World Health Organization
REGIONAL OFFICE FOR Europe

Guidance for creating impactful health reports

World Health Organization
REGIONAL OFFICE FOR Europe

GUIDANCE FOR CREATING **IMPACTFUL HEALTH REPORTS**

Abstract:
Supporting evidence-informed policy-making requires more than just the collection and analysis of data. The resulting information from the data analyses should also be enriched with evidence and experiences from other sources, and the knowledge thus created needs to be transformed into accessible and compelling health reports. This guidance provides practical advice on how to make health reports that have a real impact on policy and practice.

This guidance document is part of the WHO Regional Office for Europe's work to support Member States in strengthening their health information systems. Helping countries to produce solid health intelligence and institutionalized mechanisms for evidence-informed policy-making has traditionally been an important focus of WHO's work and continues to be so under the European Programme of Work 2020–2025.

Keywords:
PUBLIC REPORTING OF HEALTHCARE DATA, QUALITY DATA REPORTING, POLICY-MAKING

Document number: WHO/EURO:2021-2661-42417-58838

Contents

Acknowledgements

This document was developed by the Data, Metrics and Analytics Unit in the Division of Country Health Policies and Systems of the WHO Regional Office for Europe. The main authors are Nicole Rosenkötter (the lead consultant on this work), and Marieke Verschuuren (co-author). David Novillo Ortiz provided direction during the production of the report and technical advice during concept drafting, writing and review. Special thanks to Natasha Azzopardi-Muscat for her strategic guidance.

For further information please contact the Data, Metrics and Analytics Unit (euhiudata@who.int).

Aim of this guidance

This guidance document is part of the WHO Regional Office for Europe's work to support Member States in strengthening their health information systems. Helping countries to produce solid health intelligence and institutionalized mechanisms for evidence-informed policy-making has traditionally been an important focus of WHO's work and continues to be so under the European Programme of Work 2020–2025[1].

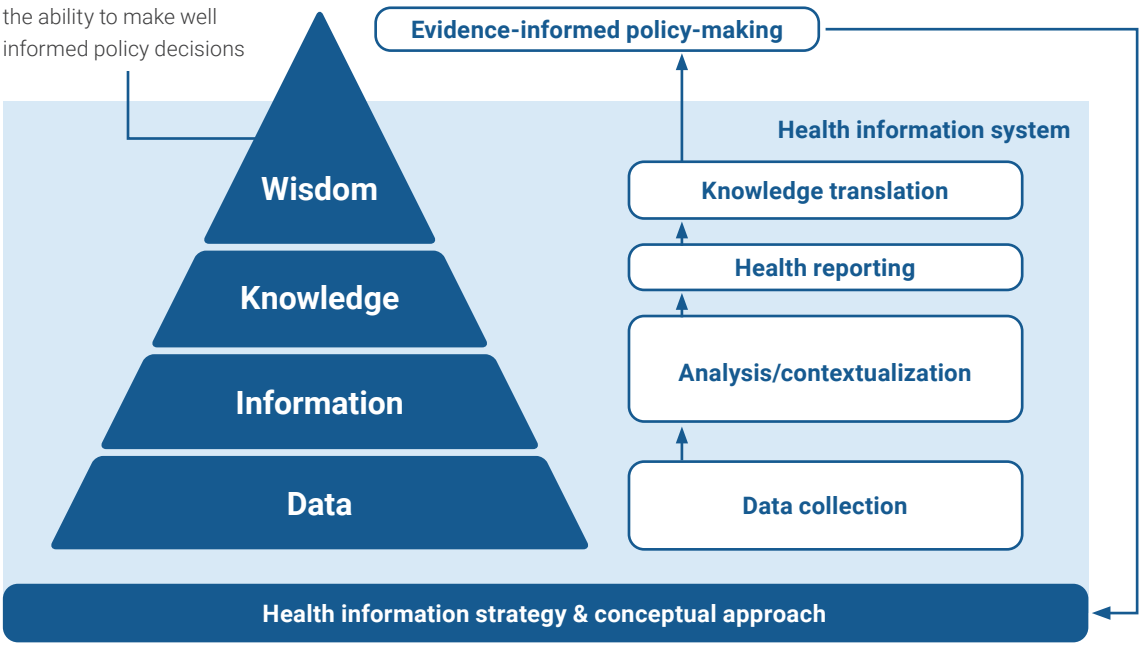
Supporting evidence-informed policy-making requires more than just the collection and analysis of data. The resulting information from the data analyses should also be enriched with evidence and experiences from other sources, and the knowledge thus created needs to be transformed into accessible and compelling health reports. This guidance provides practical advice on how to make health reports that have a real impact on policy and practice.

1 European Programme of Work. In: WHO/Europe [website]. Copenhagen: WHO Regional Office for Europe; 2020 (https://www.euro.who.int/en/health-topics/health-policy/european-programme-of-work/european-programme-of-work, accessed 16 December 2020).

Introduction: no such thing as a standard health report

Writing a health report is at the third level (knowledge) of the health information pyramid (Fig. 1). It builds on the data collection and analysis and contextualization of the data activities. The aim of the third level is to present and communicate the results in a way that it supports decision-making (Van Bon-Martens et al., 2019).

Fig. 1. The health information pyramid



Source: Verschuuren & van Oers (2019).

This guidance aims to support health reporting activities by summarizing the relevant requirements for communicating and disseminating health information in a compelling, approachable and interesting way. Its goal is to stimulate internal and external discussion and to help authors navigate through the aspects it is relevant to consider and decide on during the health reporting process.

There is no generic blueprint for how to make a health report. The best way to assemble information and present it in a health report depends on the context, the purpose of the report, the target audience and the author's degree of freedom in terms of creativity and opportunities to try out new paths. Thus, this guidance focuses on well defined quality criteria for health reports, rather than presenting a standard health report.

Before going into specific detail, a number of health reporting formats are described briefly below. A huge variety exists. The European Union (EU) Joint Action on Health Information (InfAct) identified 11 national health reporting formats (Table 1).

Table 1. Main formats of public health reports

Format	Description	Pages
Public health report	Comprehensive and detailed description of a variety of topics	~50–200
Health system performance assessment (HSPA) report	Country-specific report on monitoring, evaluating, communicating and reviewing the achievement of high-level health system goals, based on health system strategies	~50–200
Short report	Topic-specific presentation of results and interpretation	~10–30
Fact sheet	Standardized presentation of circumscribed analyses	~1–10
Website	Website providing health information	–
Statistical online database	Database providing collected data for analysis	–
Scientific publication	Publication on specific topics relevant to science	~2–10
Scientific journal	Health report in a journal style that provides articles on specific topics relevant to science	~20–100
Flyer/brochure/leaflet	Compressed and simplified display of summarized public health information	~2–3
Workshop/seminar	Face-to-face communication; documentation associated with workshop or seminar	–
Video	Visualized simplified and comprehensible dissemination of health information via video	–
Social media	Dissemination of health information via Facebook, Twitter, Instagram etc.	–

Source: Thißen & Seeling (2020).

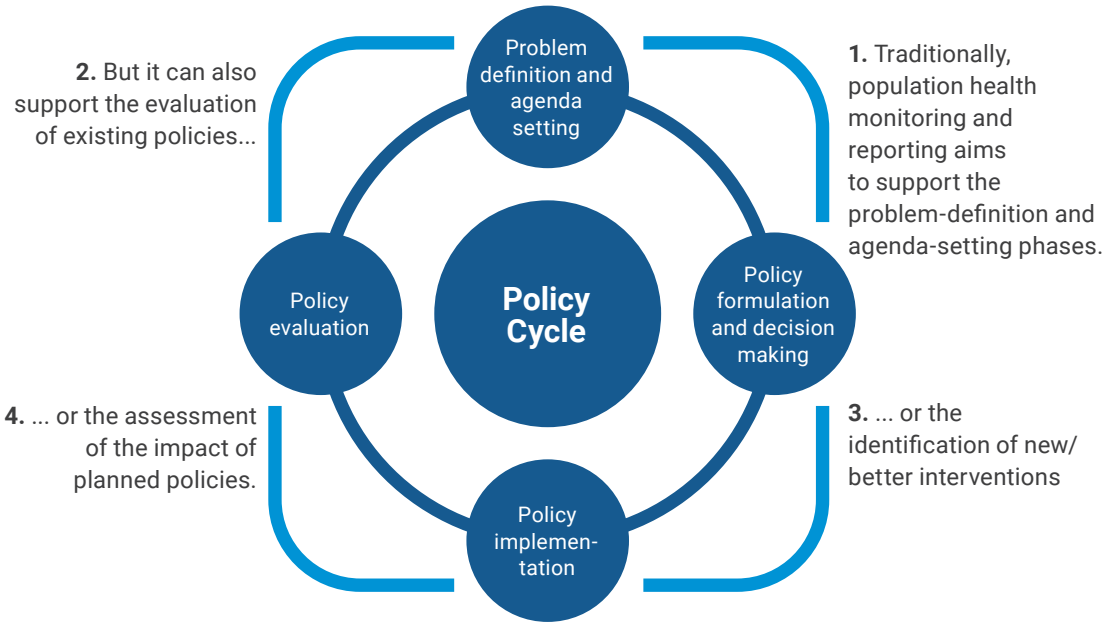
Following the logic of the health information pyramid in Fig. 1, statistical online databases could be assigned to the data and/or information level, depending on the opportunities for analysis and contextualization. Scientific publications are another exclusion: this guide will not focus on scientific publications, since these have their own general and journal-specific requirements. The other formats can be regarded as health reporting formats or products that can complement a health report or support its dissemination.

Health reporting and impact

The slogan "from data to action" appears to describe a direct path – a health report is written, and an action is taken. The slogan does not, however, explain all the varieties of impact, which are often less strong than it implies.

The purpose of reports can differ. In the context of the health policy cycle (Fig. 2), health reporting traditionally aims to support the problem-definition or agenda-setting phase by reporting on relevant public health problems and their determinants. However, it can also support evaluation of existing policies; identification or specification of interventions; or assessment of the impact of planned policies (health impact assessment).

Fig. 2. The policy cycle and docking points for health reporting



Source: figure made by the author.

Although this policy cycle diagram is simplistic, it helps to illustrate that health reporting targets the strategic and tactical levels of policy. A lot of theories are available as to how evidence (such as a health report) affects policy-making. In the political environment, however, other influences also shape decision-making, including cultures, beliefs, societal interests and competition between parties.

Applicable theories and their relationship to health reporting have been studied across Europe, including by the EU Policy impact assessment of public health reporting (PIA PHR) project (PIA PHR Project Group, 2009a; 2009b; Smith, 2013). Various models, all developed in the 1970s and 1980s, can be differentiated: the knowledge-driven model, the problem-solving model, the political model, the tactical model, the two communities model, the interactive model and the enlightenment model (Smith, 2013). They describe the complexity of creating impact, the links between research and policy, and the different direct or indirect pathways along which research influences policy or policy influences research.

An impact – a reaction – resulting from the content of a report can be indicated by the following examples (Rosenkötter et al., 2020):

- the breadth and strength of media coverage and enquiries received after the report is published;
- consideration of (some of) the results in planning processes;
- development of expert groups or consortia on an issue highlighted in the report;
- allocation of subsidies to implement policy options mentioned in the report.

Clarity about the purpose of the report and its relationship to policy-making supports the health reporting exercise. Authors should try to track reactions after the report is published to see what reactions materialize.

Recommended reading

David J Hunter summarizes the relationship between evidence and policy in his perspective paper ***Evidence-informed policy: in praise of politics and political science***. He welcomes the shift from talking about evidence-based policies to evidence-informed policies – or indeed policy-based evidence (Hunter, 2016).

Katherine Smith uses two very different cases – tobacco control and health inequalities – In ***Beyond evidence-based policy in public health: the interplay of ideas***, to describe knowledge translation processes and related barriers and difficulties. She classifies four typologies (institutionalized ideas, critical ideas, charismatic ideas and chameleonic ideas) that support an exploration of the relationship between research (health reporting) and policy (Smith, 2013).

Quality criteria

Quality criteria for health reports can be grouped roughly into three categories: criteria related to content, process and marketing. These derive from research projects that have evaluated health reports and studied the impact of health reporting (Van Bon-Martens et al., 2019). This guide covers all three categories, but places the greatest emphasis on content.

Content

The problem

Health reports are often written by people who are scientifically trained or at least scientifically oriented. Their perspective can therefore differ from the perspective of end-users, like policy-makers. Scientists place great emphasis on the theoretical basis, data and methods, analysis, precise formulation and correct citation of the literature. Conversely, policy-makers focus more on aspects such as usability, contextual information and the solution orientation of the report. This section aims to support closing this gap by addressing:

- language and style to make the report accessible and compelling
- handling of uncertainty
- how to specify the target audience and the purpose of the report
- how to develop a storyline and increase the report's newsworthiness.

Language and style

It is the author's job to make the reader's job easy

(Schimmel, 2012)

Topics to think about include:

- how to write well
- how to handle technical terms and jargon
- how to report numbers
- how to use figures and tables
- how to lay out and design the report.

The degree of **language accessibility** required may be highly specific to the context and content of the report, but the "keep it short and simple" (KISS) approach is recommended when writing for a general audience. This involves using plain language and formulating the report's messages in a concise manner. It does not, of course, mean that the content should be "dumbed down". Complex topics can be included in the report, but they need to be explained in an understandable way. The United Nations Economic Commission for Europe (UNECE) guide *Making data meaningful* (2009a) gives the following recommendations for writing well:

- use short sentences
- aim for one idea per sentence
- break up long sentences
- start each paragraph with the most important message
- keep paragraphs short
- avoid the passive voice
- keep your writing crisp.

As William Zinsser's (2016:9) seminal work *On writing well* states:

> *Writing is hard work. A clear sentence is no accident. Very few sentences come out right the first time, or even the third time. Remember this in moments of despair. If you find writing is hard, it's because it is hard.*

It is also best to try to **avoid technical terms and jargon** – for example, simplifying or explaining medical terms. Although classifications like WHO's International Classification of Diseases are very important systems for structuring data collection and analyses, the codes and terms may be difficult to understand for a lay audience. Therefore, simplification or explanation of the terminology within the report may be needed to support comprehension.

It can be helpful to develop an internal dictionary that lists specific terms and chosen synonyms to ensure that they are used consistently throughout the report. A glossary or comprehensive annex to explain complex technical terms, data sources and methodological approaches (such as age standardization, for example) can also be used.

Another option that can aid clarity is to rename the methodology section. The OECD/EU (2020) report *Health at a Glance: Europe 2020* labelled it "Reader's guide"; Public Health Wales Observatory (2020) gives the method section the heading "Good to know". Thanks to this relabelling and the provision of easy-to-understand explanations, readers may be more likely to notice and use methodological content. Text boxes can also be used to explain difficult topics directly in the main body of the report (OECD & EU, 2020). Further, in an online report, direct links to the glossary or popup windows with explanations like hover-boxes (mouseover or mouse hover) can be used, as in the online report *For a healthy Belgium* (Belgian Federal Government, 2020). These popup windows filled with explanatory short texts appear if the mouse is pointed on a specific highlighted term, as with the webpage Factsheets zur Gesundheit der Bevölkerung [Factsheets on the health of the population] (NRW Centre for Health, 2020).

The **handling of numbers** in tables, figures and within the text is another issue that can affect the readability of reports. The following tips can help authors to find the right balance between accuracy and readability (Box 1).

Box 1. Eurostat tutorial on rounding of numbers: recommendations

Eurostat, the statistical office of the EU, has developed a tutorial on the rounding of numbers, which provides several practical examples about how to handle numbers in tables and texts. It also sets out five general recommendations that are also of relevance for health reporting:

- Use only the number of digits that is necessary and makes sense for the purposes of clear communication. In tables and figures it is usually sufficient to round to one decimal place. In texts an additional level of rounding can be advisable. Make use of wording like "at least", "about" or "less than". When reporting absolute numbers it can be sufficient to keep two significant digits – for example, use 83 000 000 or 83 million instead of 83 157 201. In the case of percentages, report one decimal place for percentages below 10% and no decimal places for percentages above 20%. For percentages between 10% and 20% the choice depends on the required precision.
- Rounding of numbers should take place at the final phase of data processing and analysis.
- For target indicators always use the full precision of the indicator to assess whether the target has been met. Any rounding should not change the situation of countries or regions in terms of their achievement or exceeding of the target.
- Big numbers are difficult to grasp. It may be reasonable to round them and use the words "millions", "billions" and so on.
- If necessary, a disclaimer should be added at the beginning or end of the publication to describe the rounding policy and the reasons for possible inconsistencies due to rounding.

Source: Eurostat (2020).

Figures and tables are central elements of a health report. They help to steer the reader's focus to relevant aspects of the findings. Figures can raise interest and can help to summarize the content in a concise way. If detailed information is necessary, well structured tables can help to provide these details in a clear manner.[2]

The report should be visually interesting: the importance of the overall look and feel of the document should not be underestimated. While the content should stand for itself, the packaging in terms of **layout and design** supports its perception by readers. Whether the report is a simple Word document, perhaps with default formats, or has an appealing layout and is professionally designed, does make a difference. It can be helpful to start with the table of contents and decide about specific elements within each chapter, such as summaries, key messages, heading levels, use of message-led headings that carry the story, referencing and so on. It may be useful to develop a colour code; this could make chapters visually identifiable, and it could also help to use the same colours for the same type of information throughout the report.

2 At the time of writing, WHO Regional Office for Europe is developing a separate guide on data visualization which supports developing interesting and meaningful figures. This is expected to become available in the course of 2021.

Handling uncertainty

Topics to think about include:

- how to handle the limitations of the data
- how to minimize uncertainty
- how to communicate uncertainty.

The authors should consider the following image to visualize this issue: imagine a pile of ladders in front of a wall. The readers need to know what is behind the wall, but unfortunately each ladder in the pile is too short to reach the top. Alternatively, by climbing on top of the pile of ladders they can reach high enough to glimpse what is behind the wall.

This picture illustrates health reporting very well. Usually, time and resources are lacking to design the perfect ladder in the form of a scientific study for each question in a regular manner. A number of these studies – thanks to their design and the level of detail of the information collected – would enable readers to see (almost) everything behind the wall and to draw valid and reliable conclusions on health and its determinants in a certain population. Instead, however, health reports show pieces of evidence, each with its own **limitations**.

Combining these pieces of evidence, using various routine data sources and enriching this information with evidence from existing scientific studies (different data sources + available evidence = ladder pile) gives the best possible idea of how health is distributed and what determines ill health in a particular population (the scene behind the wall).

The aim of combining different data sources and making use of existing scientific evidence is to **maximize reliability** and to **minimize uncertainty**. Health reporting is not usually about doing fundamental research. Instead, it uses existing models and theories and – based on these theories or models and using routine data – tries to communicate the most important health issues of a particular population.

Ideally, **uncertainty** should be **communicated** in such a way that the message of the report remains compelling and strong. In his book *Writing science*. Schimmel (2012) proposes turning the "yes, but" strategy into a "but, yes" strategy. He states that presenting all the findings first and then discussing the limitations ("yes, but") makes the report's message weaker. Instead, dealing with the limitations or how they are handled early and then getting on with the story of the report ("but, yes") creates a strong message.

A general recommendation is to be aware and clear about the limitations of the data and collect as much evidence as possible (in terms of additional, related data sources and existing scientific evidence) to be able to draw reliable conclusions. Evidence-informed policy is based on the best evidence available, not the best evidence possible.

Purpose of the report and target audience

Topics to think about include:

- the purpose of the report
- the audience for whom is it written and
- other audiences that might also be interested.

In general, the purpose of a health report is to:

- present the results of population health monitoring to a specific target audience
- create knowledge and awareness
- target the strategic and tactical level of policy by addressing important public health problems and health determinants and
- guide policy-makers in a structured way through large amounts of available knowledge (Van Bon-Martens et al., 2019).

In addition to these general purposes, **nuances** or **more specific purposes** can be identified (PIA PHR Project Group, 2009a; 2009b). Reports can be written to:

- advertise activities or to create support for activities
- fulfil the obligation to inform others about activities and to legitimize activities
- support priority-setting and assess needs for an identified field of action
- support policy formulation, monitor implementation and inform about evaluation
- raise awareness of particular problems and start debates
- deliver arguments and provide advocacy in strengthening a position to convince others
- deliver new ideas, insights and recommendations for action
- offer preliminary information to governments or be a tool of governance – or even lobbying
- create pressure for policy change either from above or from the bottom up
- inform the commissioning of health services.

The purpose of writing a report may be linked to several of these aspects. It is recommended to think specifically about the structure, writing and style and make necessary adaptations depending on the purpose.

Health reports most frequently target the general public, scientists, health care providers and politicians/decision-makers (Thißen & Seeling, 2020). These **target audiences** can be split into two groups:

- a technical group of health care providers, scientists, health educators and students
- a non-technical group of politicians, decision-makers, general public, patients, media/press and civil society groups.

These groups have different needs in terms of level of detail, structure, writing and style of the report. It is important to ensure that the needs of the relevant group are met. This may entail producing different products for each. Very generally, a technical audience is interested in the details; can handle academic vocabulary and jargon; and trusts numbers. A non-technical audience has different needs: these readers are interested in the main findings; prefer simplified vocabulary; and may have a varied understanding of numerical information (CDC, 2013).

A general recommendation is to be clear about the purpose of the report and the target audience: this is necessary to get the messages right and to fulfil the demands of a technical or non-technical audience.

Developing a storyline

The story grows from the data, but the data are not the story.

(Schimmel, 2012)

Topics to think about include:

- the **story** the data are telling
- how to **structure** the report
- what kind of information is necessary to answer the questions **why** and **what**.

Health reporting is not about presenting each and every indicator or variable with all its dimensions: it is about finding issues or relevant patterns that highlight what should be tackled to change the situation for the better. This can be done by using a narrative "that tells the **story** in an order that makes sense and convinces the audience why it's important or interesting and attention to it should be paid" (Nussbaumer Knafflic, 2015).

This may seem tricky if the author's brief is to summarize the data, or to prepare a specific assignment – such as writing a report about a particular disease or population group, or a basic health report that follows a pre-defined structure linked to a general indicator set or conceptual framework. Even within these tight framework requirements, however, the exploratory analysis and contextualization phase should have identified patterns or issues to focus on as central elements of the report. Cole Nussbaumer Knafflic (2015) refers to this as finding two pearls in 100 oysters: the story is not about the 100 oysters; it is about the two pearls.

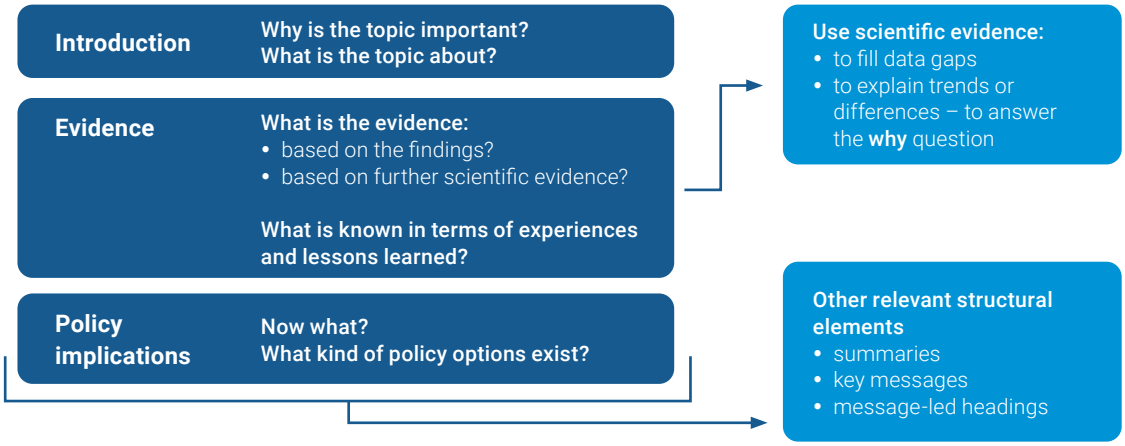
Various different approaches to **structuring a report** and **telling the story** are available. The classic introduction, methods, results and discussion (IMRAD) structure that authors use in scientific papers might not be suitable for health reports produced for a more general (non-technical) target audience. The IMRAD structure usually presents a significant level of detail that might be of interest for a technical audience. Because of this it takes a while before the central aspects – the results and the reasons they matter – are presented. Furthermore, explanation and discussion of the findings are separated from the results in this structure, whereas in health reports for a non-technical audience these should be linked directly to the findings.

Journalists use a different structure, called the "inverted pyramid". This starts directly with the most newsworthy information, followed by important details, and ends with other general background information (UNECE, 2009b). Since this structure starts directly with the main results and the conclusion, it offers the reader an immediate entry into the topic.

Different structure principles may be suitable and applicable, depending on the target audience. Both a non-technical and a technical audience will value an easily accessible structure that follows a storytelling approach for health reports, however.

This guidance proposes a structure (Fig. 3) closely linked to the message box structure (Schimmel, 2012) and the storytelling approach of Cole Nussbaumer Knafflic (2015).

Fig. 3. Example of a report structure following a clear storyline



In this structure a report (or a chapter within a report) opens with a description of the relevance of the topic and an explanation. This is directly followed by a description of the evidence, based on the data and information and on available scientific evidence. It is also advisable to describe relevant experiences, to ensure that the content is linked to what is already known in the field or by the target audience. The third part should cover policy implications and potential options suitable to tackle the problem (see the sections above on language and style and handling uncertainty for recommendations on how to include information on methodological aspects and how to handle limitations).

Within this overall structure it is advisable to add other structural elements that improve the readability and user-friendliness of the report. These include summaries (potentially for the whole report) and key messages (for a chapter, for instance) – both provide a quick overview of the content and cover the most relevant results. It is important to ensure that the summary and the key messages remain consistent with the storyline. Each chapter only needs a few key messages; these should be short and free from jargon.

Structuring is also important within a chapter. It is recommended to use one paragraph per idea/message and visualizations that highlight the main result or observation; these should be referred to in the text. Within a chapter, message-led headings can help the reader to gain a quick overview.

These summarize briefly – often in one line – the main message of a paragraph. Box 2 sets out more information about elements of impactful storytelling and further recommended reading.

Box 2. Elements that can support creating impactful stories

Heath & Heath (2007) developed a mnemonic called SUCCES containing elements that can support authors writing a health report that generates an impact.

- **Simple:** this element is linked to two aspects mentioned earlier – writing well and identifying the story in the data.
- **Unexpected:** interest and attention are generated if something new is presented – something unfamiliar or unexpected (see the section below on newsworthiness for more information).
- **Concrete:** an issue should be explained in a concrete way without jargon and by trying to boil it down to real life as much as possible.
- **Credible:** credibility can be gained in various ways, of which the most relevant for health reporting are using reliable data, making use of scientific evidence and involving experts.
- **Emotional:** adding emotional triggers may be the most difficult element from a health reporting perspective. The most suitable potential approach is to try to trigger curiosity and/or provide "what's in it for me" messages for the target audience.
- **Stories:** in addition to presenting primarily quantitative findings, it can be useful to add qualitative information that illustrates how the findings matter in real life.

Further recommended reading can be found in the documentation of the pre-conference session on "Sharing health information and evidence with policy-makers: tools for transferring knowledge into policy action" of the 2017 European Public Health Association conference in Stockholm, Sweden (EUPHA, 2017), with stakeholders including the European Observatory on Health Systems and Policies. This guidance makes use of several recommendations provided during this pre-conference session and its many presentations.

Two aspects of developing a storyline in a health report need particular focus:

- answering the **why** question, which is a pivotal aspect of the evidence section and
- answering the **what** question, which is central to explaining policy implications and offering policy options.

Answering both these questions supports the usefulness of the report, since they deliver relevant contextual information (to answer the **why** question) and increase the solution orientation of the report (by answering the **what** question).

The **why** question is answered by explaining the findings of the report. For example, the analysis may have shown that:

- the prevalence of a disease is higher in woman than in men
- a lifestyle pattern can be found more often in young adults than in older ones

- the mortality rate is higher in Region A than in Region B
- the prevalence of chronic diseases is increasing
- utilization of preventive services is decreasing.

The **why** question investigates why these patterns occur. The problem is that such findings are usually the result of descriptive statistics. This means that the analysis does not enable the causes of an observed pattern to be deduced.

It is sometimes possible to make use of different data sources, however, or to dive deeper into the various dimensions and subgroups of an indicator. This in-depth analysis or combination of data sources (such as data on mortality, morbidity, rehabilitation and retirement) can support investigation and description of a more detailed pattern and can deliver hints to the answer to the **why** question. A large body of scientific research is often also available, as well as well-defined models or theories, which may provide further answers. Integrating existing scientific knowledge can help to fill data gaps and facilitate explanations of differences that cannot be deduced from the original data.

To make use of scientific evidence, authors need access to published research. Published systematic literature reviews or meta-analyses can provide a quick overview of the current evidence base. Moreover, techniques like rapid reviews (Garritty et al., 2020) can support authors in establishing an outline of the latest available evidence. In addition to the summary of international research it can also be helpful to monitor national research, in order to have country-specific evidence available.

To answer the **what** question, the degree of solution orientation expected from the report should first be clarified. Research has shown that policy-makers value reports that offer information on potential solutions, but the degree should probably be negotiated (PIA PHR Project Group 2009a, Van Bon-Martens et al., 2019). Furthermore, the wording used can matter to the audience: it can be advisable to report "policy options" than "policy recommendations". This difference underlines the author's awareness that there tends not to be a linear connection between reporting and decision-making, and that health information experts are not the ones who decide on implementation of policies (see also the section above on health reporting and impact). Decision-makers have to handle competing issues and need to negotiate their actions with other parties. However, offering policy options still lays out opportunities to tackle the issue described.

The next step is to identify suitable policy options and summarize them. The WHO Regional Office for Europe has prepared a resource on developing an evidence synthesis report for policy-making; this provides useful support and summarizes relevant databases and grading systems for the evidence identified (Eklund Karlsson & Takahashi, 2017). Further references to relevant networks and organizations can be found in Annex 1.

The following three examples illustrate resources for potential policy options, as well as a reporting example that answers the **what** questions and provides policy options.

- The first example gives a **summary of actions to address a specific problem**. The WHO (2017) report *Tackling NCDs: "best buys" and other recommended interventions for the prevention and control of noncommunicable diseases* sets out the most highly

recommended policy options. The accompanying flyers and infographics are also useful representations of the data (PAHO, 2017).

- The second example is a **database with actions/interventions**. The United States County Health Rankings & Roadmaps (CHR&R) Programme rates the evidence on actions and interventions under the headline "What works for health" (CHR&R, 2020). The topics include health behaviour (alcohol and drug use, diet and exercise, sexual activity and tobacco use), clinical care (access to care and quality of care), social and economic factors (community safety, education, employment, family and social support and income) and physical environment (air and water quality, housing and transit).
- The third example is an **online report** that both answers the **what** question and shows how different data sources can be combined to describe a topic – alcohol consumption – from different perspectives. *Alcohol in Wales* (Public Health Wales Observatory, 2019) not only presents data on alcohol consumption, societal costs, hospital admissions and mortality but also provides an evidence map showing evidence on universal, selective and indicated interventions.

Developing a story and answering the **why** and **what** questions are probably the most challenging aspects of producing a health report. A general recommendation is to consider this during the report's planning and discuss it regularly with team members. It can also be helpful to gain inspiration from others, such as good newspaper articles on health issues or inspiring reports on actions from other countries (see the good practice examples in Annex 1) or other stakeholders within the country.

Newsworthiness

If, for example, an institution publishes a health report every two years, it faces the problem of how to ensure the newsworthiness of the findings. Trends and differences between groups may not have changed in a way that provides really new information for the reader.

Topics to think about include

- what is new in the data and
- what could be of interest for the target audience.

Since population health monitoring is a routine task, it can sometimes be difficult to find and communicate **new messages**. It is important to bear in mind, however, that the authors are experts on population health: while the findings may not surprise them, they may still be new to the target audience.

Newsworthiness can also be increased by adding a new or different comparative approach to the data, such as putting a special focus on a specific age-group, on regional differences or on social determinants. New results from surveys or studies from local areas, if available, could also create

a new emphasis in the report. Illustrations of what the health problem means to people in their everyday lives can also be beneficial – for example, adding quotations from experts in the field or personal stories to include real-life experiences alongside the numbers.

The UNECE (2009b) guide *Making data meaningful* provides some examples that can help indirectly with increasing the newsworthiness of the report (and finding a story). External triggers or topics can be used, linked to:

- current policy or media interest
- holidays (for example, the risk of skin cancer due to unprotected sun exposure)
- current topic-specific events or conferences
- calendar themes (for example, outlining the seasonality of an issue).

It can also be helpful to improve the perception of health reports as a valid resource for health information by creating a regular series or blog that offers continuous output and news instead of "just" writing a big report every few years.

A general recommendation is to ensure that improving the newsworthiness of the report is closely linked to the development of a storyline. This helps to increase awareness and ensure that the messages provided stick with the audience.

Process

A good process produces good results.

(Nick Saban, American Football trainer)

Internal quality assurance

Writers must therefore constantly ask: what am I trying to say? Surprisingly often they do not know. Then they must look at what they have written and ask: have I said it? Is it clear to someone encountering the subject for the first time? If it's not, some fuzz has worked its way into the machinery. The clear writer is someone clearheaded enough to see this stuff for what it is: fuzz.

(Zinsser, 2016)

Topics to think about include how to ensure the high internal quality of health reports.

During the production of the report it is advisable to develop routines to **confirm the quality** of the content – the analyses, figures, text and referencing. This includes fact checking (analyses, references) and checking of grammar, spelling and readability. If the report is written by more than one author, it could also be helpful to streamline the style at the end.

It may be helpful to consider the following aspects:

- It is worth **rereading** the text with fresh eyes, to see what works and what does not, then **rewriting** the parts that do not work and rereading it again. "Rewriting is the essence of

writing. I pointed out that professional writers rewrite their sentences over and over and then rewrite what they have rewritten" (Zinsser, 2016).

- Even when the authors are 100% sure that everything is correct, **fact checking** is essential: the analyses, figures and use of the references should be checked by a second pair of eyes. This should be an experienced colleague, ideally someone also involved in health reporting.
- A process of internal revision and editing by an experienced and skilled person should be followed to **check grammar, spelling and readability**.

After these steps are finalized it is recommended to start an external review process.

- To identify details that are not needed or to identify text blocks that need to be simplified or extended, it is helpful to have a **non-specialist** within your review process.
- If possible, an external peer review process should be established, with a **multidisciplinary group of experts**.

A general recommendation is develop suitable routines and procedures for internal quality assurance to increase the quality of the report.

External quality assurance

Topics to think about include:

- how to organize the external quality assurance process
- how to remain independent during this process.

Within the production process, continuous interaction should be established and organized between those who write the health report and those who are expected to make use of it. Three different alignment phases can be distinguished for the **external quality assurance process** and are necessary to develop a policy-oriented report (Hegger, 2016).

- The first phase is alignment in formulation. In this phase the authors should discuss the concept of the report and agree on its scope and extent.
- The second phase is alignment in production. Continuous updates, timely provision of the draft report to allow further discussion and adaptation, and good internal alignment are the basis for external discussions in this phase. In addition, the way to answer the **what** question should be discussed. Although it is important to answer the **what** question and to offer evidence-informed policy options, there is not always consensus between the authors of the report and policy-makers. This is because a lot of policy options are linked to sectors other than health, meaning that these options and the related implications are not trivial from a policy perspective. The level of detail should therefore be discussed and negotiated.
- The third phase is alignment in extension. Clear arrangements should be made regarding the dissemination process – such as writing press releases and use of social media. Liaison with policy-makers and other relevant stakeholders should continue, to promote the report and its use and discuss implications for the next report.

All these alignment efforts support the authors in framing the messages of the health report in a way that resonates with the target audience. These negotiations increase the likelihood that the

report will be helpful and relevant for the audience, which can also have a positive influence on its impact.

> *Sometimes members of the "two communities" (i.e. researchers and policy-makers) come together to interact and share knowledge. Knowledge exchange is where there is two-way communication, ideas are discussed, and questions are asked to encourage all participants to consider what their knowledge tells them about current issues. It is also an opportunity to prompt reflection on the implication of current knowledge for everyone involved. Interaction is key here. If knowledge exchange is undertaken when existing evidence is shared, approaches may include discussion forums, workshops, sandpit exercises,[3] etc.*
>
> *(Rushmer et al., 2019)*

It is important yet challenging to institutionalize health reporting activities in a way that ensures both close interaction with policy-making and **professional independence** in terms of accountability, transparency and reliability. To ensure independence, some prerequisites can be supportive, such as health reporting activities that have a legal background and formal exchange mechanisms. It is therefore recommended to make sure that the commissioning party cannot influence the outcomes. Ideally, discussions with policy-makers should take place to improve the political and societal relevance of the report. Nevertheless, in the end, the authors are responsible for the way the messages are phrased and the report is written.

A general recommendation is to set up formal exchange mechanisms, which are necessary for external quality assurance. Suitable mechanisms to establish these dialogues with the main target audience should be discussed.

Marketing – how to get the message out

Topics to think about include how to ensure broad dissemination of the health report.

Thanks to technical advances and new habits of media use, publication channels for health reports have changed and become multifaceted. Decisions about suitable publication channels should be based on the preferences of the target audience. Quite often there is more than one target audience, and preferences and channels to reach them may differ.

A simple framework differentiating seven marketing criteria summarizes the main considerations for the **publishing and dissemination** of a health report (Booms & Bittner 1981). Each criterion is described below to illustrate the breadth of topics to think about. The seventh criterion – price – is left out since it is not usually of relevance for health reports, since those produced by public health authorities or health ministries are mostly made available free of charge.

Products are usually printed reports; these may be combined with pdf files available online. Reports are increasingly published as online content on official websites of public health institutes, facilitating links with further information or direct links to the data. Examples include the Dutch

3 A "sandpit exercise" is an in-depth and informed debate of stakeholders (duration about three days), with the aim to develop a clear list of recommendations or agreed actions.

Public Health Foresight Study 2018 (RIVM, 2018) and the For a healthy Belgium website (Belgian Federal Government, 2020). Many reports – especially from international organizations – are supplemented with additional material such as infographics or short videos that provide summaries of the report and/or aim to encourage addressees to read it. Examples include the WHO European health report infographics gallery (WHO Regional Office for Europe, 2018) and the State of Health in the EU video (European Commission, 2017). Testimonials or a blog are also opportunities to feature the report or to spread news and trends more regularly. One example is the Public health matters blog (PHE, 2020). Other topics to think about include checking publications from other organizations. These may contain – in terms of product and layout – something inspiring to make the topic/report more appealing and modern.

Promotion is how the public is informed about the report. Approaches to consider include a passive approach – just publishing the report on a website– or a more active strategy. Decisions should be made about whether a press conference should be organized, or whether the author's institution (or the ministry) should prepare a press release. A formal procedure may be in place that supports dissemination of the report within the parliament or other health boards. If it is possible to apply a multimedia strategy, pictures, videos and other online content can be easily shared on social media channels like Twitter, Facebook or Instagram. These provide pieces of information and support further dissemination and promotion of the report. They are also channels that enable authors to engage directly with the public. If use of social media is applicable, an informative newsfeed should be developed, including a link to the report, meaningful figures and relevant content-related information. Gatewood et al. (2020) provide an overview of different approaches to social media use and set out approximations for the time commitment necessary. It is also important to think about handling responses and about evaluation of the perception of the report in terms of downloads, media responses, direct stakeholder contacts and so on.

Place is where the report can be found. It should be easy to find by everyone who may be interested in the report. Examples include an ordering system for printed brochures, an institutional website or a health reporting website. The place should be appropriate and should fit the habits and the context in the country.

People are the authors of the report. While an official body (such as a public health institute or statistical office) usually act as editor, it may be helpful to have well connected and/or well known people within the team of authors. Their reputation and professional networks could support the dissemination of the report.

Process (of delivery) concerns the timing of when to publish the report – for example, at a particular point in time within the legislative period, or linked to another event (window of opportunity). Relevant conferences or meetings with representatives of the target audience may be planned in due course, where the authors can present the main findings of the report. Depending on the content, it may be helpful to think not only about health conferences but also those for other sectors – for example, the report may also have interest from a social policy perspective or from a demographer's point of view.

Physical evidence relates to an overall assessment concerning publishing and dissemination of the report. This is an opportunity to check that everything looks professional and reliable.

These criteria provide a general framework. For a deeper understanding and information on development of press releases, online content or general dissemination plans, some of the guides and toolkits in Annex 1 provide further support.

A general recommendation is to remember that the writing of the report took a lot of time and effort. This should be valued with a well constructed communication and dissemination plan.

Health reporting: a team effort

This guidance illustrates that health reporting requires multiple skills. It can be a simple task, but if reports are to make a difference, the authorial team needs a broad palette of strengths, skills and expertise (Van Bon-Martens et al., 2019).

The team should include trained public health experts, epidemiologists and/or statisticians, as well as people with training or expertise in data visualization. It can also be helpful to discuss the content and the related process (such as for external quality assurance) with social scientists, policy scientists and project managers. The publishing and dissemination process requires communication and marketing experts and, depending on the promotional approach, web designers and experts in creating animated content and videos.

The people involved should have specific strengths and talents or should have received additional professional training on a specific topic. First and foremost, the team needs to include people with analytical skills (and perhaps programming skills), writing skills, and communication and networking skills.

Conclusion: putting it into practice

This guidance sketches quite an advanced approach to health reporting. It raises questions – the topics to think about – that are especially relevant for the writing and publishing process and provides an overview of the creative, communicative and complex task of making impactful health reports.

The guidance includes topics like storytelling and use of social media; these may already be standard practice for some public health authorities, but this is probably not the case for the majority. It takes time for established practices and routines to change, and opportunities to try out new paths may be limited. This guidance aims to support authors in trying out these new paths and to trigger interest in how this field of practice will evolve further – for instance, in terms of more participatory data collection mechanisms and more interactive dissemination strategies, inclusion of qualitative data or implementation of the Health in All Policies approach by writing intersectoral reports with colleagues responsible for education, social affairs, urban planning and so on.

The goal is that authors will remain curious and enjoy developing impactful health reports.

References [4]

Belgian Federal Government (2020). For a healthy Belgium: health and healthcare indicators [website]. Brussels: Belgian Federal Government (https://www.healthybelgium.be/en/).

Booms B, Bittner MJ (1981). Marketing strategies and organizational structures for service firms. In: Donnelly JH, George WS, editors. Marketing of services. Chicago: American Marketing Association.

CDC (2013). Data dissemination. Atlanta, GA: Centers for Disease Control and Prevention (https://www.cdc.gov/globalhealth/healthprotection/fetp/training_modules/21/data-dissemination_ppt_final_09252013.pdf).

Centre for Public Health (2020). Factsheets zur Gesundheit der Bevölkerung [Factsheets on the health of the population]. Bielefeld: Centre for Public Health (https://www.lzg.nrw.de/ges_bericht/factsheets/index.html).

CHR&R (2020). What works for health [website]. Madison, WI: County Health Rankings & Roadmaps (https://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health).

Eklund Karlsson L, Takahashi R (2017). A resource for developing an evidence synthesis report for policy-making. Copenhagen: WHO Regional Office for Europe (Health Evidence Network synthesis report 50; https://www.euro.who.int/en/publications/abstracts/resource-for-developing-an-evidence-synthesis-report-for-policy-making-a-2017).

EUPHA (2017). Pre-conference – Sharing health information and evidence with policy makers: tools for transferring knowledge into policy action. Utrecht: European Public Health Association (https://eupha.org/section_page.php?section_page=138).

European Commission (2017). State of Health in the EU [online video]. Brussels: European Commission (https://audiovisual.ec.europa.eu/en/video/I-146863?lg=OR).

Eurostat (2020). Tutorial: rounding of numbers. Luxembourg: Eurostat (https://ec.europa.eu/eurostat/statistics-explained/index.php/Tutorial:Rounding_of_numbers).

4 All URLs accessed 16–17 December 2020.

Garritty C, Gartlehner G, Nussbaumer-Streit B, King VJ, Hamel C, Kamel C et al. (2020). Cochrane Rapid Reviews Methods Group offers evidence-informed guidance to conduct rapid reviews. J Clin Epidemiol. 130:13-22. doi: 10.1016/j.jclinepi.2020.10.007.

Gatewood J, Monks SL, Singletary CR, Vidrascu E, Moore JB (2020). Social media in public health: strategies to distill, package, and disseminate public health research. J Public Health Manag Pract. 26(5):489–92. doi: 10.1097/PHH.0000000000001096.

Heath C, Heath D (2007). Made to stick: why some ideas survive and others die. New York: Random House.

Hegger I, Kok MO, Janssen SW, Schuit AJ, van Oers HA. Contribution of knowledge products to health policy: a case study on the Public Health Status and Forecasts Report 2010. Eur J Public Health. 2016;26(6):922–7. doi:10.1093/eurpub/ckw097.

Hunter DJ (2016). Evidence-informed policy: in praise of politics and political science. Public Health Panorama. 2(3):249–400 (https://apps.who.int/iris/handle/10665/325358).

Nussbaumer Knafflic C (2015). Storytelling with data: a data visualization guide for business professionals. Hoboken, NJ: John Wiley & Sons.

OECD, EU (2020). Health at a glance: Europe 2020 – state of health in the EU cycle. Paris: OECD Publishing. doi:10.1787/82129230-en.

PAHO (2017). Noncommunicable diseases: best-buys for NCDs [website]. Washington DC: Pan American Health Organization (https://www.paho.org/hq/index.php?option=com_topics&view=rdmore&cid=9500&Itemid=40933&lang=en).

PHE (2020). Public Health Matters [blog]. London: Public Health England (https://publichealthmatters.blog.gov.uk/).

PIA PHR Project Group (2009a). Policy impact assessment of public health reporting (PIA PHR) final report. Bielefeld: NRW Centre for Health (https://www.lzg.nrw.de/_php/login/dl.php?u=/_media/pdf/ges_planen/projekte/pia_phr_final_report_2009.pdf).

PIA PHR Project Group (2009b). Does it make a difference? Some assessments and recommendations concerning the impact of public health reporting. Bielefeld: NRW Centre Health (https://www.lzg.nrw.de/_php/login/dl.php?u=/_media/pdf/ges_planen/projekte/pia_phr_manual.pdf).

Public Health Wales Observatory (2019). Alcohol in Wales [online report]. Cardiff: Public Health Wales Observatory (https://publichealthwales.shinyapps.io/AlcoholinWales/#section-overview-page-export).

Public Health Wales Observatory (2020). Life expectancy and mortality. Cardiff: Public Health Wales Observatory (http://www.publichealthwalesobservatory.wales.nhs.uk/reports-and-analysis).

RIVM (2018). The Public Health Foresight Study 2018 [website]. Bilthoven: National Institute for Public Health and the Environment (https://www.vtv2018.nl/en).

Rosenkötter N, Borrmann B, Arnold L, Böhm A (2020). Subnational population health monitoring and reporting: public health at the grassroots level. Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 63(9):1067–75. doi: 10.1007/s00103-020-03190-z.

Rushmer R, Ward V, Nguyen T, Kuchenmöller T (2019). Knowledge translation: key concepts, terms and activities. In: Verschuuren M, Van Oers H (2019). Population health monitoring: climbing the information pyramid. Cham: Springer: 127–50.

Schimmel J (2012). Writing science: how to write papers that get cited and proposals that get funded. Oxford: Oxford University Press.

Smith, KA (2013). Beyond evidence-based policy in public health: the interplay of ideas. Basingstoke: Palgrave Macmillan.

Thißen M, Seeling S (2020). Milestone 29 –WP8, Task 8.3.2. Research/desk work on health reporting in Member States. Brussels: European Commission (https://www.inf-act.eu/wp8).

UNECE (2009a). Making data meaningful. Part 2: a guide to presenting statistics. Geneva: United Nations Economic Commission for Europe (https://unece.org/statistics/making-data-meaningful).

UNECE (2009b). Making data meaningful. Part 1: A guide to writing stories about numbers. Geneva: United Nations Economic Commission for Europe (https://unece.org/statistics/making-data-meaningful).

Van Bon-Martens M, Van Oers H, Verschuuren M, Zwakhals L (2019). Population health reporting. In: Verschuuren M, Van Oers H. Population health monitoring: climbing the information pyramid. Cham: Springer:107–25.

Verschuuren M, Van Oers H (2019). Population health monitoring: climbing the information pyramid. Cham: Springer.

WHO (2017). Tackling NCDs: "best buys" and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: World Health Organization (https://apps.who.int/iris/handle/10665/259232).

WHO Regional Office for Europe (2018). Infographics gallery. In: WHO/Europe [website]. Copenhagen: WHO Regional Office for Europe (https://www.euro.who.int/en/data-and-evidence/european-health-report/european-health-report-2018/infographics-gallery).

Zinsser W (2016). On writing well: the classic guide to writing nonfiction, 7th edition. New York: HarperCollins Publishers.

Annex 1. Further resources

Guides and toolkits

CDC (2019). POLARIS Policy Process [website]. Atlanta, GA: Centers for Disease Control and Prevention (https://www.cdc.gov/policy/polaris/policyprocess/index.html).

Center for Community Health and Development (2020). Community tool box [website]. Lawrence, KS: Center for Community Health and Development (University of Kansas) (https://ctb.ku.edu/en/table-of-contents). [*Note:* see, in particular, Chapter 6 on communications to promote interest.]

Cochrane Rapid Reviews Methods Group (2020). Cochrane methods: rapid reviews [website]. London: Cochrane (https://methods.cochrane.org/rapidreviews/cochrane-rr-methods).

Eklund Karlsson L, Takahashi R (2017). A resource for developing an evidence synthesis report for policy-making. Copenhagen: WHO Regional Office for Europe (Health Evidence Network synthesis report 50; https://www.euro.who.int/en/publications/abstracts/resource-for-developing-an-evidence-synthesis-report-for-policy-making-a-2017).

Eurostat (2020). Tutorial: how to comment on statistics. Luxembourg: Eurostat (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Tutorial:How_to_comment_on_statistics).

Eurostat (2020). Tutorial: rounding of numbers. Luxembourg: Eurostat (https://ec.europa.eu/eurostat/statistics-explained/index.php/Tutorial:Rounding_of_numbers).

National Collaborating Centre for Methods and Tools (2020). Evidence-informed public health [website]. Hamilton: McMaster University (https://www.nccmt.ca/tools/eiph).

Public Health Advocacy Institute of WA (2019). Advocacy in action: a toolkit for public health professionals, fourth edition. Perth: Public Health Advocacy Institute of Western Australia (https://www.phaiwa.org.au/the-advocacy-toolkit/).

UNECE (2009). Making data meaningful. Geneva: United Nations Economic Commission for Europe (https://unece.org/statistics/making-data-meaningful).

WHO (2020). STEPwise approach to surveillance (STEPS) [website]. Geneva: World Health Organization (https://www.who.int/ncds/surveillance/steps/en/). [*Note:* in this the reporting format used follows a classic IMRAD structure].

WHO (2017). Strategic communications framework for effective communications. Geneva: World Health Organization (https://www.who.int/about/communications).

Groups, networks and organizations

Cochrane Collaboration (https://www.cochrane.org/).

InfAct EU Joint Action on Health Information (https://www.inf-act.eu/).

EUPHA Public Health Monitoring and Reporting section (https://eupha.org/section_page.php?one=Public+Health+Monitoring+and+Reporting).

Campbell Collaboration (https://campbellcollaboration.org/).

WHO Regional Office for Europe: European Health Information Initiative (EHII) (https://www.euro.who.int/en/data-and-evidence/european-health-information-initiative-ehii).

WHO Regional Office for Europe: Health Evidence Network (HEN) (https://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/health-evidence-network-hen).

Good practice examples

Note: this selection contains only examples/reports available in English, and these reports do not always fulfil all the quality criteria mentioned in the manual.

International

OECD, EU (2020). Health at a glance: Europe 2020 – state of health in the EU cycle. Paris: OECD Publishing. doi:10.1787/82129230-en.

WHO Regional Office for Europe (2018). European health report 2018. Copenhagen: WHO Regional Office for Europe (https://www.euro.who.int/en/data-and-evidence/european-health-report/european-health-report-2018).

National

Belgian Federal Government (2020). For a healthy Belgium: health and healthcare indicators [website]. Brussels: Belgian Federal Government (https://www.healthybelgium.be/en/).

OECD, European Observatory for Health Systems and Policies (2019). Country health profiles 2019. Paris: OECD Publishing (http://www.oecd.org/health/country-health-profiles-eu.htm).

RIVM (2018). The Public Health Foresight Study 2018 [website]. Bilthoven: National Institute for Public Health and the Environment (https://www.vtv2018.nl/en).

Regional/local

Public Health Wales Observatory (2020). Public Health Outcomes Framework reporting tool [website]. Cardiff: Public Health Wales Observatory (https://public.tableau.com/views/PHOF2017LAHB-HOME/LAHB?:embed=y&:showVizHome=no). [*Note:* see, in particular, the evidence tab].

ADPH (2019). Annual report competition 2019 [website]. London: Association of Directors of Public Health (UK) (https://www.adph.org.uk/2019/05/adph-annual-report-competition-2019/).

World Health Organization
REGIONAL OFFICE FOR Europe

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands
North Macedonia
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
Turkey
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

World Health Organization
Regional Office for Europe
UN City, Marmorvej 51
DK-2100, Copenhagen Ø, Denmark
Tel: +45 45 33 70 00
Fax: +45 45 33 70 01
Email: eurocontact@who.int
Website: www.euro.who.int