell us otherwise.**

Risks: We do not foresee any risks.

Benefits: You will be supporting an impactful EU project that aims to improve the coverage of oral health across European countries. Your participation helps to develop potentially broader coverage of and improved access to oral health services in the future. Participating in a large-scale EU project offers a unique opportunity to be part of macro-level decision-making, develop skills and gain exposure to EU initiatives. You can actively contribute your insights, experiences, and concerns related to oral health coverage and, with this, have a direct impact on policy decisions that affect your own oral health and that of your communities.

2. Information on the Planned Data Processing / Rights of Participants

The data generated as part of the project will be processed as follows:

- Conversations will be recorded using a dictation device.
- The audio recordings will be pseudonymized and stored on the secured servers of the Technische Universität Berlin.
- The audio recordings will be securely and irreversibly deleted from the dictation device.
- Access to the audio recordings will be restricted to project staff.
- The interview audio recordings will be transcribed in an anonymized form, and the transcripts will be pseudonymized. This means that all personally identifiable information will be anonymized to prevent any identification of individuals.
- The consent forms, contact information, translation key (pseudonymization), and the original audio recordings will be securely stored and kept separate from each other, ensuring that third parties cannot associate individuals with the audio recordings.
- The translation key will be deleted once the purpose of the research project allows it, which will be by December 31, 2028, thereby fully anonymizing the data. The consent forms with contact information will also be deleted at that time.
- The audio recordings and transcripts will be retained on the secured servers of the Technische Universität Berlin for ten years, in accordance with the guidelines for good scientific research, and then securely and irreversibly deleted.
- No data will be shared with third parties.
- The analysis and evaluation of the interviews will be based on the anonymized transcripts. The results may be used for scientific publications, including presentations at conferences and other scholarly publications. Only anonymized research findings that do not allow for identification of individuals will be published. Individual anonymized quotations may be included in publications.
- The anonymized transcripts may be archived and made available to other researchers.
- All project staff with access to personally identifiable data are bound by confidentiality and obligated to maintain data secrecy.
- Your consent to participate in the interview is voluntary. You will not face any disadvantages for choosing not to participate, and you may also refuse to answer specific questions.

According to the General Data Protection Regulation (DSGVO), you have the following rights:

- Confirmation of whether personal data concerning you is being processed (Article 15 DSGVO).
- Access to this data and information about the processing (Article 15 DSGVO).
- Correction of any inaccurate data (Article 16 DSGVO).
- Deletion of data if processing is no longer justified or required (Article 17 DSGVO).
- Restriction of processing in certain legally defined cases (Article 18 DSGVO).
- Transmission of your personal data, if provided by you, to yourself or a third party in a structured, commonly used, and machine-readable format (Article 20 DSGVO).
- Termination of processing and deletion of data that have already been generated after revocation of your consent (Article 21 DSGVO).

Please note that revocation can only occur until complete anonymization, as we will no longer be able to associate your data or delete it afterwards.

This project is in compliance with the data protection regulations of the Technische Universität Berlin. If you have any concerns regarding data protection in the project, please contact the project coordinators directly or:

Data Protection Officer of Technische Universität Berlin

Annette Hiller, K3-DS,

Straße des 17. Juni 135, 10623 Berlin,

E-Mail: info@datenschutz.tu-berlin.de

If you have any reason for complaint, you can also contact the responsible supervisory authority:

Berlin Commissioner for Data Protection and Freedom of Information

Alt–Moabit 59–61,10555 Berlin

E-Mail: mailbox@datenschutz-berlin.de

Publication of Research Findings: We will be preparing manuscripts for publication.

Compensation: In no way does signing this consent form waive your legal rights nor does it relieve the investigators, sponsors or involved institutions from their legal and professional responsibilities.

3. Consent to Data Processing

Within the scope of the above-described project, we would like to process your personal data. Participation in the project is voluntary and is solely for scientific purposes. Therefore, we require your consent under Art. 6 Absatz 1 Nr. 1 der Europäischen Datenschutz-Grundverordnung (DSGVO).

Consent:

I agree to participate in the above-mentioned study. I have been informed about the study and have had the opportunity to ask questions. I understand that my participation in the study is voluntary, and I am free to withdraw without providing any reason, without suffering any disadvantages. The lawfulness of data processing prior to withdrawal remains unaffected.

I consent to our conversation being recorded on audio and transcribed verbatim. My statements will only be used for research purposes in anonymized textual form that does not allow for identification of my person. These anonymized transcripts may be archived and made available to other researchers within the PRUDENT consortium.

My personal data, particularly my name, phone number, and email address, will not be disclosed to third parties.

I have been informed about the project, as well as the procedures for evaluation, storage, and deletion of data (as described above) in writing.

Name and signature

X

Location/Date Signature