Evidence-informed policymaking
The role of research, stakeholders and policy organizations

PhD thesis

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List of original contributions

The present thesis is based on the following papers.

Paper 1: **Jakobsen, MW**, Lau, CJ, Skovgaard, T, Hämäläinen, R-M, Aro, AR. Use of research evidence in policymaking in three Danish municipalities. *Evidence & Policy: A Journal of Research, Debate and Practice*. 2018, 14(4): 589-611.

Paper 2: Eklund-Karlsson, L, **Jakobsen, MW***, Heiberg, MW, Aro, AR. Involvement of external stakeholders in local health policymaking process: a case study from Odense Municipality, Denmark. *Evidence & Policy: A Journal of Research, Debate and Practice*. 2017, 13(3): 433-454.

Paper 3: **Jakobsen, MW**, Eklund-Karlsson, L, Skovgaard, T, Aro, AR. Organisational factors facilitating research use in policymaking related to health: A scoping review. *Submitted*.

*Note: Considerable contribution has been done by the defendant to the second paper, including analysis of empirical data and reporting, making this paper an important contribution to this thesis.

In addition to these three papers included in the thesis, one supplementing paper is presented in Appendix 4 and the reference provided below. This paper is a research article which is a multi-country analysis exploring the use of research in health enhancing physical activity policies. This paper is based on the international data set of the same project and topic of this thesis.

Additional paper: Hämälainen, R-M, Aro, AR, van de Goor, LAM, Lau CJ, **Jakobsen, MW**, Chereches, RM, Syed, AM, and on behalf of the REPOPA Consortium. Exploring the use of research evidence in health-enhancing physical activity policies. *BMC Health Research Policy and Systems*. 2015, 13(43): e1-e9.

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I would like to thank the team members of the REPOPA project, whom I have had the pleasure of collaborating with. Cathrine Juel Lau deserves special thanks for her professional lead on the case study of the health policy of Copenhagen Municipality, for her valuable contribution to the Danish REPOPA WP1 research and for being co-author of paper 1.

I would like to thank Riitta-Maija Hämäläinen for supporting the Danish research in the first work package of the REPOPA project and for being the co-author of paper 1. Also, she deserves thanks for allowing me to contribute as co-author in the joint REPOPA WP1 paper.

I wish to thank the two Student Assistants from the Master of Science Program in Public Health Malin Winblad Heiberg and Charlotte Louise Haaber Pettersen for assisting during the data collection and initial coding of the case studies of the health policy of Odense and the sports and physical activity policy of Esbjerg Municipality. Malin deserves a special thanks for being co-author in paper 2.

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Finally, I wish to sincerely thank my colleagues, family and friends for their support during the whole process.

Mette Winge Jakobsen

Esbjerg, February 2019

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Abbreviations

CIHR: Canadian Institute of Health Research

CIPHER: Centre for Informing Policy in Health with Evidence from Research. CIPHER is funded by the National Health and Medical Research Council Centre of Research Excellence grant and is a collaboration of seven Australian and international organizations.

DKWP1: Danish work package 1

EBM: Evidence-based medicine

EBP: Evidence-based practice

EBPH: Evidence-based public health

EC: European Commission

EIPM: Evidence-informed policymaking

HEPA: Health-enhancing physical activity

HT: Healthy Together

KTA: Knowledge to action

LLC: Long Live Copenhagen

MoH: Ministry of Health

NICE: National Institute for Health and Care Excellence

NPM: New public management

RE: Research evidence

REPOPA: REsearch into POlicy to enhance Physical Activity

RQ: Research question

SAND Group: The research and development unit within the Health Secretary of Odense Municipality

SPAP: Sports and Physical Activity Policy

SPIRIT: Supporting Policy In health with Research: An Intervention Trial

WHO: World Health Organization

WP: Work package

English summary

Background

A gap still exists between the best available research evidence and policy solutions addressing health issues. This gap prevents opportunities for developing cost-effective policies with increased health benefits. Research utilization studies show a considerable lack of research use by policymakers, despite efforts in searching for research and ongoing publication of research findings. A critical review of existing research shows a need to better understand the 'real life' context of policymaking to develop better strategies supporting research integration.

From the outset of the evidence-informed policy and practice pathway, this thesis aims to further our understanding of the role of research, external stakeholders and policy organizations in evidence-informed public health policymaking.

From October 2011 to September 2016, the project REPOPA (REsearch into POlicy to enhance Physical Activity; www.repopa.eu), funded by the European Commission, set out to1) investigate the role of research in public policies in all policy levels aiming to increase health through physical activity, 2) to test interventions supporting evidence-informed decision-making, and 3) to develop indicators for evidence-informed policymaking. This thesis was part of the first work packages of the REPOPA project and is also an extension from this project in the topic of organizational aspects of research use.

Aim and research questions

The purpose of this PhD project was to explore the role of research and external stakeholders in local public health policymaking in Denmark, and to map the organizational factors that facilitate research use in public health policymaking. Three papers were included in this thesis, and the following research questions were developed for each paper.

Paper 1: Which types of research evidence were used in the development of three local health-enhancing physical activity policies in Denmark and how was the research evidence integrated into policymaking regarding physical activity?

Paper 2: Which external stakeholders were involved in the development of the Health Policy of Odense Municipality 'Healthy Together'?

- What was the role and contribution of external stakeholders in the policymaking process?
- What was the purpose of their involvement?
- What were the public health officials' perceptions on the involvement of external stakeholders?

Paper 3: Which organizational factors have been identified in previous peer-reviewed and grey literature studies reporting or synthesizing empirical findings or theories on factors of research evidence use in public health policymaking?

Methods and theoretical frameworks

A case study methodology was applied to analyze the use of research evidence in local policies in Denmark in relation to health enhancing physical activity (paper 1). This study was conducted within the first work package of the REPOPA project. Three policies from the municipalities of Copenhagen, Esbjerg and Odense respectively were selected due to their focus on health enhancing physical activity; their size, and their ability to give a nuanced picture of research use in local policymaking in Denmark. A total of 41 policy documents and 15 interviews of public officials involved in the policymaking process were collected and analyzed using thematic content analysis. The theoretical assessment of research use was based on Hanney et al.'s depiction of different models of research utilization.

To analyze the involvement of external stakeholders in the development of the Health Policy of Odense Municipality 'Healthy Together' (paper 2), the previous data collected for the REPOPA work package one was revisited to extract the relevant information. 56 policy documents and six interviews were analyzed using thematic content analysis. The theory of policy networks by Rhodes was applied to analyze the type of involvement, the Multiple Streams theory by Kingdon was applied to analyze the influence of external stakeholders, and the purpose of involvement was analyzed based on the research utilization models by Weiss.

A scoping review methodology and thematic content analysis was deployed to review and map the knowledge about organizational factors facilitating research use in policymaking related to health (paper 3).

Results

The three case studies found that policymakers working with health issues use more research evidence than the policymakers working with more culture and physical activity-oriented issues. Demographic/statistical data as well as expert consultation, were mostly used. The former was used to identify target groups and to frame the policies. The latter was used to develop or to legitimize policy actions and as a political power demonstration by the politicians. Evidence-based guidelines and recommendations were used conceptually in the agenda-setting phase, instrumentally to select policy actions, and as symbolic argumentation in the policy formulation phase (paper 1). The study of the involvement of external stakeholders in the policymaking of the health policy of Odense Municipality showed a fast policymaking process steered by politicians' interest of a top-down, evidence-based policy approach, providing limited possibility for involvement of external stakeholders and for negotiations with policymakers. Researchers and practice-based experts were involved the most to support the evidence-based approach (paper 2). The synthesis of knowledge on organizational factors facilitating research use found several factors, which are highly supported by research. These factors are related to 1) individual research awareness and skills and research integration skills as well as individual values, interests and beliefs; 2) access to research; 4) inter- and intra-organizational communication; 5) management of research integration; and 6) institutional structures and rules for policymaking. The review of the literature shows a need to increase the use of theories from different disciplines to develop better frameworks for promoting organizational research use in public health policymaking (paper 3).

Conclusion

Based on results from three Danish case studies and a scoping review, this thesis provides new knowledge on the development of EIPM in the context of real-world public health policymaking as well as a conceptual overview of the organizational factors that facilitate research, which support a systemic understanding of research use in public health policymaking. The new knowledge from this thesis contributes to a better understanding on how to promote evidence-informed public health policymaking. It does that by demonstrating that research evidence sourced for policymaking are seldom the primary scientific products, but rather internal data, secondary literature and expert consultation. This underlines the importance of national public health research systems. Furthermore, the thesis provides knowledge on the importance of the political strategies guiding the policy development processes and the need to build in opportunities for genuine involvement by external stakeholders to support EIPM. Moreover, the thesis maps the existing research on organizational factors that facilitate research use, which underscores the need for more theory application and comprehensive frameworks for understanding organizational factors that facilitate research use for EIPM.

The thesis provides useful understanding about the development of EIPM by analyzing the role of research evidence and external stakeholders in policymaking through the evidence-informed policy and practice pathway, the multiple streams theory and descriptive research utilization models.

Based on the integrated findings of the three thesis papers, the following recommendations for policymakers and researchers for promoting EIPM are provided:

1) Increased efforts to develop possibilities for an easy access for policymakers to contextually applicable research evidence from trusted sources, primarily local data, national reports with evidence-based recommendations and consulted experts.

2) The development of policy processes which allow genuine contribution from internal and external stakeholders.

3) Increased focus on the intra-organizational mechanisms, which increase the capacity of policy organizations to make evidence-informed decisions.

Resumé (Danish summary)

Baggrund

Der er til stadighed et skel mellem forskning og sundhedspolitik, som gør at mulighederne for at udarbejde omkostningseffektive politikker med store sundhedsforbedringer ikke bliver optimalt udnyttet. Undersøgelser viser en betydelig mangel på brug af forskning blandt de aktører, som udarbejder politikker. Dette til trods for bred indsats for at søge forskningsviden og den store mængde forskningsviden, der løbende udgives. En kritisk gennemgang af eksisterende forskning om brugen af forskning til udvikling af politik viser, at der er behov for at undersøge, hvordan politikker bliver til for at kunne udvikle bedre strategier for forskningsinformeret politikker.

Med udgangspunkt i en evidens-informeret tilgang til udviklingen af sundhedspolitikker, har denne afhandling til hensigt at øge forståelsen af, hvilken rolle forskningsviden, eksterne interessenter, såsom forskere og patientforeninger, og de politiske organisationer, herunder embedsværket og de politiske udvalg, spiller i forhold til udviklingen af evidens-informerede sundhedspolitikker.

Fra oktober 2011 til september 2016 finansierede Europa Kommissionen forskningsprojektet REPOPA (REsearch into POlicy to enhance Physical Activity; www.repopa.eu), der havde til hensigt at 1) undersøge forskningens rolle i udviklingen af politikker, som fremmer folkesundheden gennem fysisk aktivitet, 2) afprøve interventioner, der understøtter evidens-informeret beslutningstagning, og 3) udvikle indikatorer for evidens-informeret politikudvikling. Denne afhandling knytter sig til REPOPA-projektets første arbejdspakke, og er også en forlængelse af projektet inden for emnet organisatoriske faktorer, som fremmer brugen af forskningsviden i udviklingen af sundhedspolitikker.

Formålsbeskrivelse of forskningsspørgsmål

Formålet med ph.d.-projektet var at undersøge, hvilken rolle forskning og eksterne interessenter spiller i udviklingen af lokale sundhedspolitikker i Danmark samt kortlægge organisatoriske faktorer, som fremmer brugen af forskningsviden i udviklingen af sundhedspolitik. Tre artikler indgik i denne afhandling, og følgende forskningsspørgsmål blev udviklet for hver artikel.

Artikel 1: Hvilke typer forskningsevidens blev brugt til udviklingen af tre lokale politikker i Danmark med fokus på sundhedsfremmende fysisk aktivitet, og hvordan blev forskningsevidensen integreret i udviklingen af politikkerne?

Papir 2: Hvilke eksterne interessenter var involveret i udviklingen af sundhedspolitikken i Odense Kommune 'Sund Sammen'?

• Hvad var rollen og bidraget fra de eksterne interessenter i den politiske proces?

• Hvad var formålet med deres inddragelse?

• Hvad var de offentlige sundhedsmyndigheders opfattelse af inddragelsen af eksterne interessenter?

Papir 3: Hvilke organisatoriske faktorer er blevet identificeret i tidligere peer-reviewed samt ikke-peer-reviewed studier vedrørende empiriske fund eller teorier, som omhandler faktorer for brugen af forskningsviden til udvikling af sundhedspolitikker?

Metoder og teoretisk ramme

Tre case-studier blev gennemført for at analysere brugen af forskningsevidens i udviklingen af lokale politikker i Danmark med fokus på sundhedsfremmende fysisk aktivitet (artikel 1). Undersøgelsen blev gennemført som en del af REPOPA-projektets første arbejdspakke. Der blev valgt tre politikker fra henholdsvis Københavns Kommune, Esbjerg Kommune og Odense Kommune på grund af deres fokus på sundhedsfremmende fysisk aktivitet; deres størrelse og deres evne til at give et nuanceret billede af forskningsbrug, når der tages beslutninger på lokalpolitisk niveau i Danmark. I alt blev 41 politiske dokumenter og 15 interviews af offentlige embedsmænd, som var involveret i udviklingen af politikkerne, indsamlet og analyseret ved brug af tematisk indholdsanalyse. Den teoretiske vurdering af formålet med brugen af forskningsevidens var baseret på Hanney et al.'s skildring af forskellige modeller af forskningsudnyttelse.

De indsamlede data i REPOPA-projektet første arbejdspakke blev genset for at analysere involveringen af eksterne interessenter i udviklingen af sundhedspolitikken af Odense Kommune 'Sund Sammen' (artikel 2). Her blev 56 politiske dokumenter og seks interviews analyseret ved brug af tematisk indholdsanalyse. Teorien om politiske netværk af Rhodes blev anvendt til at analysere typen af involvering. Kingdon's Multiple Streams-teori blev anvendt til at analysere indflydelsen af de eksterne interessenter, og Weiss' modeller af forskningsudnyttelse blev anvendt til at vurdere formålet med involveringen af interessenterne.

En scoping review metode og tematisk indholdsanalyse blev gennemført for at gennemgå og kortlægge publiceret litteratur om organisatoriske faktorer, som fremmer brugen af forskningsviden i udviklingen af sundhedspolitikker (artikel 3).

Resultater

De tre casestudier fandt, at de embedsmænd, som arbejder indenfor det sundhedsfaglige område, bruger mere forskningsevidens end de embedsmænd, der arbejder indenfor det idræts-motionsfaglige område. Demografiske/statistiske data samt ekspertrådgivning blev mest anvendt som evidens. De førstnævnte blev brugt til at identificere målgrupper og definere rammerne for politikken. Sidstnævnte blev anvendt til at udvikle eller legitimere politiske handlinger samt taktisk af politikerne. Evidensbaserede retningslinjer samt anbefalinger blev brugt begrebsmæssigt i den tidlige udviklingsfase, rationelt/instrumentelt til at udvælge politiske handlinger og som symbolsk argumentation i den politiske formuleringsfase (artikel 1). Undersøgelsen af involvering af eksterne interessenter i udviklingen af Odense Kommunes sundhedspolitik viste, at en hurtig politisk beslutningsproces styret af politikernes interesse for en top-down, evidensbaseret tilgang, gav begrænsede muligheder for involvering af eksterne interessenter og for, at de kunne gøre en reel indflydelse. Forskere og praksisbaserede eksperter var mest involveret for at støtte den evidensbaserede tilgang (artikel 2). Gennemgangen af den nuværende litteratur om organisatoriske faktorer, der fremmer brugen af forskning i udviklingen af sundhedspolitikker, fandt flere faktorer, som er stærkt understøttet af forskning. Resultaterne understøtter den vigtige rolle, som de politiske organisationer har i at integrere forskning i politik. Disse faktorer er relateret til 1) individuel forskningsbevidsthed og færdigheder samt evner til at integrere forskningsviden samt

personlige værdier, interesser og holdninger; 2) adgang til forskningsviden 4) inter- og intra-organisatorisk kommunikation 5) forvaltning af forskningsintegration og 6) institutionelle strukturer og regler for brugen af evidens til politiske beslutningsprocesser. Gennemgangen af litteraturen viser et behov for at øge brugen af teorier fra forskellige discipliner for at udvikle bedre teoretiske rammer for at fremme politiske organisationers brug af forskningsviden i udviklingen af politikker (artikel 3).

Baseret på resultaterne fra tre danske case-studier og et scoping review bidrager denne afhandling til ny viden om udviklingen af evidens-informerede sundhedspolitikker ud fra et pragmatisk udgangspunkt. Et begrebsmæssigt overblik over de organisatoriske faktorer, der fremmer brugen af forskning blev præsenteret, hvilket kan hjælpe til en systemisk forståelse af brugen af forskning i udviklingen af sundhedspolitik. Denne samlede nye viden understøtter den videre indsats for at fremme udviklingen af evidens-informerede sundhedspolitikker. Det gør den ved at demonstrere, at forskningsevidens, som bliver indhentet til politisk fremstilling, sjældent kommer fra de primære videnskabelige produkter, men snarere interne data, sekundær litteratur og ekspertrådgivning. Afhandlingens indeholder ligeledes ny viden om betydningen af de politiske strategier, der styrer de politiske udviklingsprocesser, samt behovet for at skabe muligheder for reel involvering af eksterne interessenter for at fremme evidens-informeret beslutningstagning. Desuden kortlægger afhandlingen den eksisterende litteratur om organisatoriske faktorer, der letter brugen af forskning i politik. Denne gennemgang understreger behovet for mere omfattende teoretiske rammer i den videre forskning inden for organisatoriske faktorer, der fremmer brugen af forskning i sundhedspolitik.

Afhandlingen giver en nyttig forståelse af udviklingen af evidens-informerede politikker ved at analysere rollen af forskning samt eksterne interessenter i udviklingen af politikker ud fra den teoretiske ramme *the evidence-informed policy and practice pathway, multiple streams* teorien samt deskriptive modeller af forskningsudnyttelse.

Baseret på de samlede resultater af de tre indbefattede forskningsartikler fremlægges følgende anbefalinger til politikere, embedsværk og forskere for at fremme udviklingen af evidens-informerede sundhedspolitikker:

1) Øget indsats for at lette adgangen til forskningsviden fra pålidelige kilder, som er kontekstmæssigt anvendelig til udviklingen af politikker, det være sig primært lokale data, nationale synteserapporter med anbefalinger, og rådgivning fra eksperter.

2) Sikring af politiske beslutningsprocesser, der muliggør reelt bidrag fra interne og eksterne interessenter.

3) Øget fokus på de intra-organisatoriske faktorer og mekanismer, som øger den interne kapacitet i de politiske organisationer til at kunne gennemføre evidens-informere beslutninger.

1. Introduction

1.1 The background of research use in public health policymaking

Ever since the beginning of the evidence-based medicine and policy movement in the 1980's, a vast amount of research has fed into the understanding of both the use of scientific research in public health policymaking and how to increase the health benefits of governmental and privately funded research. The most recent studies show that the development of policies informed by scientific research is a highly complex, interactive process, which requires good quality and policy relevant research, research-integrating networks, organizational research capacity, and supportive policy environments (Haynes et al., 2011; Liverani et al., 2013; Mitton et al., 2007; Oliver et al., 2014a; Orton et al., 2011; Zardo et al., 2018; Masmood et al., 2018; van der Arend, 2014; Contandriopoulos et al., 2010).

Several strategies have been proposed to increase the use of research among policymakers. Focus is primarily on three target areas: 1) increasing access to research, 2) promoting interaction between research producers and research users, and 3) improving the organizational capacity to use research (Haynes et al., 2018; Huckel Schneider et al., 2014; Moore et al., 2011). There is, however, still a large gap between scientific research produced and research being implemented into policy and practice. For instance, only findings from 11 out of 45 Campbell reviews published by the Social Welfare Coordinating Group were reported by the authors as being applied in practice and policy decision-making (Maynard and Dell, 2018).

The research-into-policy gap within public health has given risen to two slightly distinctive approaches; the evidence-based public health approach (Brownson et al., 2009) and the evidence-informed policymaking approach (Bowen and Zwi, 2005; Ciliska et al., 2012), aiming to maximize the societal benefits of scientific research through better integration processes within policy and practice. The two approaches will be further explained later in this chapter.

Few studies examine the actual use of research evidence in policy cases. These studies show a considerable lack of research use by policymakers, despite their effort in searching for research and despite an increase of research being produced (Angulo-Tuesta et al., 2016; Belkhodja et al., 2007).

The interest in an organizational and systems approach to research use in public policymaking has increased (Cherney et al., 2015; Landry et al., 2003; Belkhodja et al., 2007; Nutley et al., 2007; Best and Holmes, 2010). Organizational factors of research use have been studied as means to increase organizational performance, for instance, by enhancing individual and organizational learning (Harvey et al., 2010). For the purpose of developing effective knowledge integration strategies to support evidence-informed public health, more knowledge is needed on organizational mechanisms enhancing research use such as organizational and institutional structures, organizational research capacity, interpersonal relations, knowledge exchange and organizational culture (LaRocca et al., 2012).

1.1.2 The REPOPA project

To further our understanding of research use in real world policymaking, the European Commission funded the 5-year (2011-2016), seven countries, research project called REPOPA

(REsearch into POlicy to enhance Physical Activity; www.repopa.eu) (Aro et al., 2015a). The overall aim of the REPOPA project was to integrate scientific research evidence, expert know-how and real-world policymaking processes to increase synergy and sustainability in promoting health and preventing disease among Europeans. Eight partners from Denmark, The Netherlands, Finland, Romania, England and Italy took part in the research activities. A Canadian partner was responsible for the evaluation of the project. The project consisted of three phases of research activities. Phase one focused on an exploratory investigation of the needs, role and use of research evidence in cross-sector policymaking related to physical activity. 21 policies (local, regional and national) were analyzed using a case study approach and content analysis. The results of this first phase showed a sporadic use of research evidence and that there are many competing interests that challenge the development of evidence-informed policymaking (Aro et al., 2015a). This exploratory exercise also showed that research evidence used for policymaking related to health enhancing physical activity included a wide range of products such as findings from population studies and case studies in peer-reviewed journals or gray publications, evaluation reports, evidence-based recommendations and instructions, experiences from various research and development projects, statistical information and research knowledge shared on conferences. Other type of evidence used to inform policy decisions included stakeholder input and responses from public hearings, values, traditions, local preferences and needs, organizational knowledge and experiences, availability of resources, other policies, and views and articles by media sources (Hamalainen et al., 2015). Core facilitators of research use in policy processes were: Support of administration, media supporting research utilization, access to relevant research, and cross-sector cooperation and relationships with researchers. The main barriers were: The political nature of the policymaking process, the importance of political factors, lack of simultaneity of research and policymaking, lack of applicable and relevant research, lack of resources to source and translate research into policy, lack of joint research utilization criteria, and lack of cooperation and collaboration between policymakers and researchers (van de Goor et al., 2017). The second phase of the REPOPA project was to test two innovative ways to integrate research evidence into policymaking processes by 1) applying a stewardship approach in real-world policymaking and 2) a game simulation approach to stimulate cross-sector collaboration and research evidence use.

The stewardship approach intervention work package (WP) tested contextually tailored interventions to increase evidence-informed policymaking based on a stewardship approach in three countries. These interventions included a close collaboration between researchers and policy makers showed promise in increasing evidence-informed policymaking, where researchers supported the policy process in relation to research use and target group assessment for health enhancing physical activity policy (Bertram et al., 2018; Aro et al., 2015b). However, the results of an evaluation of the sustainability of the intervention stressed the need to continue researchers' support during post-intervention.

The evaluation of the REPOPA In2Action policy game showed that the policy game positively affected the participants' understanding of their roles and how to collaborate across sectors and administrations to enhance evidence-informed policymaking. Also, the evaluation stressed the importance of providing clear directions and formal and informal leadership in cross- and multisector collaboration to promote evidence-informed policymaking (van de Goor et al., 2015).

A final research exercise within the REPOPA project was to develop measurable indicators to enhance evidence-informed public health policymaking; 25 indicators were developed as a result

of the first phase of the REPOPA project and two Delphi rounds. These indicators lied within the following four domains: human resources, documentation of research use, communication and participation during policymaking, and monitoring and evaluation of the policy related to evidence-informed policymaking and research use (Tudisca et al., 2018). These indicators provide useful measures to assess whether internal policy processes are evidence-informed; however, policy organizations need also to be able to make changes in their organizations and policymaking procedures to advance evidence-informed policymaking. Hence, an overview of the organizational factors that facilitates research use, can help support policy organizations and researchers in understanding internal mechanisms for using research for policy. Also, the indicators stress the importance of collaboration and networking across sectors to ensure evidence-informed policymaking. However, there is still a knowledge gap in relation to exactly how the involvement of stakeholders contributes to evidence-informed policymaking; this has been recognized as a key research area (Oliver et al., 2014a; Mitton et al., 2007; Oliver et al., 2013).

REPOPA project findings, and syntheses of research on evidence-informed and evidence-based policymaking clearly show the need to increase our understanding of the contextual mechanisms influencing research use in policymaking and to develop useful theories and frameworks, which can support researchers and policymakers in integrating research into policy (Haynes et al., 2018; Oliver et al., 2014b).

This thesis is both part of the first phase of the REPOPA project exploring the explicit use of research evidence in three Danish REPOPA policy cases, and an extension of the original study by mapping current research on organizational factors facilitating research use.

1.2 Public health policy and policymaking – terms used

Public health policy is in this thesis considered an umbrella term encompassing all areas of public policies related to health. Public policies related to health are actions performed by civil servants and legislatures that deal with health care, disease prevention and health promotion (Anderson, 2011). The term ‘public health policy’ also include the term ‘healthy public policy’, which aims to ‘improve the conditions under which people live: secure, safe, adequate, and sustainable livelihoods, lifestyles, and environments, including housing, education, nutrition, information exchange, child care, transportation, and necessary community and personal social and health services’ (Milio, 2001: 622).

Within the REPOPA project, the policy focus was narrowed to health-enhancing physical activity (HEPA) policies, which entails public policies aiming to enhance the health of populations through promotion of regular physical activity that is sufficiently above baseline activity to produce health gains (Hamalainen et al., 2015). However, in this thesis physical activity policy and HEPA policy are used interchangeably, as physical activity policies are in this thesis defined as ‘formal statements by […] that identify increasing population-level physical activity as a priority’ (Jakobsen et al., 2018: 3).

Public health policymaking is characterized as a complex interactive process, where many different policy actors (bureaucrats, legislative personnel, interest group leaders, researchers and specialist reporters) simultaneously try to influence the policy process and decisions through the deployment of various strategies (Sabatier, 1991; de Leeuw et al., 2014; Walt, 1996). In this thesis the term ‘policymaker’ is used for both bureaucrats/civil servants/policy officials and legislative personnel

unless a distinction is needed. The definition of stakeholders of public health policymaking derives directly from Varvasovszky and Brugha (2000: 341): 'Stakeholders can be defined as actors who have an interest in the issue under consideration, who are affected by the issue, or who – because of their position – have or could have an active or passive influence on the decision-making and implementation processes. They can include individuals, organizations, different individuals within an organization, and networks of individuals and/or organizations, i.e. alliance groups' (Oxman et al., 2009: 1).

The term 'external stakeholder' is used for interest group representatives, researchers, and practice-based experts. These stakeholders are seen as external, as they are not part of the policy organization with any formal responsibility for the policy.

1.3 Approaches and strategies used to study research use in public health policymaking

The main approaches aimed to promote the development of evidence-informed public health policies are rooted in the evidence-based medicine and policy movement, which is underpinned by a rational action approach to decision-making, where policy decisions are based on a thorough analysis of the effectiveness of policy alternatives based on scientific evidence. Within the field of public health policy and practice, the evidence-based public health (EBPH) approach emerged to transfer the principles of evidence-based medicine and evidence-based policy from the health care sector to public health policy and practice, which focus on disease prevention and health promotion (Brownson et al., 2009). An essential change is that findings from a broad variety of studies are needed to ensure effective public health actions, which meet contextual needs, are valued by the various stakeholders, and are more sustainable community settings (Brownson et al., 2009; Satterfield et al., 2009). Simultaneously, an evidence-informed policymaking (EIPM) approach was proposed with the aim to further adapt a systematic and transparent procedure for integrating best available research evidence to inform policy decisions, which is a highly complex task (Bowen and Zwi, 2005; Oxman et al., 2009). The evidence-informed policy and practice approach supports a more flexible use of research for policy purposes while still promoting a systematic and transparent process of integrating research evidence into a complex policymaking process and, at the same time, trying to diminish the increasing opposition against the strict evidence-based policy principles (Ciliska et al., 2012). In the efforts to develop strategies to promote research use for public health policy, there is little distinction to be found between the EBPH and EIPM approaches, although the EIPM approach is more active in integrating social science approaches to imbed research into policy, e.g. the use of policy theories such as the policy streams approach by Kingdon (2014) to understand research use for policymaking (Bowen and Zwi, 2005).

After their examination of the role of health service research in public policymaking Lavis et al. (2002) provided the following statement: 'Finding patterns in the conditions under which research is used and not used requires framework for determining the range of influences with which research competes and the context in which the policymaking occurs' (Lavis et al., 2002: 141).

In this thesis, the evidence-informed policymaking approach is deployed and viewed as the most policy-relevant approach to study the detailed context of research integration in public health policymaking.

Evidence-informed policymaking is defined as:

'(…) an approach to policy decisions that aims to ensure that decision-making is well-informed by the best available research evidence. It is characterized by the systematic and transparent access to, and appraisal of, evidence as an input into the policymaking process. The overall process of policymaking is not assumed to be systematic and transparent. However, within the overall process of policymaking, systematic processes are used to ensure that relevant research is identified, appraised and used appropriately. These processes are transparent in order to ensure that others can examine what research evidence was used to inform policy decisions, as well as the judgements made about the evidence and its implications' (Oxman et al., 2009: 1).

1.3.1 Knowledge translation

The research domain largely used to study and promote research use in public health policymaking is called 'knowledge translation'. This domain encompasses the transfer and uptake of primarily research evidence into health policy and practice and is defined as: 'a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system' (Straus et al., 2009: 165). There are strategies, which target different areas of knowledge translation depending on the target audience and the level of translation, such as knowledge transfer and exchange, knowledge dissemination, knowledge implementation. The term 'research' instead of 'knowledge' is also widely used within knowledge translation strategies to place direct focus on the integration of scientific research. The conceptual framework used for knowledge translation strategies is very often the knowledge into action (KTA) framework (Graham et al., 2006; Straus et al., 2009). Figure 1 below presents a modified version of the KTA framework to represents the development of policy goals and actions, where the original model is aimed for the development of public health interventions.

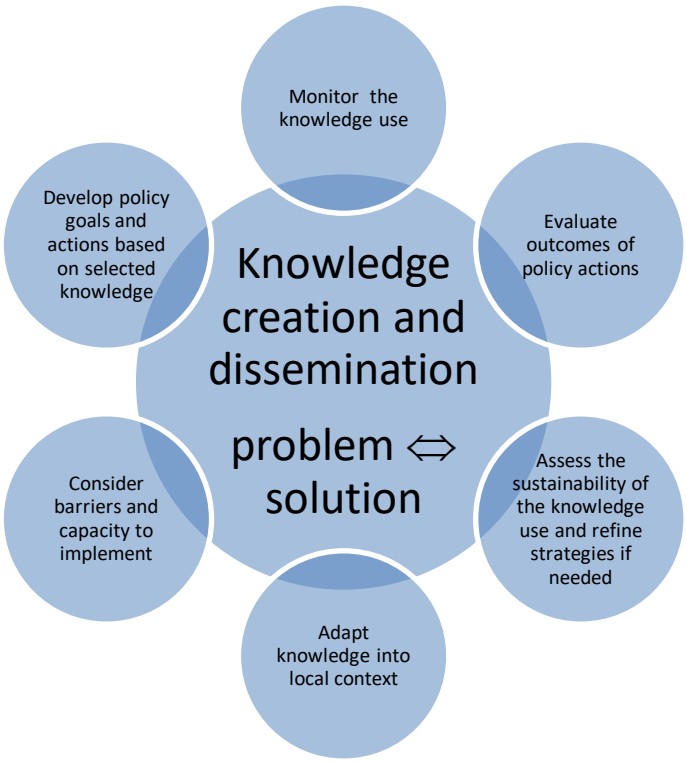

Figure 1 The Knowledge to Policy and Action Framework

Figure inspired by Graham et al.: Lost in knowledge translation: time for a map? The Journal of Continuing Education in the Health Professions 2006, 26, p. 19. Adapted to public health policymaking.

This framework distinguishes the task of generating knowledge and translating it. The successful knowledge translation requires sufficient skills and capacity of policy makers to, if not generate, then at least appraise research information, translating, scaling and adapting the knowledge to local context.

A systematic literature review on the effectiveness of knowledge translation strategies used in public health (LaRocca et al. 2012) cautiously concluded that there is no strategy that is effective across different settings; thus, a tailored approach is needed. Furthermore, it is stated that there is a need to 'examine the organisational characteristics and how factors of systems or agencies including capacity, climate, culture and readiness to change, affect research uptake' (LaRocca et al 2012, p. 769). The knowledge translation strategy, as part of the EBM movement, has been criticized for not sufficiently considering the political context and pressures of policymaking, which do not often happen as a rational process (Cairney and Oliver, 2017).

1.3.2 Knowledge utilization

The knowledge utilization domain stems from social science and concerns the uptake of research into policy, and how research is being used to inform policy decisions. The main contributions to the ways of conceptualizing knowledge utilization comes from Knott and Wildawski (1980), Weiss (1979), and Oh and Rich (1996). As an extension from merely disseminating scientific knowledge, Knott and Wildawski (1980) provided seven stages of utilization from reception of policy relevant information, for instance from scientific research, to the tangible benefits to the citizens caused by the information. Here policy relevant information, which can be all sorts of data and information, is

used to obtain policy relevant knowledge, which consists of 'theories relating policy variables to effects where principles are confirmed by the empirical test of repeated decisions' (Knott and Wildawski, 1980: 547). Different models of knowledge utilization have been proposed and deployed in the studies of research use in public health policymaking.

Weiss introduced different meanings (models) of utilizing social science research by policymakers; these are roughly divided into an instrumental, conceptual, and symbolic use of research (Weiss, 1979).

In 1996, Oh and Rich combined different models of research utilization into an integrated framework of information utilization and tested it empirically in two different mental health policy organizations (Oh and Rich, 1996). They provided evidence supporting the importance of combining and analyzing factors from different theories to gain a full picture of the interrelated mechanisms of research use. Also, they highlighted the potential importance of different types of information (which they divided into program evaluation, demonstration projects (scientific literature), statistical data, and policy analysis) and how they relate to research use.

In their study of research utilization in governments agencies in Canada, Landry et al. (2003) tested a theoretical construct of previous theories and empirical knowledge. Based on this, they argued that utilization of scientific research in government agencies 'is far more complex than is predicted by the existing theories, and it is influenced by contingent factors that will be difficult to integrate into a comprehensive theory of knowledge utilization. Therefore, additional theoretical research is needed to refine the existing theories of knowledge utilization and, likewise, more empirical studies are needed to better identify the factors explaining the uptake of university research in diverse categories of government agencies and policy domains' (Landry et al., 2003: 203).

Hanney et al. (2003) and have contributed to an increased deployment of the knowledge utilization domain within health policymaking.

1.4 Evidence and research for evidence-informed policymaking

According to Bowen and Zwi (2005), evidence-informed decision-making should be based on high quality information, derived from a variety of sources, for instance from expert knowledge, research findings, statistics, stakeholder consultation, evaluation of previous policies or other sources like the internet.

Within the EIPH approach, research evidence has traditionally been characterized as the best available empirical findings, which have been systematically collected and appraised, preferably in systematic reviews (Ciliska et al., 2012). However, in this thesis, research and research evidence is defined as 'all kinds of research information that enter [or is generated within, author ed.] the policymaking sphere' (Jakobsen et al., 2018: 2).

In order to get a broader picture of what is characterized as research evidence in real world policymaking, the following categories were developed for this thesis based on categories developed by the REPOPA team (Hamalainen et al., 2015), Brownson et al. (2009) and Ciliska et al. (2012):

- Demographic and statistical baseline data
- Single studies (peer-reviewed articles)

- Case/project reports
- Pre-processed literature
- Economic evaluations and impact assessments
- Expert consultations
- Other types of sources informed by research such as international strategies

Pre-processed evidence is defined as research evidence derived from a systematic process of searching, appraising and synthesizing the scientific literature (systematic reviews) and developing evidence-based guidelines, recommendations and evidence briefs (Ciliska et al., 2012).

For a more nuanced view of evidence for policymaking, it is important to consider that policymakers also take into account other kind of evidence such as political values and priorities, available resources, and the interest of policy actors (Bowen et al., 2009; Satterfield et al., 2009; Contandriopoulos et al., 2010; Hamalainen et al., 2015).

1.5 Policy organizations and organizational factors of research use

Within policy contexts, it is difficult to distinguish between the terms 'policy institutions' and 'policy organizations', as for instance Weiss defines 'institutions' as the organizations within which policymakers function, and where they as individuals shape how decision are made as a result of their own histories, cultures and constraints. She also states that 'institutions' are one of four ways in which policy context can shape the use of research (Weiss, 1999).

From a traditional perspective, policy institutions are the formal-legal formations of governmental institutions with clear organizational boundaries. These policy institutions are, what Kingdon would call, the 'inside' policy participants or actors (Kingdon, 2014) and include the executive/administration, civil servants and legislatures.

Within the knowledge utilization domain, the sub-domain which Landry et al. (2003: 195) categorized as 'organizational-interests explanations', in particular, holds the assumption that 'organizational structures, the size of agencies, types of policy domains, positions (professionals or managers), and the needs of organizations', are key factors in explaining the utilization of scientific research in policymaking. Thus, by focusing on the research users' needs and the contextual factors, researchers may increase the use of research in policy.

As a reaction to the more traditional understandings of government and politics in formal-legal institutional terms, March and Olsen urge researchers to 'penetrate the formal surface of governmental institutions and describe how politics 'really works'' (March and Olsen, 2009: 5-6).

In this thesis, formal-legal formations of governmental institutions are referred to as 'policy organizations' and are defined as:

'(…) a coordinated group of people with a shared, authorised purpose of developing public policies. Policy organisations are not only organised systems of policy officials (managers, professionals, technical and administrative staff) – whose primary role is to support political boards – and board members – who have the ultimate decision-making authority. Policy organisations are also comprised of their members, who are part of a broader political institutional framework composed

of a ‘collection of rules and organized practises, embedded in structures of meaning and resources that are relatively invariant in the face of turnover of individuals and relatively resilient to the idiosyncratic preferences and expectations of individuals and changing external circumstances’ (March and Olsen, 2009: 3). In this way, individuals employed by a policy organisation are active members of a social network of people with shared goals and practises; they are also subjects of institutional policy rules that govern their work and which are integrated into their organisational culture (Schein and Schein, 2017)’ (Jakobsen et al., Submitted).

In this definition of policy organizations, there is an underlying assumption that institutional rules are closely embedded in an organization’s culture through the steering of institutional behavior, which will automatically become part of the organizational culture.

One of the most recent frameworks developed to support the design and evaluation of strategies to increase the capacity of health policy agencies to use research is The SPIRIT Action Framework (Redman et al., 2015). The acronym SPIRIT stands for ‘Supporting Policy In health with Research: An Intervention Trial’. The intervention trial, funded by the National Health and Medical research Council in Australia, is evaluating the impact of a suite of strategies designed to increase the capacity of health policy agencies to use research, including the development of a system to measure an organization’s capacity to engage in evidence-informed policymaking. This system focusses on documented processes for policymaking, training of leaders and staff, access to resource of research, and systems to generate new research, evaluate policies and to strengthen the relationship with researchers (Makkar et al., 2016b).

1.6 Aim and research questions

The overall aim of this thesis is to explore the role of research and external stakeholders in public health policymaking, and which organizational factors that facilitate research use in public health policymaking to support evidence-informed public health policymaking.

1.6.1 Research questions

The overall thesis aim is further operationalized via the following research questions:

1. Which types of research evidence were used in the development of three local health enhancing physical activity policies in Denmark and how was research evidence integrated into policymaking regarding physical activity? (paper 1)
2. Which external stakeholders were involved in the development of the Health Policy of Odense Municipality ‘Healthy Together’? (paper 2)
   2.1. What was the role and contribution of external stakeholders in the policymaking process
   2.2. What was the purpose of their involvement
   2.3. What were the public health officials’ perceptions on the involvement of these external stakeholders
3. Which organizational factors have been identified in previous peer-reviewed and grey literature studies reporting or synthesizing findings as to facilitate research use in public policymaking related to health? (paper 3)

1.7 The empirical setting

The empirical setting selected for answering research question 1 and 2 are local governments in Denmark.

Municipalities in Denmark are relatively autonomous, meaning that the institutions with their elected councils control the local executive structure, their defined exclusive power, and source of taxation. Their autonomy is regulated by central authorities - for instance, via national planning policies on specific issues. Since 2007, municipalities have been responsible for health promotion and disease prevention of their citizens (2010). This means that the municipalities are committed to assessing public health problems, collaborating across sectors, and developing and implementing policies based on evidence to counter these problems (Danish Health and Medicines Auhtority, 2008).

The relative autonomy enables Danish municipalities to make their own prioritization of public spending and services and to structure and organize the local government rather freely. This autonomy makes Danish municipalities interesting settings to study, as unique social structures may provide useful contextual understanding of research use.

Three Danish municipal level policies were selected for answering research question 1. The three cases are the health policy of Copenhagen Municipality 'Long Live Copenhagen', the health policy of Odense Municipality 'Healthy Together' and the Sports and Physical Activity Policy of Esbjerg Municipality. The health policy of Odense Municipality 'Healthy together' was the empirical setting for answering research question 2. Below is a description of the policy cases and the overall policy development processes. The description of the cases is based on the empirical data collected.

1.7.1 Health Policy of Copenhagen Municipality – 'Long Live Copenhagen'

Major health challenges among the Copenhageners, such as shorter than average life expectancy**,** social deprivation, and high prevalence of chronic diseases, constituted the main impetus for building the health policy 'Long Live Copenhagen' (LLC). To this may be added that local data showed that a great part of the Copenhageners expressed willingness to change their lifestyles such as increasing their level of physical activity. At the same time, exercise was identified as an important "action zone". LLC aimed to target all citizens of the city of Copenhagen with special attention to vulnerable groups. The policy covered health in general. Physical activity was highly prioritized.

The Health and Care Committee was the policy owner and the Health and Care Administration planned and executed a three-track process in the development of the policy to ensure comprehensive knowledge feeding into the policy:

- A citizen track including input from the public via different forms of dialogue
- A policy track aiming at establishing shared ownership for goals in the health policy
- An administrative track involving all parts of city-administration

Already in 2009, internal collaboration between administrative directors was initiated. In general, the internal working process was characterized as two-sided work between the public officials in the Health and Care Administration, and the administrative directors, the political committees and the public officials in other administrations. This process was supplemented by input from citizens.

At first this two-sided process was only between the public officials and the director in the Health and Care Administration, but later others were involved. Collaboration between politicians was accomplished through committee meetings. Furthermore, collaboration between administrations was stimulated through a round of meetings at director's level and a conference initiated by the Health and Care Administration. The meetings included the Technical and Environmental Administration, the Children and Youth Administration and the Employment and Integration Administration. The conference included directors and public officials from five out of six administrations participated. Hence, a comprehensive consultation process, based on the input from a variety of stakeholders, was developed. The policy goals were presented to the political committees and thereafter to the other administrations with suggestions to the further development of concrete policy objectives and actions. These objectives and actions were then developed based on interest statements from each administration. Several experts from research institutions were consulted in relation to the prioritization of the policy actions.

The policy document including detailed policy actions was subject to a public hearing, and hereafter approved by the City Council.

1.7.2 Health Policy of Odense Municipality – 'Healthy Together'

Instead of revising the old health policy from 2007, the City Council of Odense decided to create a new health policy, 'Healthy Together' (HT) - one out of three cross-administrative policies. There is no expiration date for HT. The policy consists of six overall aims including short, medium and long-term goals for each. Occupational risk factors and social deprivation are the main focus areas in the first two, whereas lifestyle including physical (in)activity is a dominant theme throughout the rest. To operationalize the policy, an implementation strategy with policy objectives was developed, where early retirement, smoking and alcohol were selected as areas where evidence-based approaches should especially be procured. None of the mentioned areas were directly related to physical activity.

In Odense Municipality, the health area is handled via cross sector working. The organizational set-up includes a Strategic Health Group and a cross-sectoral Health Secretary, a research and development unit consisting of four consultants (The SAND Group) and secretary support. In connection with the development of HT, a policy project group, consisting of the Health Secretary and the SAND group, was involved. Overall, all major political and administrative organs in the municipality contributed to the process.

There were three processes in the policymaking phase. Firstly, development of, and agreement on political goals. Secondly, development of an implementation strategy with policy objectives to implement political goals. Third, development of detailed actions plans involved relevant stakeholders. For the development of the implementation strategy, voluntary cross-administrative working groups were established to ensure focus on the following health behaviors: Diet, smoking, alcohol and physical activity.

The policy document containing political goals with supporting health and population facts underwent a public hearing process and was approved by the City Council.

A more detailed description of the matrix organization as part of the policy concept of the municipality in relation to health is presented in paper 2.

1.7.3 Sports and Physical Activity Policy of Esbjerg Municipality

In 2010, the Municipality of Esbjerg started building a new 'Sports and Physical Activity Policy' (SPAP). The overall vision of the new SPAP was to establish Esbjerg as one of the leading municipalities in Denmark when it comes to both elite and non-elite sports/physical activity. Six overall policy goals on physical environment, visibility, health promotion, non-elite sport, talent development, and elite sport were selected. This included a focus on technical innovation and flexibility to ensure that the citizens in all life phases would have the possibility to engage in sports and be physically active in ways that promoted health and wellbeing. The political starting point has been that it was primarily a sports policy and not a public health policy. However, the managerial level of Children and Cultural affairs initially had an internal ambition to widen the scope of the policy to focus on health promotion e.g. through more formalized public–voluntary partnerships with local clubs and organizations in the delivery of physical activity for all age groups.

The SPAP was the second policy to be developed across political-administrative sectors. To generate broad-based ownership for the policy and its implementation, five administrations of the municipality representing children and culture, health and care, municipality environment, citizens and labor activities and central administration were invited to contribute to the policy.

The policymaking process (political goals and visions) included benchmarking with the national top 10 municipalities as regard to sports and physical activity and with experiences from similar policy developments in nearby Sweden and a large kick-off meeting (around 200-250 participants) with internal and external stakeholders (e.g. sports associations, sports clubs, sports facility owners, community group representatives, researchers, etc.). Two Reference Group meetings were held during the policy making process. The Project Group developed the policy document based on the knowledge derived from the stakeholder consultations. Action plans were developed based on five workshops with stakeholders, including research institutions. A public hearing was conducted, and the policy document and action plans were politically approved. Subsequently, administrative tiers were given authority to carve out and execute the action plans.

2. Theoretical framework

2.1 Understanding the pathways to evidence-informed policy and practice

To support researchers and policymakers in navigating the use of evidence for public health policy and practice, Bowen and Zwi (2005) formulated the evidence-informed policy and practice pathway. Both the knowledge translation research domain and the knowledge utilization research domain are incorporated in this framework - providing a framework to help describe 'the myriad of changing influences in achieving evidence-informed policy and practice' (ibid:604). Where the knowledge translation and knowledge utilization domains have largely been interested in the translation and use of research evidence, Bowen and Zwi provided a framework, where all sources of information/evidence can be analyzed. However, it is clear from the presentation of the framework, that the purpose of the framework is primarily to be used to further our understanding of the role of research evidence in evidence-informed health policy and practice, and study how it is adopted, adapted and acted upon by policymakers and practitioners.

The evidence-informed policy and practice pathway is displayed in Figure 2. The framework consists of three stages of progression for evidence-informed decisions related to a policy idea[1]: 1) sourcing the evidence, 2) using the evidence and 3) considering capacity to implement the evidence-informed innovation/policy solution). Each stage of progression is influenced by policy influences (the policy context) and context and decision-making factors (usefulness of the innovation, individual and organizational factors).

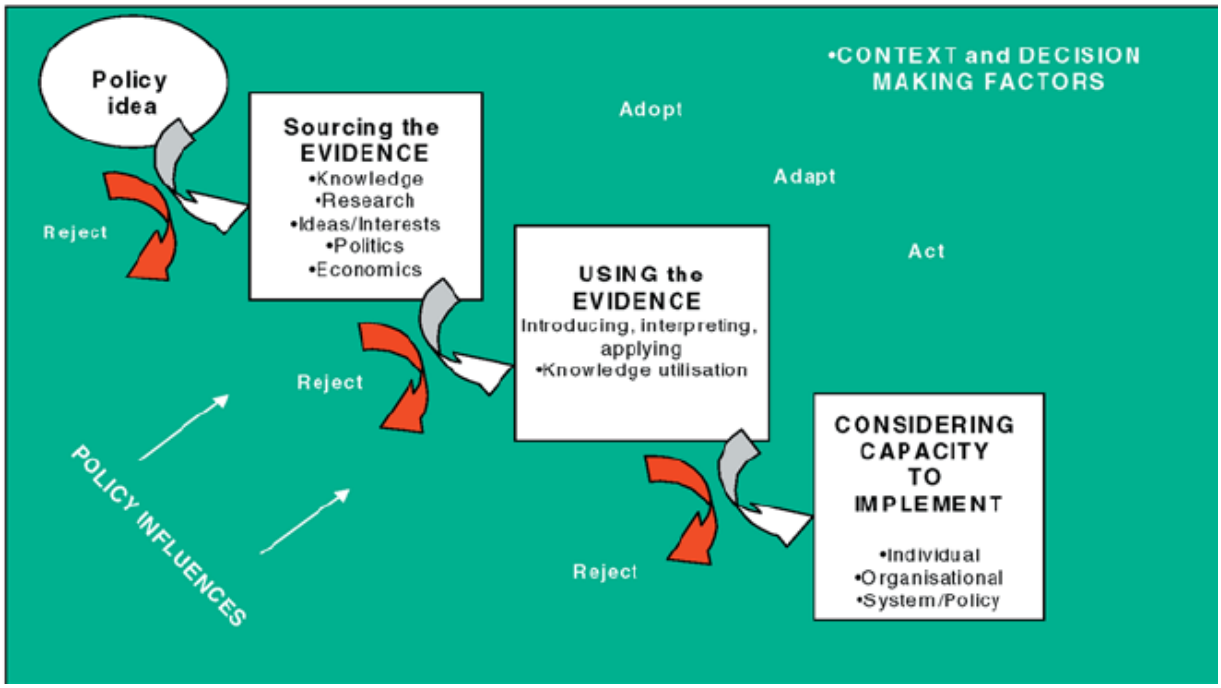

Figure 2 The Evidence-Informed Policy and Practice Pathway

From Bowen and Zwi: Pathways to "evidence-informed" policy and practice: A framework for action. PLOS Medicine 2005, 2:7, p. 600. doi: 10.1371/journal.pmed.0020166. Permission to publish the original figure has been granted.

[1] From the outset of policy theories, the term 'policy idea' can also be understood as a policy problem or a suggestion for a policy solution, policy change or a policy alternative.

This Figure is a simple display of a complex process, where numerous factors influence the integration of research within policy decision-making. In every circumstance, where policymakers or practitioners deal with a policy idea or policy problem, they go through a cognitive process of weighing decisions against a long list of evidence sources and contextual circumstances to find the evidences most feasible for supporting or improving policy ideas or to solve a policy problem.

In line with the Diffusion of Innovations Theory by Rogers (Rogers, 1995), they consider the policy idea to be the innovation, which is being subject to scrutiny based on different sources of information (sourcing the evidence), where the policy idea (which they also call the policy issue) is modified based on research and other sources of information, which lead to the next progression stage of 'using the evidence' to formulate policy, thus making evidence adopted into policy options and after political discussions adapted to specific policy actions/interventions. The final stage of progression is where the capacity to implement the evidence-informed policy action or interventions is considered, which either result in an actual implementation or a rejection of the policy action/interventions. Here the capacity to implement the evidence-informed policy action/intervention is considered on three levels; the individual, the organizational and the systems level of implementation.

Being an overall framework, it allows for other theories to be included or developed to explain the decision-making and research integration process. Below are examples of theories that can be embedded in the pathway framework:

- Theories of knowledge utilization can be used to understand the role of research in the progression stage of using the evidence.
- Theories about policymaking and policy networks are useful for understanding the influences of evidence sources within a political context.
- Organizational theories and implementation theories can help to understand the diffusion process (adopt, adapt and act mechanisms) for different evidence-informed innovations.

In this thesis, supplementary theories have been integrated into the pathway framework to investigate the role of research and the role of external stakeholders. For investigating the role of policy organizations in the development of evidence-informed public health policies, this thesis takes an exploratory approach, as this area in relation to evidence-informed policymaking is both scattered and understudied (Bowen and Zwi, 2005; LaRocca et al., 2012; Lomas and Brown, 2009).

2.2 Process of policymaking and the multiple streams theory

For understanding decision-making processes in local public health policymaking in the empirical studies (papers 1 and 2), this thesis deploys the multiple streams theory by Kingdon (2014). Kingdon's theory is rooted in the garbage can model of organizational choice by (Cohen et al., 1972), where he adopts an opposite view of the policymaking process than the linear policymaking process, which is based on a rational action model of policymaking. He modified the model to reflect the United States Federal Government instead of universities. Kingdon places similarities between university organizations and policy organizations as being 'organized anarchies' (Kingdon, 2014), which is clarified by Cohen, March and Olsen as 'a loose collection of ideas than as a coherent structure; it discovers preferences through action more than it acts on the basis of preferences' (Cohen et al., 1972: 1).

By adopting Kingdon's perspective on how local governments make decisions regarding public health policy issues, the assumptions behind the three case studies are, that evidence is input from by a variety of sources, which becomes part of a messy policy decision-making process, where the pool of information can lead to a decision, when a window of opportunity occurs. In his multiple stream theory, Kingdon has identified three decision-making structures in policy organizations, which are important to understand what issues are being placed on the decision agenda: 1) problem stream/problem recognition, 2) policies/the formation and refining of policy proposals, and 3) politics. The many problems flowing in the problem stream are brought forward and assessed, and some of the them will be recognized as a problem. Endless ideas on how to solve issues in the society float in the policy stream. Ideas are mostly generated by specialists in a given policy area, which Kingdon refers to as a policy community of specialists, which includes public officials, researchers and interest group analysts. The policy actors operating within this decision stream try to tailor their suggested idea/proposal to maximize approval of the proposal by the policy community, where consensus is built on persuasion. Those proposals which are deemed most prominent in the policy community, have a chance of being placed on the decision agenda. The political stream is composed of decision factors as 'swings of national mood, election results, changes of administration, changes of ideological or partisan distributions in [government, author ed.], and interest group pressure campaigns' (Kingdon, 2014: 162). The factors in this stream highly influence the decision agenda, and consensus building is based on bargaining. Occurrences in this stream can often lead to sharp change of the agenda. Each stream operates somewhat independently, but what occurs in one stream can affect the other streams, where the problem and policy streams are closely interrelated, the political stream is very independent and has highly influential power over the other streams.

When the three streams are joint, a window of opportunity appears, where prominent proposals can be attached to important problems with enough political support to lead to policy change. For problems and proposals to be placed on the decision agenda depends on the policy actors' ability to mobilize sufficient resources to push their pet issue on the agenda through coupling the three streams. From Kingdon's perspective, important policy actors are policy entrepreneurs, which are regarded as catalysts of policy change, having skilled ability to persistently advocate his/her beliefs, being able to speak on others' behalf, and have sufficient political skills and know-how to hold a decision-making position to influence policy (ibid).

In the three case studies, the window of opportunity was sought to allow for the analysis of the role of research evidence and external stakeholders.

Walt (1996) divides the policymaking process into the following five phases: problem identification, issue recognition, policy formulation, policy implementation and policy evaluation. The first two phases have also been called the agenda setting phase (Kingdon, 2014), and has primarily been used in this thesis to comply with the multiple streams theory by Kingdon. Breaking the policymaking process into stages has been found useful when conducting policy studies on evidence use (Hanney et al., 2003; Lavis et al., 2002).

2.3 Research utilization models

In the empirical studies, supplementary models of research utilization are deployed. For understanding the role and purpose of explicit research evidence in public health policymaking (paper 1), the theoretical framework by Hanney et al. (2003) was deployed. Hanney et al. (ibid.)

constructed eight different forms of research utilization, which are based on previous theories of knowledge utilization, primarily Weiss' models of research utilization (Weiss, 1979). These forms of research utilization are constructed based on the assumption, that 'sometimes policy-makers make rational and weighted decisions along a well charted course of action, yet more often they apply knowledge through largely routine or unconscious processes in response to ad hoc situations' (Hanney et al., 2003: 9). Figure 3 displays the research utilization models by Hanney et al.

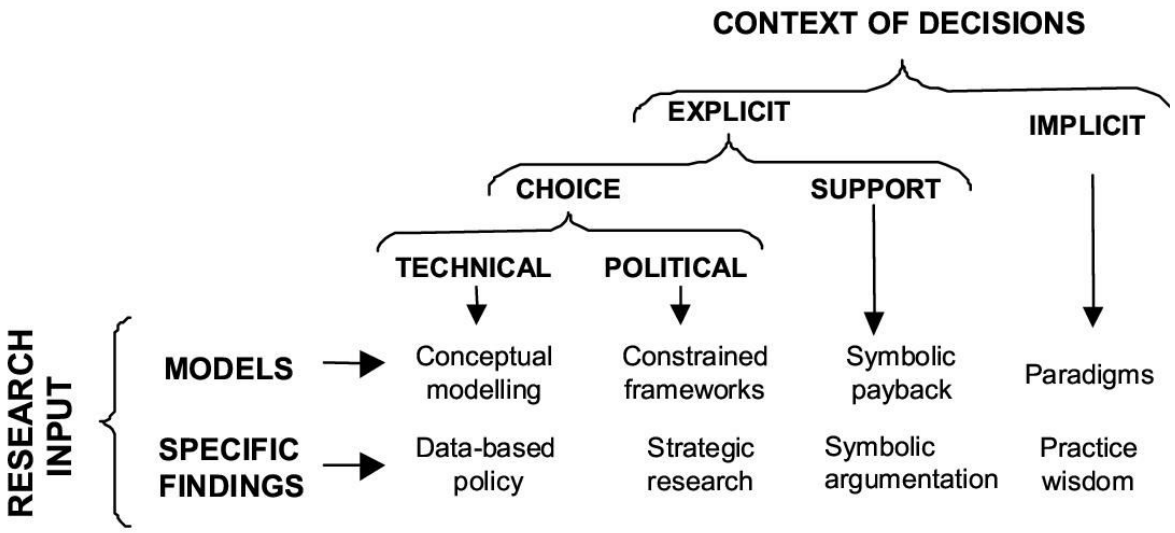

Figure 3 Decision Context, Research Inputs and Forms of Research Utilization in Policy-Making

From Hanney et al.: The utilisation of health research in policy-making: concepts, examples and methods of assessment. Health Research Policy and Systems 2003, 1:2, p. 9. Permission to publish the original figure has been granted.

The framework proposes that a particular utilization of research evidence depends on the scientific input available to the decision-maker, which can be either theoretical models or empirical findings, and the context of the decision, e.g. what expectations and opportunities there are for utilizing the research input.

The different models of research utilization are shortly presented below:

- **Conceptual modelling**: For this form of research utilization, theoretical models are applied to gain understanding of complex situations, which usually provide new perspectives on the policy issue and new approaches to problem solving. The salutogenetic approach to human health and wellbeing is an example of scientific input used for conceptual modelling.
- **Data-based policy**: The rational action approach is the basic principles of this form of research utilization, where scientific rigor, robustness and objectivity drives the course of action, which can be either researcher-driven (push strategy of knowledge translation) or policy-driven (pull strategy of knowledge translation).

- **Constrained frameworks**: Policy-driven research is often constrained in the sense that the scope of the research and empirical findings will only be used, if they do not pose a political threat. Commissioned research is usually the scientific input to this form of utilization.
- **Strategic research**: This form of research utilization is triggered by a situation, where research results are provided to influence policy choice e.g. by providing evidence for economic or social cost by not adopting a particular course of action. This is, for instance, likely to be the case when medical companies (with support from professional policy communities) recommend the adoption of a vaccination program.
- **Symbolic payback**: Organizations branding themselves as being scientific or research-informed have a credible status in the society and a high level of legitimacy is placed on policies from such organizations. The intention of research use is driven by politics, and the scientific input is not concrete; it is rather overall approaches to problem solving that underpins the values and principles of policymaking in the organization.
- **Symbolic argumentation**: For this form of research utilization, research from a variety of sources are collected to support existing policy decisions. Here, the research input cannot affect the choice of policy action; it is simply used to support it.
- **Paradigms**: Implicit use of certain theoretical approaches or perspectives on how problems should be solved is characterized as a paradigm-driven decision-making. The new public management approach is an example of a dominant paradigm driving the health services management in many western countries.
- **Practice wisdom**: This form of utilization reflects the automatic efforts of individual policymakers to search for empirical findings to stay informed about their areas of expertise and to make use of this knowledge when making policy decisions. This is an implicit form of research utilization.

For analyzing the purpose of involvement of external stakeholders (paper 2), the previously mentioned models of utilization by Weiss was applied (Weiss, 1979). Weiss developed six models (or meanings) for using social science research in public policymaking. These models are still being referred to as useful research outcome analysis (Estabrooks et al., 2006; Bowen and Zwi, 2005). Even though paper 2 does not focus of research utilization as such, the models by Weiss still provide useful insights as to how evidence from external stakeholders are used for policymaking.

Below the research utilization models in relation to external stakeholder involvement are briefly described.

- Knowledge-driven model: This model characterizes a situation, where research results themselves are the direct trigger of policy decisions. This would mostly occur within the problem stream, where external stakeholders would push research results into the problem stream (e.g. trough media channels) to raise a problem.
- Problem-solving model: This resembles the rational action model which follows a sequence of events including goal definition, development of policy alternatives, systematic comparison and prioritization of alternatives and selection of policy solution. This model would mostly occur in the policy stream, where specialists provide evidence for the comparison and assessment of policy alternatives (pull strategy).

- Interactive model: In this model shared thoughts about important problems and potential solutions are discussed in an interactive forum of policymakers and other stakeholders, primarily external specialists. This is again something that would occur in the policy stream. Here the emphasis is on the interactive search for knowledge from multiple inputs and sources.
- Political model: This model describes a situation where policymakers are only receptive to knowledge from external stakeholders, if it is aligned with political interest and supports e.g. a particular government program.
- Tactical model: A tactical use is when knowledge is deployed to divert attention away from the policy decision to avoid unwanted reactions or to place focus on the research process instead of the content of the decision.
- Enlightenment model: A implicit diffusion of knowledge from external stakeholders is captured in this model, where knowledge does not affect decisions directly. It is merely a social process where thoughts, ideas and concepts have cumulated and diffused through several channels over time; these ideas and concepts shape how policymakers reflect upon and solve a policy problem. This model is always present in policy communities.

2.4 Policy networks

The conceptualization of policy networks by Rhodes (2006) was used in paper 2 to understand the involvement of external stakeholder in the development of 'Healthy Together', and to study how the external stakeholders diffused their problems and their ideas within policy communities to affect policymaking. Rhodes defines policy networks as 'formal institutional or informal linkages between governments and other actors structured around shared if endlessly negotiated beliefs and interests in public policymaking and implementation'. There are different forms of networks, which lie within the continuum with 'policy communities' in one end and 'issue networks' in the other. 'Policy communities' are characterized as a network formed by close relationships with a limited number of participants. In this network, the members meet frequently to negotiate and bargain or discuss shared values and ideologies as well as to establish the hierarchical structures between the members. 'Issue networks' are characterized as loose relationships, where the interaction between members is fluctuating, consultancy-based and often conflictual due to differences in values, interest and power (ibid).

3. Materials and methods

The thesis consists of two empirical studies published based on data collected in the REPOPA project (paper 1 and 2) and a scoping review, which has been submitted (paper 3).

The ontological and epistemological underpinnings for this thesis follow a pragmatic approach. This allows for a combination of qualitative and quantitative analysis of the collected data, which can be both data-driven and theory/concept- driven (Schreier, 2014; Mayring, 2014). The analytical process of the empirical part of the thesis (papers 1 and 2) is primarily concept-driven, where concepts were used to guide data-collection and analysis. The scoping review (paper 3) was exploratory and highly descriptive, as the factors identified in each reviewed article and the text extracted from them constituted the data from which themes and concepts emerged inductively. The quantitative part of the content analysis in all three papers is reduced to coding frequency counting without the use of statistical methods.

Firstly, the empirical research leading to the two first papers will be presented including the ethical considerations related to this research. Secondly, the systematic review process will be presented.

3.1 Overview of study design, methods and data used in paper 1 and 2

Table 1 below provides an overview of the research questions, study designs, the methods for data collection and analysis, the overall data corpus, and the study periods for the two papers.

Table 1 Overview of research questions, study designs, methods, data and period in papers 1 and 2

	Paper 1		**Paper 2**			
RQ	Which types of research evidence were used in the development of three local physical activity policies in Denmark?	How was research evidence integrated into policymaking regarding physical activity?	Which external stakeholders were involved in the development of the Health Policy of Odense Municipality 'Healthy Together'?	What was the role and contribution of external stakeholders in the policymaking process?	What was the purpose of their involvement?	What were the public health officials' perceptions on the involvement of these external stakeholders?
Design	Case study		Case study			
Method for data collection and analysis	Document analysis and semi-structured interviews + combined thematic analysis and qualitative content analysis		Document analysis and semi-structured interviews + combined thematic analysis and qualitative content analysis			
Data	Main policy documents and background documents and material + transcripts of 15 interviews with policymakers		Main policy documents and background documents and material + transcripts of six interviews with policymakers			
Study period	Dec 2012-Jun 2013: Collection and analysis of policy documents. Oct 2013-Jan 2014: Collection and analysis of interview data. Jan 2014-Oct 2015: Analysis of data for publication.					

3.1.1 The case study design and identification of cases

A case study design was applied to make detailed contextual analysis of the contemporary phenomenon of research integration and evidence-informed policymaking (EIPM) in the three policymaking processes based on multiple sources of data (Yin, 2009). The case study design included both descriptive and explanatory aims, which fit with the aims of papers 1 and 2 (Table 1).

Three local public health related policies were chosen as cases of policymaking for this thesis ('Long Live Copenhagen' (LLC), 'Healthy Together' (HT), and the 'Sports and Physical Activity Policy of Esbjerg Municipality' (SPAP)). The three cases were selected based on criteria developed within work package (WP) 1 of the REPOPA project, where 21 policies related to health-enhancing physical activity (HEPA) from six European countries were analyzed.

The Danish research team, comprising of researchers from the University of Southern Denmark (SDU) and The Capital Region of Denmark, adjusted the criteria for the selection of the Danish cases due to interest in providing an in-depth description of research use in local public health policymaking in a Danish context. Local governments in Denmark differ in structure, traditions and (presumably) in traditions for integrating research and intersectoral collaboration on health and health-enhancing physical activity. The following criteria guided the selection of eligible cases of public health policymaking processes: i) full policy adoption in 2011 and implementation in progress at the time of the study, ii) a focus on HEPA e.g. within public health, physical planning or sports, and iii) policies affecting at least 75.000 citizens. Figure 4 below provides an overview of how the case studies in the thesis is connected to the overall REPOPA WP1.

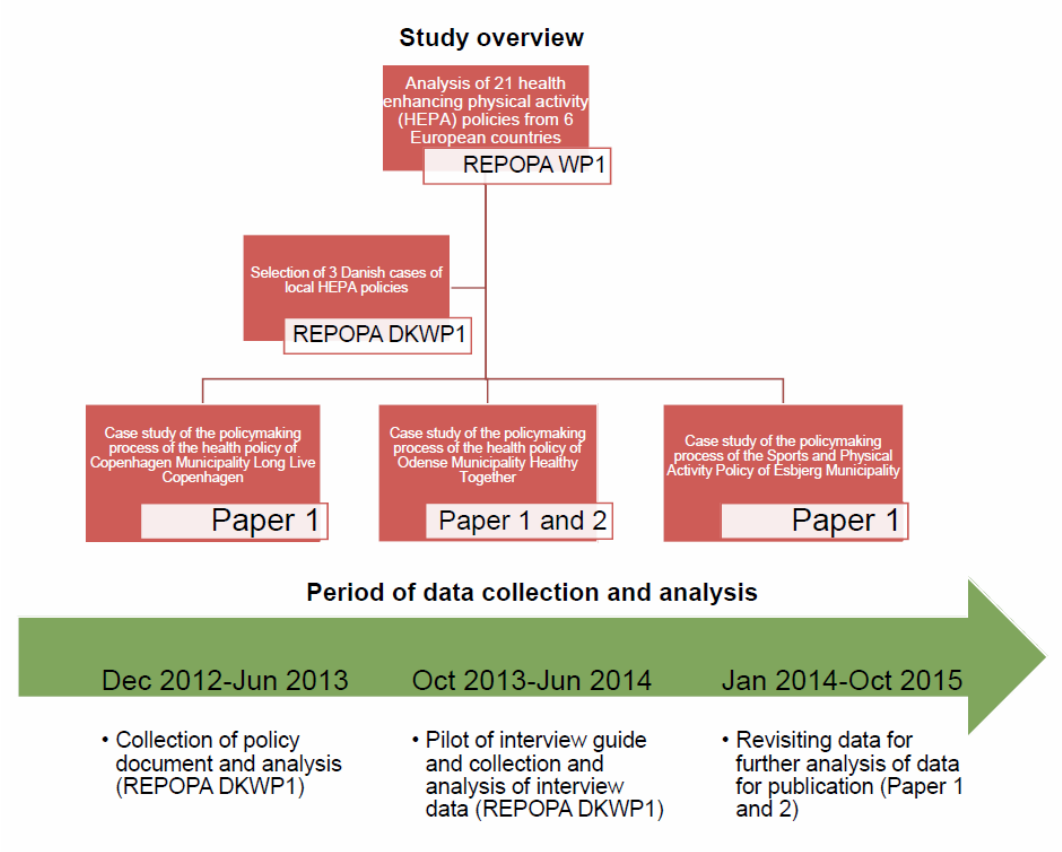

Figure 4 Overview of REPOPA work package 1 and the empirical part of the thesis

The three chosen policies represented different cases of public health policymaking processes, which included health-enhancing physical activity as a target area. LLC was managed by the health sector, SPAP was managed by the culture sector and HT was handled jointly by all sectors.

The three case studies were retrospective in the sense, that they investigated the policy process leading up to the approval of the policy by the city council. On the other hand, the policies were in the implementation stage during data collection, inevitably gathering data about the concurrent policy process, reflecting the retrospective investigation.

3.1.2 Data collection

The data collection method for paper 1 and 2 was guided by Hanney et al. (2003) and Lavis et al. (2002). Lavis et al. (2002) performed an analysis of policy documents and combined the findings with interviews of stakeholders involved in the policy making process. The investigation of policy documents followed by semi-structured interviews with key policymakers involved in the development of the policies, provided the empirical data corpus for all three case studies. The combination and order of the data collection, starting with the investigation of the policy documents and letting the findings from the document analysis guide the development of the interview guide, permitted an elaboration and verification of the findings from the document analysis. Also, the interviews provided additional information about the policymaking process from the perspectives of the people involved in the policymaking process, which could not be retrieved in the document analysis.

For each case, the main responsible policy official was identified, and he/she acted as the focal point for the research. The main contact provided the policy documents and assisted in a purposeful selection of the key informants to interview.

The collected policy documents comprised of the main policies and additional documents made available to the public (e.g. background reports), filed documents and other written material developed during the policymaking phase such as memos, strategies and plans, e-mails, meeting agendas and minutes, public announcement material, and public hearing material and responses.

An interview guide was developed by the REPOPA consortium within the first work package (WP1) led by the National Institute for Health and Welfare in Finland. The frameworks used to develop the interview guide included the evidence-informed policy and practice pathway by Bowen and Zwi (2005), the knowledge-to-action model by (Graham et al., 2006), and the multiple streams model by (Kingdon, 2014). The REPOPA WP1 interview guide is provided in Appendix 5.

The REPOPA WP1 interview guide was translated into Danish and piloted by two researchers, who also had policy and practice experience. The results of the piloting showed the need to make the interview more context-specific and therefore key concepts were revised based on a discussion with a public official from Odense Municipality, who was not included in the main study. The piloting process resulted in the inclusion of a much broader, almost open, definition of research evidence, as the term ‘research evidence’ could have been misunderstood by the policymakers so that they would not have considered all the sources of research entering the policymaking sphere.

Based on the results of the pilot phase, a generic but detailed interview guide in Danish was developed by the Danish WP1 (DKWP1) team members to adjust it for each case. The generic interview guide in Danish is provided in Appendix 6.

Key informants were policymakers, which had played a key role in the development of the policies. These were purposively sampled to provide in-depth information about the policymaking process and on the integration of research. The duration of the interviews was between 45 minutes and 1.5 hour. Information material were sent together with the invitation to participate in the study and again prior to the interview with more detailed inquiries related to the document analysis, so the informants had time to prepare for the interview. An introduction to the interview and the consent form were given before the interview and the signed consent form was collected prior or during the interview. Two interviewers conducted the interviews except one telephone interview, where only one interviewer performed the interview.

3.1.3 Analysis of data

For the empirical research, a combination of thematic analysis (Braun and Clarke, 2006) and qualitative content analysis (Schreier, 2013) was selected as the main method for analysis; in this thesis also referred to as thematic content analysis. This combination of methods enabled both an analysis of patterns within the data and an identification of specific sources of evidence and external stakeholders and evidence provided by these. Being interested in both themes and specific content supports a combination in methods. The thematic analysis method is not constrained by a pre-existing theoretical framework and is therefore adaptable to the pragmatic approach of content analysis. Also, the thematic analysis allows more epistemological and theoretical assumptions to support the thematic coding process and the interpretation of data than the somewhat exclusive focus on description in the qualitative content analysis, where the written material is not criticized but 'taken for granted' (Schreier, 2013).

By combining thematic and qualitative content analysis in the case study design, the method for analysis supported both the descriptive and explanatory aspect of the case study design.

The thematic content analysis applied in the empirical studies were partly concept-driven, where pre-developed coding frameworks were used to code the data.

For all data items (individual pieces of data collected e.g. policy document or interview transcripts), the following analytical process was applied:

Step 1: Familiarization of the data

Step 2: Revising the coding frame based on the familiarization of the data

Step 3: Extract data and assign the relevant pre-defined (theory-driven) code, including explicit sources of research and stakeholders involved, or assign new codes (data-driven) when relevant

Step 4: Review the themes and re-code the data

Step 5: Define and refine the themes

Step 6: Re-visit the extracted data in the themes and assess the data based on the analytical schemes/tools developed for paper 1 and 2.

A coding framework was developed by the REPOPA WP1 leader for the document analysis. For the coding of the interview data, an initial coding frame was developed for the REPOPA DKWP1 data in the software QSR NVivo by the two main researchers (the thesis defender and a

researcher from the Capital Region of Denmark) prior to the main coding phase (step 3). This initial coding frame was revised after the two main researchers (MWJ[2], CJL[3]) had gained an overview and familiarization of the data (step 1). After coding a few transcripts, the revised coding framework was discussed in the Danish research team and the WP1 leader from Finland and revisions were made based on the feedback given. The revised coding framework was used to code the rest of the transcripts (step 3).

The theories and frameworks described in the theory section of the thesis were used to develop the coding frameworks for the document analysis and the analysis of interview data as well as the analytical schemes/tools for step 6.

The evidence-informed policy and practice framework by (Bowen and Zwi, 2005) provided the overall framework for the coding (e.g. codes on the sources of evidence, here specifically research evidence and input from external stakeholders). The coding of the research integration process for paper 1 was in addition to the evidence-informed policy and practice pathway inspired by the knowledge translation approach and the knowledge-to-action framework (Graham et al., 2006). The policy development processes were divided into the different policymaking stages provided by Walt (Walt, 1996) to obtain information about the use of evidence in different stages of policymaking. The Multiple Streams Theory by Kingdon (2014) provided the identification of the window of opportunity, which was also called the 'trigger' effect of the policy, from which the role of research and external stakeholders were analyzed in the wider political context. The theme codes containing the data related to the role of research and the role of external stakeholders were revisited to apply further theoretical interpretations of the data. The knowledge utilization models by Hanney et al. (2003) were used to analyze the purpose of the use of the explicit research in all three cases (paper 1). The characterization of policy networks by Rhodes (2006) and the knowledge utilization models by (Weiss, 1979) were used to analyze the involvement of external stakeholders in the development of 'Healthy Together' by Odense Municipality (paper 2).

For paper 2 more specifically, the characterization of different policy networks by Rhodes was applied to investigate the role and contribution of external stakeholder in relation to the policy network perspective where it was also possible to make inferences to the policymakers' perception of the external stakeholders.

The analytical tools for paper 2 were developed mainly by the first author of paper 2 (LEK[4]), where the defender of this thesis commented on the tools and assessed the data based on the tools.

3.1.4 Ethical considerations

For the empirical studies of this thesis, no ethical clearance was needed in Denmark. However, to accommodate the requirement of the European Commission to provide ethical clearances for all work conducted within the REPOPA project, written statements were collected from both the Danish Data Protection Agency and the Ethics Committee of the Region of Southern Denmark, based on the overall project description and description of the methods to be used and the data to

[2] Mette Winge Jakobsen

[3] Cathrine Juel Lau, researcher at the Capital Region of Denmark

[4] Leena Eklund-Karlsson, researchers at University of Southern Denmark

be collected; these documents stated that no ethical clearance was needed by either of the two bodies.

3.2 Scoping review – paper 3

Based on an assessment of knowledge synthesis methods applicable for theory development (Tricco et al., 2016) a scoping review method was chosen to answer the exploratory review question of the third thesis paper. Table 2 provides an overview of the scoping study.

Table 2 Overview of research question, study design, methods, data and period in paper 3

	Paper 3
RQ	Which organizational factors have been identified in previous studies reporting or synthesizing findings as to facilitate research use in public policymaking related to health?
Design	Scoping review
Method for study identification and synthesis of studies	Bibliometric database search and manual search on websites and reference lists + thematic content analysis
Data	Content of included publications (14 reviews and 40 empirical studies) without additional files.
Study period	Apr-Oct 2017: Search and selection of studies for full-text read. Nov 2017-Sep 2018: Final selection of studies, data charting and thematic content analysis of data.

The aim of the review was to provide researchers and policymakers with a map of the organizational factors that facilitate research use in policymaking along with an overview of the theoretical underpinnings of the research, the utilization measures and the policy contexts studied.

This focus on facilitating factors was chosen as the best approach for a scoping review to contribute to the large existing body of knowledge existing in this area on barriers and facilitators of research use, to support the identification of organizational patterns and change mechanisms promoting research use.

The scoping study methodology by Arksey and O'Malley (2005) was chosen due to the explorative nature of the review. The combination of a rigorous synthesis of complex and cross-disciplinary research and a synthesis of the data, which allowed for a numerical mapping exercise of the subject of interest as well as a flexibility in the analysis of the data, was deemed useful for this highly complex review. Thus, the scoping review method fitted well into the pragmatic approach of this thesis, where both qualitative and quantitative methods (here coding frequency counting) were applied.

Arksey and O'Malley (ibid.) originally used the scoping study methodology to enhance the evidence base in health and social care. So far, most contributions to the methodology come from the field of health sciences (Levac, Colquhoun and O'Brien 2010; Daudt, Mossel and Scott 2013). For instance, Colquhoun et al. (2010) used this methodology to explore the use of theory within knowledge translation studies in health care settings.

3.2.1 Inclusion of studies

A two-stage search strategy was applied with support of a second reviewer (LEK) to identify relevant studies for inclusion. First, a systematic search in bibliographic databases (PubMed, Scopus, Academic Search Premier) was performed using a block search, including the four blocks: Target population, intervention/study focus, policy area, and theory. The search terms included in these four blocks were aimed to find studies and reviews including policymakers (both public officials and politicians) as target population, have a focus on research use/translation/diffusion etc., from a public health related policy area, and have a focus on the identification of factors to define concepts, develop overviews, theories or frameworks. Second, a manual search of studies within publication repositories of two selected organizations' websites (The Research Unit for Research Utilization and Health Evidence™), which are known to provide support to research utilization and translation to policymakers, was done. In this stage also reference lists of pertinent studies identified from the initial searches were screened for relevance.

Studies were initially screened by title and abstract followed by a full-text evaluation. Studies from both peer-reviewed and grey literature were included if they were published after January 1979 and reporting or summarizing empirical findings on organizational factors of research use relevant for public health policymaking. Studies were excluded, if they did not include intra-organizational factors and a study population therefrom, and if these organizational factors were not identified as a facilitator of research use in policymaking.

3.2.2 Synthesis of studies

The reporting of findings was divided into two phases:

1. Descriptive summary which describes the characteristics of included studies including a numerical overview of organizational factors identified in each study
2. Thematic content analysis related to the review question

To provide a descriptive summary of the included studies, the data were charted according to study characteristics (study type, study population, research utilization measures and theoretical foundation) and the organizational context (setting, policy area, policymaking level and country of study).

A thematic content analysis was used to extract data on organizational factors that facilitate research use. The analysis included a three-stage open coding phase to generate an explorative coding framework by which the organizational factors could be thematically organized. The analysis stage was performed in the data management software QSR NVivo. Included reviews were subject to the first coding stage to develop the coding framework, then the high-relevant empirical studies (identified using text-search in NVivo) were coded and used to refine the framework. The remining empirical studies were used to validate the framework, which would become the conceptual map of organizational factors that facilitate research use.

No critical appraisal of the included studies was performed (nor required by the scoping study methodology by Arksey and O'Malley (2005)) nor was a consultation of the findings conducted.

4. Results

This chapter summarizes the results from each thesis paper and will complement the third paper with additional display of results on the contextual relevance of the organizational factors facilitating research use.

4.1 Paper 1: Use of research evidence in policymaking in three Danish municipalities

4.1.1 Research evidence used to inform the policy

The first study aimed at examining the explicit use of research evidence in three cases of health enhancing policymaking in relation to type of research evidence, the translation process and the purpose of use. The content analysis of policy documents and transcripts of interviews of the purposefully selected policymakers showed that a fairly large amount of research information did enter the policymaking sphere of the development of 'Long Live Copenhagen' (LLC) by Copenhagen Municipality (N=21) and 'Healthy Together' (HT) by Odense Municipality (N=20). Much less was the case in the development of the 'Sports and Physical Activity Policy of Esbjerg Municipality' (SPAP) (N=7).

Figure 5 below displays the amount of research evidence by type identified in each case.

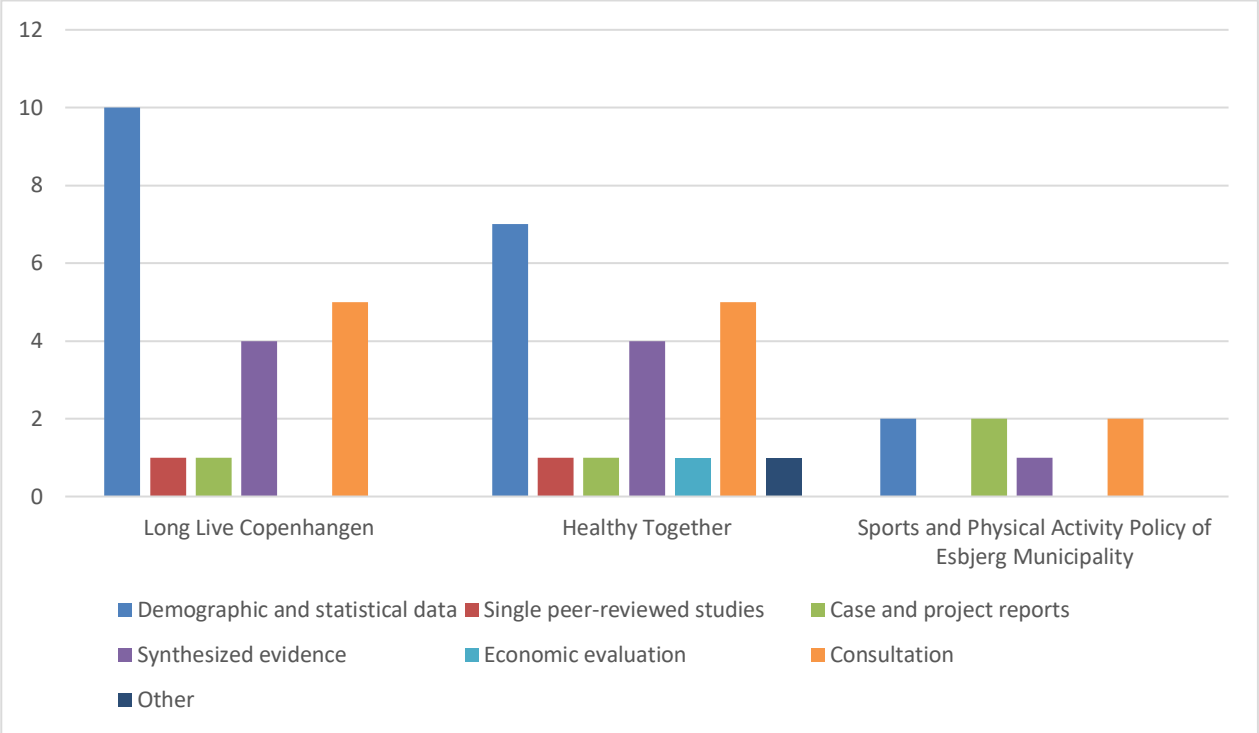

Figure 5 Explicit sources of research evidence by type identified in the three cases of public health policymaking

Modified from Jakobsen, MW et al.: Use of research evidence in policymaking in three Danish municipalities. Evidence & Policy 2018, 14:4, p. 7, doi: 10.1332/174426417X14982331542543

The research evidence mostly used by all three cases was demographic and statistical data and expert consultation.

Systematic reviews were not used by either of the cases unless included in the evidence-based guidelines and recommendations. Synthesized evidence, also called pre-processed evidence, consisted mostly of evidence-based guidelines (both international and national) and were primarily used by the public officials in LLC and HT to frame the policy. Single peer-reviewed studies were used in the cases LLC and HT, and case/project reports (gray literature) were used by all cases. Economic evaluations were only used in the development of HT.

The public officials from Esbjerg Municipality in charge of developing the SPAP did, on the other hand, use less than half the number of sources of research evidence as the other two cases. Both LLC and HT were developed by public health professionals, for whom an evidence-based approach is familiar. The public officials in charge of the policy development process in Esbjerg were generalists and professionals from the culture and sports area, which might explain the large difference in research evidence use.

4.1.2 The process of research evidence use by policymakers

The investigation of the research translation process in each case showed a more or less unsystematic procedure of searching, reviewing and appraising research evidence. No explicit research questions guided the sourcing of research evidence, nor were systematic reviews included or conducted internally. Instead, this unsystematic approach to sourcing research information was applied (primarily Danish sources), where the searches for research information were initiated by policy-oriented questions and guided by the policymakers' know-how. In the appraisal of the research evidence, typical critical appraisal techniques for systematic reviews were not applied. Instead, trust on the evidence source was used as the main critical appraisal principle along with an assessment of the local feasibility and applicability of the evidence. Greatly trusted evidence providers were national and international governmental bodies.

Demographic and statistical data were used in the early policy process (agenda setting) and evidence-based guidelines and recommendations were used in the policy formulation phase. Expert consultation was primarily sought in the agenda setting and in early policy formation phases. However, in the development of LLC, experts were also consulted in the development of the final policy actions.

4.1.3 Purpose of research evidence use

In the theoretical interpretation of the empirical data on the purpose of research evidence use, it was found that demographic and statistical data were used to identify target groups and to frame the policies (conceptual modelling). Evidence-based guidelines and recommendations were used conceptually in the agenda-setting phase (conceptual modelling), instrumentally to select policy actions (data-based policy), and as symbolic argumentation in the policy formulation phase to convince the politicians about the importance of the policy problems already identified by the public officials. Single studies were used both instrumentally and conceptually. Case and project reports were used instrumentally and to stay informed about a particular area of expertise (policymakers' practice wisdom). Practice-based expert consultation was also used to increase policymakers' practice wisdom in relation to existing interventions from other municipalities, to gain best-practice insights. Expert consultation including consultations by researchers was used to develop policy actions (data-based policy), symbolically to legitimize policy actions, and strategically as a political power demonstration by the politicians. In the development of SPAP, the policymakers wanted to introduce a new classification of target groups based on research (conceptual modelling); however,

this new approach was not supported by the stakeholders from the local sports clubs and therefore it was discarded.

4.2 Paper 2: Involvement of external stakeholders in the development of the Health Policy of Odense Municipality

4.2.1 External stakeholders involved in policymaking – role and purpose of involvement

The second sub-study aimed at exploring the involvement of external stakeholders in two phases of the development of 'Healthy Together' (HT) by Odense Municipality; the policymaking phase and the strategy phase. Overall, external stakeholder involvement was identified in both the main policy development phase and the strategy phase. However, the policymaking process allowed only few windows of opportunity for external stakeholders to influence the policy. Despite the lack of windows of opportunity for external stakeholder involvement in the development of HT, the internal stakeholder involvement was high, facilitated by a newly structured matrix-organization.

In the policymaking phase, two researchers from the University of Southern Denmark, the Chairman at the time of the Danish Healthy Cities Network, a public official from Copenhagen Municipality and 16 regular hearings partners were involved. In the strategy phase, a project manager of the Danish Prevention Packages by the National Board of Health (now called the Danish Health and Medicines Authority) was involved, as were a selection of regular hearing partners (number unspecific), and the Institute of Political Science at University of Southern Denmark. The details about the stakeholders, their roles and contributions, the purpose of their involvement and their relationships with the policymakers of HT are presented in table 1 in paper 2 (Appendix 2).

The two researchers, one having a close and continuous relationship with the policymakers and one more distant relationship with a single short period involvement in the policy process, were involved in a meeting with the political reference group (the Strategic Health Group). So was the Danish Healthy Cities Chairman, whom the policymakers had a close relation with. These three experts were invited by the public officials to tactically show the politicians, that the first draft of the policy paper was indeed evidence-based. To further meet the requirements of the politicians for the policy to be tackling the biggest health problems in Odense Municipality, the two researchers helped to develop a report on the greatest economic health challenges in the municipality.

The other occasion for external stakeholder involvement was in the public hearing process, where 16 regular hearing partners including different councils (e.g. elderly, disability, integration, nurses), trade unions and professional associations, research institutions, patient organizations and school boards were invited to provide hearing answers to the policy. The relationship between policymakers and these regular hearing partners was not frequent though continuous. Even though the purpose of the involvement was to establish interaction, the involvement of the hearing partners was purely at this stage consultation-based.

In the development of the implementation plan of the policy, there was a dialogue between the project manager of the policy and the project manager of the prevention packages by the National Board of Health; these had a distant relationship with no former interaction other than knowing about each other's work. This dialogue, initiated by the policy implementation project manager,

aimed at incorporating the evidence-based recommendations stated in the prevention packages into the implementation plan. After the implementation plan was drafted and the detailed action plans needed content and support by the civil society, selected regular hearing partners were invited to a meeting on the implementation of the policy and to gather statement of interest to contribute to the implementation of the policy. At this early stage of policy implementation, the purpose of the involvement was to solve policy implementation problems through interaction with the local community. The relationship between policymakers and stakeholders was considered distant/loose with lack of a shared vision and interest.

A formal collaboration was made with the Institute of Political Science at the University of Southern Denmark (SDU) to develop and test evidence-based interventions in selected policy areas. The purpose of the involvement was to provide knowledge for problem-solving, but there was also a political/tactical purpose of the involvement to support the political interest in making evidence-based policy and practice. The relationship between the policymakers and the researchers from this institute was interpreted as close.

4.2.2 Revealing themes of public officials' perceptions about involvement of external stakeholders in policymaking

The thematic content analysis of the perceptions of policymakers towards the involvement of external stakeholders in health policymaking in Odense revealed that their perceptions could be divided into the following themes:

- The political aspects, where a strong political will for making the health policy a political document with political goals resulted in a closed policymaking process allowing only a limited involvement of external stakeholders primarily at a consultation basis.
- The managerial and organizational aspect, where a swift policymaking process was needed to allow for an implementation of the policy before the next election, and the new matrix organization and policy concept gave longer decision-making procedures, as decisions had to be approved by both the executive group and the City Council. The swift policymaking process did not allow for a long public hearing process.
- The cultural aspect, where policy makers regarded scientists as people with another understanding of evidence than the municipalities and where methods and scientific rigorousness were more strived for than the applicability of the evidence for policy purposes. Also, the policymakers welcomed more humility and compromises by researchers.
- The beneficial aspect, where policymakers saw a great potential of involving researchers in sharing data collected by the municipality and conduct empirical research, which was directly applicable to a local context. In relation to other external stakeholders, policymakers were interested in their involvement to have the civil society to gain ownership of the policy.

4.3 Paper 3: Organizational factors that facilitate research use in public health policymaking: A scoping review

The third sub-study aimed to synthesize knowledge on organizational factors that facilitate research in public health policymaking from previous peer-reviewed and grey literature reviews or empirical studies and to develop a conceptual map of the organizational factors. The scoping review provided knowledge on the study characteristics and the organizational contexts of the included studies, and an identification of the organizational factors that facilitate research use.

Thematic content analysis of 14 reviews and 40 empirical studies was applied in the charting of the data and in the identification of organizational factors and the thematic content analysis of the factors for the development of the conceptual framework.

The charting process provided an overview of the complex research area. The overview showed that the main contributions to the focus on organizational factors impacting research use come from the health care and public health policy areas, primarily from Australia, Canada and USA. The results also showed an equal distribution of studies by national, regional and local policy level. Studies have primarily focused on non-elected policymakers. Different theories have been applied such as the Diffusion of Innovation Theory, The SPIRIT Action framework and the Middle Range Theory (of the most likely circumstances for research use by ministries of health in developing countries). Also, the functional view of research by was used to gain more understanding of the role of research in different types of policy decisions. Despite the application of theories, the review findings showed, that robust theory application and development in this field is needed, which takes into account the political context of research use in policy organizations.

The thematic content analysis of the included studies resulted in extracted data on 64 organizational factors that facilitate research use, which were thematically categorized into five overall themes and 18 sub-categories (Figure 6). As previously mentioned, the organizational perspective applied in the thesis includes individual factors as part of the organizational factors.

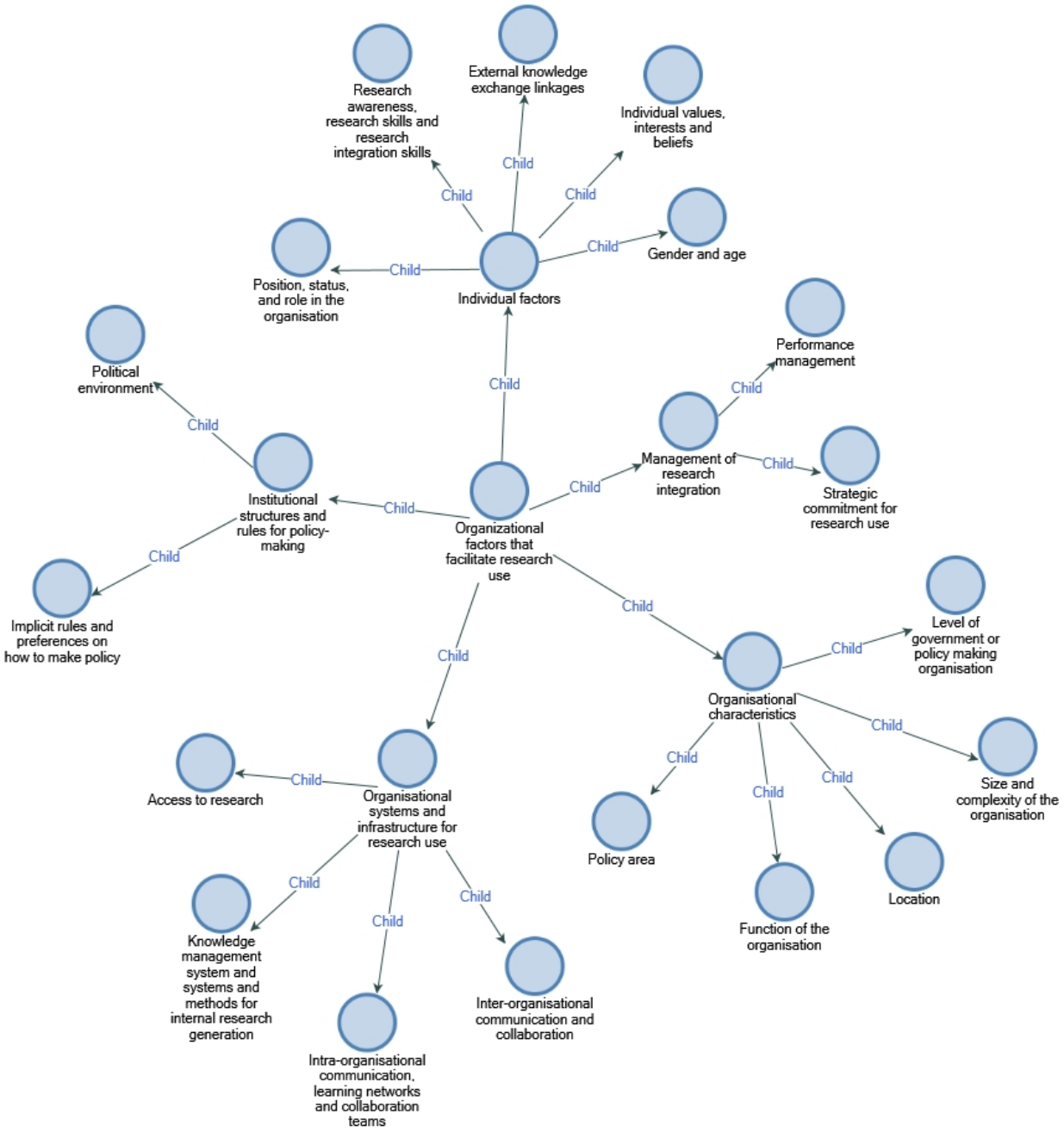

Figure 6 Thematical overview of categories of organizational factors that facilitate research use

Twenty-seven of the organizational factors identified were reported in seven or more studies, including at least one review. These factors are presented in Figure 7 below. The logic of the display is that it resembles as decision-hierarchy from institutional to individual.

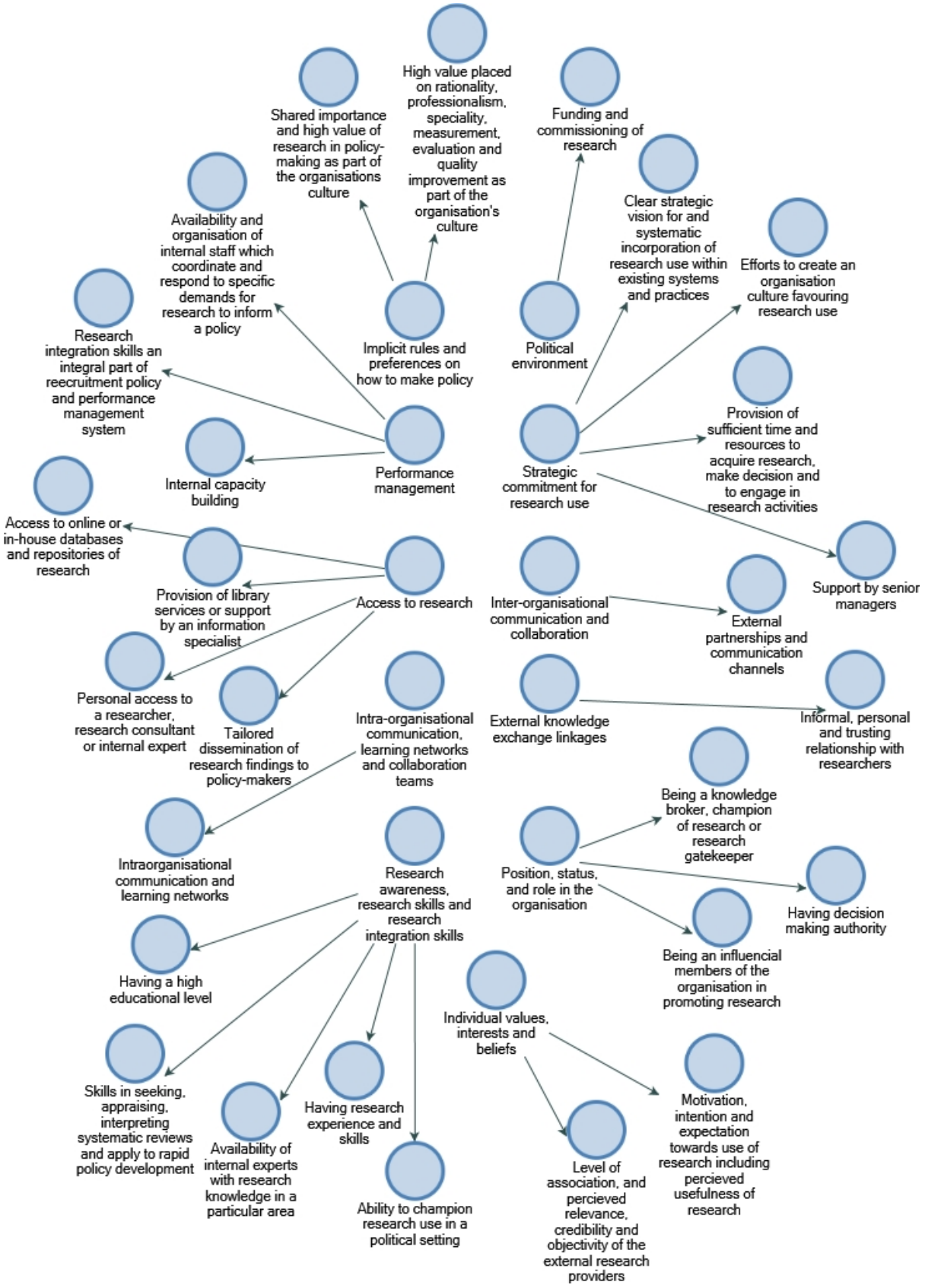

Figure 7 Frequently reported organizational factors facilitating research use

The thematic overview of the organizational factors and the empirical support of the factors show that public officials, whom the empirical research have largely studied, are an extremely important target group for research integration strategies, and that most studies have focused on the individual level of research use, whereas this synthesis show the relevance of combining the individual and organizational level approach to research integration. The strategic commitment toward research use, internal capacity building efforts, the provision of different methods for gaining research knowledge both within the organization and from other sectors through trusting relationships, are factors highly supported by research. So are two factors related to the expectation on how to make policy: 1) High value placed on rationality (from a rational action approach to decision-making), professionalism etc.; and 2) Shared importance and high value of research in policymaking. One factor related to the political environment concerning politically stated interest and rules for acquiring research knowledge through the commissioning of research, was also highly supported by research.

Research gaps are found in the area of organizational systems and infrastructure for research use. Also, most factors related to the political environment need to be studied further. Only few studies, looking into the influence of organizational characteristics on the use of research, were located in the scoping review. The factors identified in this overall category need to be discussed in relation to their relevance and importance for further investigation.

4.3.1 The contextual applicability of the organizational factors

The descriptive summary of the included studies shows an equal distribution of studies across policy levels; however, this does not necessarily mean that all factors are applicable for all policy settings. This sub.-section complements the results presented in paper 3 with additional displays of the results, which provide another contextual presentation of the organizational factors than what is available in paper 3.

Figure 7 below demonstrates that when looking at the policy level differentiation by each sub-category of factors that facilitate research use in policymaking, more or less equal distribution of studies on national, regional and local level remains.

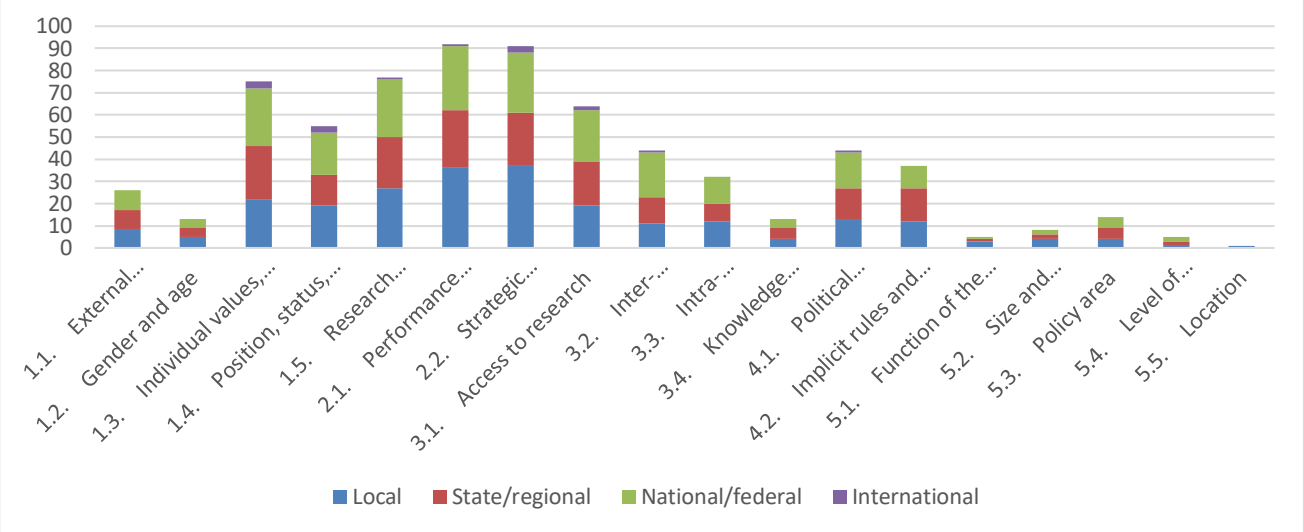

Figure 8 Sub-categories of organizational factors that facilitate research use in policymaking by the level of policymaking identified as a study characteristic

The same exercise can be done for the study population distribution. Figure 8 below shows a greater variety of the contextual differences of the organizational factors. Factors within all 18 sub-categories have been identified for public officials/civil servants, whereas factors within only seven sub-categories have been identified in studies including politicians (1.3, 1.4, 1.5, 2.2, 3.1, 3.2, 4.1). However, the relevance of factors within other sub-categories for politicians is unsure due to the scarce amount of research.

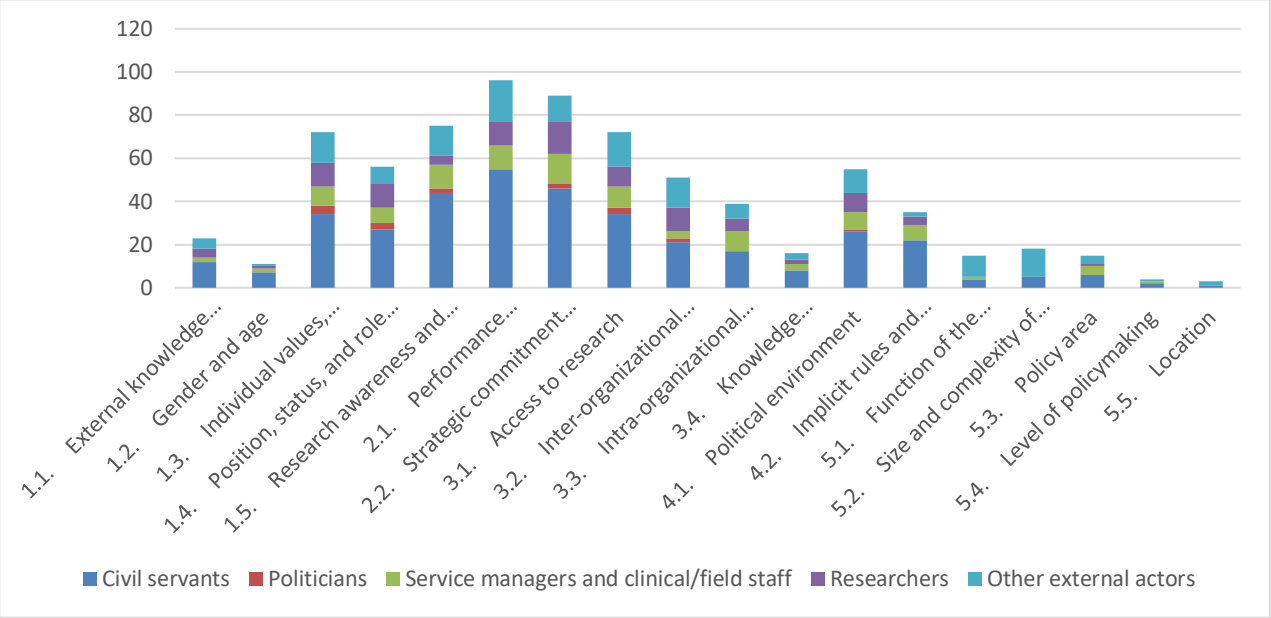

Figure 9 Sub-categories of organizational factors that facilitate research use in policymaking by study population

5. Discussion

In this chapter, the main findings of the three thesis papers will be summarized and discussed in relation to each other, to the existing literature and to the applied theories. Hereafter, based on the shared contribution of this thesis, the evidence-informed policymaking (EIPM) approach and the multiple streams theory will be reflected upon as to the overall benefits of applying these in the future. Further, methodological considerations will be presented followed by a reflection of implications of the findings to future research and practice to promote evidence-informed public health policymaking.

5.1 Main study findings

Together the three thesis papers address the complexity of evidence-informed public health policymaking, and that the role of research, stakeholders and policy organizations in evidence-informed public health policymaking are highly complex and contextual, but also that by focusing on the contextual factors of evidence use, this knowledge can provide useful learnings to the promotion of EIPM.

The knowledge-base of this thesis draws from contextually detailed empirical data on three cases of local public health policymaking related to health-enhancing physical activity (HEPA) and a comprehensive scoping review of 54 articles reporting or synthesizing empirical findings on organizational factors that facilitate research use in public health policymaking. This thesis deployed a pragmatic approach, applying different theoretical lenses as well as an exploratory angle, which enable a contextual understanding of EIPM.

Paper 1 looked at the sourcing and using of research evidence and showed that policymakers are pragmatic in their searches of research evidence and that their preferred research evidence for both the agenda setting and policy formulation phases were demographic and statistical data, research input from experts, and pre-processed/synthesized research with recommendations provided by governmental, non-governmental and research institutions. Across the three policy cases, conceptual modelling was the most identified purpose of the use of all types of research evidence. The paper also showed that the more the research evidence was used for policy decisions, the more the use varied, and that research evidence was competing with other kinds of evidence, especially stakeholder interests.

The in-depth analysis of the involvement of external stakeholders in the case study of ‘Healthy Together’ (HT) **(paper 2)** showed a variety of involvement of external stakeholders but also that political and organizational circumstances greatly impacted the opportunities for external stakeholders to influence the policy; the influence was low in the policy formulation phase and high in the implementation phase. The case study showed that those stakeholders highly involved were experts; most of them having frequent and trusting relationships with the policymakers. The expert involvement was politically initiated, wanting to apply an evidence-based approach and as a power-demonstration by the politicians. The political preferences for a quick policy formulation phase, gave room for some involvement of experts and only limited, consultation-based involvement of community and other stakeholder, with whom the policymakers had a distant but regular contact through regular hearings.

The political vision for the strategy phase of the policy was, on the other hand, aimed for a large involvement by external stakeholders to support both the evidence-based approach but also a participatory approach with external stakeholders to the development of the detailed action plans to

increase local ownership and support in the implementation of the policy. **Paper 2** stressed the importance of policymakers to provide windows of opportunity for stakeholder contribution to promote EIPM.

Paper 3 addressed the organizational factors that facilitate the use of research for EIPM. By reviewing 14 systematic literature reviews of different types and 40 empirical studies reporting findings on organizational factors facilitating research use in public health policymaking, this paper demonstrated a broad range of studies across disciplines reporting organizational factors as facilitating research use; however, most of the research was coming from the health care and public health policy area.

Twenty-seven out of 64 factors presented in **paper 3** were frequently presented in the research, meaning that they were identified in seven or more empirical studies, including at least one review. The review findings highlighted the importance of intra-organizational management of research integration, including strategic investment and performance management, which support the development of research integration skills and encouraging research integration performance. The importance of research knowledge infrastructures was also demonstrated, which included online or in-house repositories of research as well as tailored disseminated research, and the provision of personal access to research providers, who can assist in the interpretation and application of the research knowledge. This review provided a new suggestion for thematically categorizing the factors related to the organizational culture favoring research use, as this area needs further operationalizing.

The review showed a fairly equal distribution of studies from different levels of policymaking contributing to the organizational factors, but there is a need for further focus on politicians as a study population to understand their role in the policy organization in relation to the facilitation of research use.

Paper 3 further demonstrated the need for better frameworks for understanding research use in policy organizations to promote EIPM. Different theories were applied studying organizational factors of research use, but a general scarcity of theory application in the existing literature was detected. The review findings suggested more focus on political theories and systems thinking. So far, the SPIRIT Action Framework is considered to be the most comprehensive and cross-disciplinary inclusive framework for further research on organizational factors that facilitate research use for EIPM, but also the perspective of the functional role of research seems promising in understanding research use in a political context. **Paper 3** showed the importance of individual factors as part of an intra-organizational perspective of research use. Especially the individual factors related to research awareness and research integration skills, and the individual policymaker's level of association and perceived relevance of the research, were frequently reported as facilitating factors in the literature, whereas many of the other individual factors need further research.

5.2 Sourcing and using evidence for evidence-informed policymaking

The first two papers in this thesis provide a detailed depiction of the sourcing and using of three types of evidence: research evidence, knowledge and information from consultation processes, and expert knowledge (Bowen and Zwi, 2005). The conceptualization of research evidence deployed in this thesis includes expert consultation, and this conceptualization was reflected in the case studies in the thesis.

In the process of sourcing research evidence, results from this thesis as well as the overall results of the REPOPA WP1 study, highlight the preference of policymakers for easy-accessible secondary literature such as national and international reports and recommendations and the need for more practically applicable research evidence for policymaking (Hamalainen et al., 2015). This knowledge is in line with results from a Danish survey on local public heath policymaking in Denmark showing that evidence-based guidelines and recommendations are preferred by local policymakers instead of single-published systematic reviews (Larsen et al., 2012). The expressed need of the policymakers for more consideration for the local policy context, which was reported in paper 1, is in line with a qualitative study from UK looking into the implementation of evidence-based guidelines (developed by the National Institute for Health and Care Excellence in the UK (NICE)) in local public health policymaking (Atkins et al., 2017).

The importance of an infrastructure of research use, which includes different channels and types of research knowledge/evidence, was demonstrated in paper 3. In their recent realist scoping review aiming to review interventions that increase policymakers' capacity to use research, Haynes et al. (2018) also highlight the importance of disseminating tailored synthesis reports, such as policy briefs, and also strategies to support different channels for accessing research.

Papers 1 and 2 further demonstrate that systematic reviews such as Cochrane reviews, are not main sources of evidence for policymaking. Based on the case studies in the thesis and the Danish survey by Larsen et al. (2012), there are clear indications, that systematic reviews are only used for local public health policymaking, when the evidence had been synthesized by a trusted governmental, non-governmental or research institutions, which provide recommendations for policy and practice. Maynard and Dell (2018) assessed the impact of 52 systematic reviewed produced by the Campbell Collaboration's Social Welfare Coordinating Group on practice, policy, and research from USA. By interviewing the main review authors, they reported certainty that 41 % of the reviews had been used for policy and practice. The main dissemination channels were direct contacts by government officials through a) reports where the reviews were used as basis for policy change at the policy organization, b) guidelines and policy documents/briefings; these included guidelines and publications by national and international research translation bodies, which were considered trustworthy research providers such as the Canadian Institute of Health Research (CIHR), NICE, and the World Health Organization (WHO).

The use of research is highly dependent on who provides the research, where trustworthiness, good relations and scientific credibility are important source-assessment criteria. Paper 3 demonstrates the importance of having internal research knowledge and skills as well as individual members of the organization who champion research. Also, papers 2 and 3 strengthen the importance of a close, continuous, and frequent communication/relationship between policymakers

and external research providers. When reflecting upon the research providers identified in the three policy cases in this thesis, all were familiar individuals by the policymakers or individuals from familiar and trusted institutions. The importance of the social aspect within the stage of sourcing research evidence is supported by all three thesis papers. The increasing development and testing of more integrated network approaches to knowledge translation such as the knowledge transfer and exchange approach, are a result of the recognition of the importance of the need to build common language and understanding between researchers and policymakers on research for policy (Armstrong et al., 2013; Haynes et al., 2018).

When evidence from external stakeholders are sourced, paper 2 demonstrates that those stakeholders, which are part of the policy community networks, characterized by close relationship with frequent interaction and shared valued, are the primary sources of evidence in the agenda setting phase; this resembles the role description of the policy community of specialist by Kingdon (2014). Within the US Government, these external specialists support the internal specialists (policymakers) with formulating the policy and also help drafting the policy (ibid.).

Data from the three case studies in this thesis showed no indication of such a direct involvement in the policymaking by the experts as drafting the policy. However, the experts did support the policymakers with providing scientific literature and drafting background reports summarizing relevant research results. To what extent the role of external members of the community of specialists differ between different levels of policymaking is unclear. One first step toward more knowledge on the role of experts in policymaking on different levels would be to test the hypothesis that experts are more directly involved in policymaking on national level than on local level.

Paper 2 also shows that evidence from community stakeholders, which were characterized as issue networks, were sought only in the final policy formulation phase, and here it was only the issue networks, with whom the policymakers had regular interaction with, whose input was actively sought. Also, in the strategy phase, it was the same issue networks, which were being sought to contribute to the implementation of the policy. The relational importance of external stakeholder evidence for policymaking is clearly demonstrated in paper 2; however, in EIPM a wide range of stakeholders should be considered to contextually tailor evidence-informed policy actions (Bowen and Zwi, 2005). Tailored interventions based on the stewardship approach were tested in the REPOPA project; Bertram et al. (2018) showed a general challenge in involving community stakeholders such as minority groups in the Danish policymaking interventions; however, the combined findings across three countries of Denmark, Italy and the Netherlands, show promise in relation to increasing input from external stakeholders to inform policy through tailored stewardship interventions (Aro et al., 2015b).

Existing literature on EIPM primarily focuses on the integration of research evidence into policymaking, whereas the role of stakeholders in developing EIPM has not been given much consideration. For instance, the SPIRIT Action Framework does not deal at all with the integration of stakeholder evidence for EIPM (Makkar et al., 2016a; Makkar et al., 2016b; Redman et al., 2015). Thus, the indicators for EIPM developed by the REPOPA project provide a useful new tool to study the importance of involving external stakeholders for EIPM (Tudisca et al., 2018). More research is needed in this area, especially since paper 3 in this thesis identified the following two factors facilitating research use: 1) an open and transparent policy process, which creates

opportunity for public input, and 2) the establishment of platforms for engaging all stakeholders across sectors in policy discussions, which include discussion about research evidence.

In the stage of using evidence (paper 1) local research evidence (demographic and statistical data), national and international guidelines, and expert input were used in both the agenda setting and policy formulation phase; this evidence was used in the agenda setting phase for conceptual modelling or for developing an evidence-based policy. A larger variety of research use was present in the policy formulation phase. Three Nigerian national case studies, with a similar study design as the empirical part of this thesis, show the importance of context specific research evidence and the use of both local and international evidence to frame the policy problems (Onwujekwe et al., 2015). Onwujekwe et al. (ibid.) also found that most of the explicit research evidence was sought and used in the agenda setting phase and that external experts were perceived as useful to help drafting the policies. The results from Onwujekwe et al. (2015) underlines the hypothesis made above that external members of a national level community of specialists are more practically involved in drafting the policy than external members of local level community of specialists.

The results from this thesis combined with the results from the study from Nigeria point to the agenda-setting phase as seen the most useful phase for sourcing and using research for framing the policy framing and for developing more rational evidence-informed decisions.

The contribution of integrating research evidence for EIPM in local policymaking through the involvement of both research-based and practice-based experts could be that they first provide the newest research knowledge, and then validate the knowledge in a local policy setting (papers 1 and 2).

The competitive aspect of research evidence against other kinds of evidence, which influences the way research evidence is assessed, is supported by the overall REPOPA WP1 study (Hamalainen et al., 2015) as well as other existing literature (Oliver et al., 2014a; Contandriopoulos et al., 2010). While studying effective links between academic and policy institutions, van der Arend (2014) shows that political and time pressures, and feasibility concerns, hold more weight in policymaking than the research itself. Paper 1 presents a case where research evidence is being especially vulnerable to the competition by stakeholder interests; however, this knowledge needs further investigation.

By applying descriptive approaches to research utilization to the analysis of the role of research evidence and external stakeholder evidence instead of a procedural approach such as the stages of knowledge utilization (Knott and Wildawski, 1980), the case studies were able to provide a deeper understanding of the intentions of the use for policy decision-making. Using the stages of knowledge utilization e.g. by Knott and Wildawski (1980) provides an insight to in which utilization stage the evidence becomes accepted or rejected; this approach could be helpful in combination with the descriptive research utilization models in understanding the evidence into policy gap (Belkhodja et al. (2007)

The utilization models by Weiss (1979) provided a useful framework for analyzing the purpose of external stakeholder involvement (paper 2). This supports the application of these research utilization models for the analysis of evidence use more widely than just research evidence.

The more detailed research utilization models by Hanney et al. (2003) provided a comprehensive framework for analyzing the role of research evidence in policymaking. However, it was difficult to apply the models because, for instance, the data-based policy model was only applicable for decisions based on robust empirical findings. This model of research utilization is seldom the case in real-world policymaking, thus a looser understanding of the data-based policy utilization model could be helpful for future research in this area.

When comparing the use of research evidence (paper 1) and the use of external stakeholder evidence (paper 2) in relation to the two different models of research utilization (Hanney et al., 2003; Weiss, 1979), most of the different models of utilization provided by Hanney et al. (2003) were identified for the research evidence, and all of the utilization models by Weiss (1979) were identified for the external stakeholder evidence. This knowledge underlines that both research evidence and external stakeholder evidence play many different roles in the policymaking. It should be noted, that some of the results from paper 2 are also reflected in paper 1, since expert consultation is characterized as research evidence in this thesis. However, the knowledge gained from the two empirical thesis papers shows how the possibilities of applying the same models of research utilization for assessing different types of evidence use can help to get an integrated understanding of the role of evidence in EIPM. However, further research is needed to provide knowledge on which of these frameworks of research utilization are applicable for analyzing the use of all types of evidence.

5.3 Capacity to implement evidence-informed policymaking and contextual implications

All three papers, but especially paper 3, demonstrate the large role that policy organizations and the political context play in research use for EIPM. The evidence-informed policy and practice pathway (Bowen and Zwi, 2005) and the multiple streams theory (Kingdon, 2014) are largely supported by the empirical and synthesized findings of this thesis. The knowledge from this thesis supports a further organizational/systems approach to strategies aiming to promote EIPM. A recent realist scoping review by Haynes et al. (2018) provides a good overview of many of the factors identified in the scoping review of this thesis (paper 3) and summarized which individual, interpersonal and organizational factors affect the effectiveness of currently tested strategies for increasing research use in policymaking.

The findings of this thesis are in line with the review results of Haynes (ibid.), which stress the importance of understanding research use in context. For instance, findings from paper 1 indicate differences in research integration across administrative areas such as between policymakers working with health issues and policymakers working with more sports-oriented issues. This difference is most likely related to the research-based tradition and academic skills of the health professionals.

Paper 2 demonstrates how a matrix-organization of the health area promotes the integration of research through knowledge exchange and strategic commitment toward research use by creating multidisciplinary teams from different administrative areas in policy discussions combined with an emphasis on an evidence-based approach. The matrix organization of the administrative and political ownership of the health policy in Odense Municipality provided favorable conditions for

intra-organizational communication, learning networks and collaboration teams (Curtis and Bech, 2012), which have been reported as factors facilitating research use in paper 3.

The increased focus on research use among public health professional was an interesting finding in the three case studies (paper 1), but research findings from paper 3 show that there might be more nuances to this explanation. For instance, Newman (2014) shows that national, governmental professionals from the education and social policy area use more research than professionals from the health policy area. An alternative explanation for the low use of research in the case from the culture and sports policy area may be other cultural factors dominating policymaking within the culture and sports policy area. These could be such as a high representation of stakeholders from local sports clubs where stakeholder evidence weighs higher than research evidence.

The importance of institutional structures and rules for policymaking for facilitating research use for EIPM as identified in paper 3, was also demonstrated in papers 1 and 2. The way the policy development process was planned and the underlying strategies guiding the process, greatly influenced the way research and stakeholders were involved in the policy process and to what extent there were opportunities for developing tailored policy actions informed by research evidence. When comparing the empirical findings of this thesis with the facilitating factors identified in the scoping review (paper 3), it is clear, that all the policy cases did not allow opportunities for open discussions with different stakeholders about research evidence, which could have created more consensus and support for the integration of research evidence. Allowing forums for consensus about research evidence to be built into the policymaking process might be very important in ensuring EIPM (Flitcroft et al., 2011). Research shows that even with political strategies favoring research integration, research evidence can be trumped (van der Arend, 2014).

Paper 3 demonstrates that the relationship between organizational characteristics and research use has been largely ignored in previous research (paper 3). Thus, there is not enough literature to show to what extent the organizational characteristics interplay with the other organizational factors that facilitate research use; for instance, how the overall purpose of the organization and its objectives influence the political environment and the implicit rules and preferences on how to make policies. According to Schein and Schein (2017), the overall purpose/manifest of the organization affects the values and basic assumptions on how to do things such as making decisions in an organization, which are all a reflection of the organizational culture.

An important finding of paper 3 is the lack of theories on organizational factors of research use which integrate political theories and systems thinking. The concept map developed in paper 3 based on the thematic content analysis clearly shows the possibilities of applying systems thinking and the relevance of further investigating the intra-organizational patterns and mechanisms of research use.

5.4 Evidence-informed policymaking – a fancy trend or a useful framework for increasing public health benefits?

In the light of the knowledge and experiences gained from the three sub-studies of this thesis, the evidence-informed policy and practice pathway by Bowen and Zwi (2005) provides a good depiction of the considerations needed when sourcing and using evidence for policymaking, where

multiple factors both inside and outside the policy organization affect the policymakers' assessment and choices about different types of evidence.

When comparing the EIPM approach and the knowledge translation (KTA) approach of Graham et al. (2006), the latter depicts a systematic and linear process of knowledge integration, which unfortunately does not coincide with the real-world policymaking demonstrated in the three case studies in this thesis. The KTA framework may be used as a guideline for systematizing the research integration processes, but it does not help researchers and policymakers to understand how to support the creation of windows of opportunity for integrating research to inform the selection of policy goals and the development of policy actions. This is also the case for the overall movement of the evidence-based practice (EBP), where Liverani et al. (2013) advice for caution against accepting an over-simplified concepts of EBP, as it does not pay attention to 'the specific kinds of evidence used at different stages of the policy making process, and the ways in which different political and institutional drivers may contribute to more or less appropriate evidence utilisation' (Liverani et al., 2013: 6).

Considering the limitations of the EBP and the knowledge translation movement, the EIPM approach has created an opportunity to shift focus from the more streamlined and linear approach of knowledge translation to a more politically integrated depiction of the process of decision-making, which creates better circumstances for integrating the knowledge translation frameworks with policy theories and systems thinking approach.

Based on the knowledge gained from this thesis, it should be noted, that the EIPM approach is not well conceptualized or operationalized, making the approach difficult to assess and apply in research and in practice. There are no clear thresholds from which to determine whether policies are evidence-informed or not, or when they are sufficiently evidence-informed. The developed indicators for EIPM within the REPOPA project (Tudisca et al., 2018) and the tools developed within the SPIRIT (Makkar et al., 2016a; Makkar et al., 2016b; Redman et al., 2015; Brennan et al., 2017), contribute to this step of operationalizing EIPM. The concept map of the organizational factors identified in paper 3 provides a starting point for a suggestion toward an empirically supported framework for validating existing frameworks and tools for EIPM.

To what extent EIPM is a useful framework for increasing public health benefits, remains to be seen; this is true especially for the frameworks' ability to optimize the amount of research being utilized and to increase the contextual applicability and translation of research for the development of effective public health policy actions and interventions.

5.5 Understanding evidence-informed policymaking through the multiple streams theory

When reflecting upon the findings of the three papers in the light of the multiple streams theory by Kingdon (2014), this theory provides a usable framework for understanding policy decision-making and the role of research, stakeholders and policy organizations in EIPM.

When summarizing the role of research evidence in all the policy cases from the REPOPA project, it is clear that explicit research evidence is mostly used in the agenda setting phase to justify the overall policy or the focus areas of the policy (Hamalainen et al., 2015). In the problem stream as well as the politics stream, research does not hold a politically neutral position. This is

demonstrated in paper 2, where research was used to support the political interest in an evidence-based approach and as a reaction by the politicians against the too independent work of their administration.

The possibilities for making evidence-informed decisions are greatly influenced by what occurs in each decision stream. In the problem stream, research input and stakeholder needs combined should ensure a contextual assessment of the applicability of the research for tailored policy actions. In the policy stream, research input and input from external stakeholders need to be combined to allow for an open discussion about the interpretation of the research evidence and the purposes of its use. In the politics stream, political support for research integration as well as transparent and open policy processes and discussions about research in all phases of policymaking, are important strategies to avoid research from being used tactically by policymakers or by other stakeholders without public scrutiny (Flitcroft et al., 2011).

When comparing the findings of the Danish case studies in this thesis with the overall REPOPA WP1 findings, two of the Danish cases represent the higher-level end of research use; these were also the two cases with high transparency of the policy processes. The Danish cases were among the European cases (N=21) the ones making most use of research input from external stakeholders (Hamalainen et al., 2015). This could indicate that the political institutional mood towards the use of research and experts as research providers is more positive than in countries such as Romania and Italy, which creates a window of opportunity for research use from the political stream (Kingdon, 2014). To what extent the political mood favoring research use is facilitated by the new public management (NPM) legacy (introduced in 2007 and decentralizing e.g. the health promotion and prevention work) within the public institutions in Denmark is unsure; however, elements from the public management procedures coincide with EIPM such as efficiency, documentation and evaluation, and cross-sectoral collaboration (Makkar et al., 2016b; Tudisca et al., 2018; Greve, 2006). However, other elements of EIPM are not included in the Danish NPM, such as stakeholder involvement.

5.6 Methodological considerations

The thesis demonstrates the usefulness in applying the evidence-informed policy and practice pathway (Bowen and Zwi, 2005) in combination with the multiple streams theory by Kingdon (2014) as frameworks for understanding evidence use in real-world policymaking and the role of research and stakeholders in developing evidence-informed public health policymaking. Also, this thesis demonstrates the possibilities of applying the research utilization models by Hanney et al. (2003) to provide a nuanced picture of the role of research in policymaking. Further, this thesis demonstrates the possibilities of analyzing stakeholder involvement in policymaking by combining the conceptualization of policy networks by Rhodes (2006) and the models of research utilization by Weiss (1979). Finally, by applying a new combined methodological approach (scoping review and thematic content analysis) to reviewing the existing literature on organizational factors that facilitate research, this thesis provides a more integrated overview of the factors and the research gap.

5.6.1 Strengths and limitations

The deployment of a case study design for the empirical part of this thesis is considered a strength, as the aim was to provide context-detailed investigation of the use of evidence and the role of research and stakeholders, especially when considering that research evidence for policymaking does not adhere to traditional scientific quality criteria, meaning that research evidence is a social

construct (Lancaster, 2014). Having the data corpus consisting of both policy documents and interviews of those involved in making these policies, the empirical part of this thesis follows the best-practice method for retrospective study of research impact om policymaking (Hanney et al., 2003). Also, the combination of data increased the reliability of the findings due to cross-checking. This method was particularly useful for analyzing the use of explicit research evidence in paper 1 and for identifying the external stakeholders, who were formally involved in the policymaking process (paper 2). The case study design was particularly useful for understanding the organizational and political implications for involving external stakeholders in paper 2.

Since the data for papers 1 and 2 were collected and partly analyzed within the large scale, international REPOPA WP1 study, the grant proposal of which was written in 2010, additional theoretical considerations and some re-analyses were done of the data gathered to accommodate the ambition of the PhD study. The re-analysis of the data increased the internal validity, as the interpretation of the data was strengthened by a second phase of re-coding and theoretical interpretations.

The internal validity of the data for paper 1 increased by having the same individuals performing the interviews and initial coding of the data, where the defender of this thesis was involved in the data collection and data analysis of the policymaking cases of Esbjerg Municipality and Odense Municipality, and by having ongoing team discussions about the coding and analysis of the data in each policymaking case. The lead-investigator of the policymaking case of Copenhagen Municipality was a co-author in paper 1, which ensured the internal validity of the data when re-analyzed.

Being part of a large EU-project has also given strength to the results of this thesis, as the results could be compared with other research within the same scope. For instance, a REPOPA paper on the barriers and facilitators of evidence use in public health policymaking based on the international pool of the policy analysis was included in the scoping review (van de Goor et al., 2017). Also, the findings of paper 1 were supported by the findings of the overall REPOPA WP1 findings (Hamalainen et al., 2015; van de Goor et al., 2017).

A Danish Healthy Cities report on the matrix-organization of cross sectoral action for health in Odense Municipality helped strengthening the internal validity of the data for analyzing external stakeholder involvement (paper 2), as this report was used to verify the collected data and the interpretation of the data in relation of the organizational and political context influencing external stakeholder involvement.

By limiting the scope of the scoping review to facilitating factors only, the overview of the research might overlook some understanding of how to promote research use in policy organizations. However, even with this narrow scope, the review turned out to be comprehensive enough to create an extensive overview of the facilitating factors. The positive side of providing an overview of the facilitating factors is the contribution with knowledge, which supports further research on the positive change mechanisms towards research use.

A large degree of internal validity was ensured in the thematic content analysis in the scoping review due to the multiple-stage approach to data coding, where the included reviews provided the initial coding frame, which was then validated and modified by the identified high-relevant empirical studies and further validated without modification by the remaining empirical studies. Also, by

assigning open codes to the text, these open codes enabled further analytical possibilities within the software NVivo.

5.7 Implications for future practice

This thesis stresses the importance of taking local needs into account while developing evidence-based guidelines and recommendations can provide a better foundation for implementation of research evidence in local governments. Here, the content of such tailored synthesized evidence should include details about the use of the evidence for small-scale interventions as well as how policy actions and interventions fit into larger systemic changes in the country (Atkins et al., 2017).

A promising strategy for EIPM is to provide external support to the policymakers in integrating research in the agenda setting phase of policymaking; however, more research on this is needed.

This thesis shows the importance of researchers as a personal source of research evidence. This means that they and their affiliated organization(s) become the objects of scientific and political scrutiny. Here, trust in the evidence provider is used as a proxy for the scientific credibility of the knowledge or written material provided. Researchers need to be aware of their role and contribution to the policy process: They need to be aware of which policy networks they are members of, and in which aspects of policymaking are they involved. The role of researchers and their place in the policy decision stream (problem, policy or political stream) are also influenced by the research evidence, which they want to disseminate. The importance of the reputation of the researchers and their ability to apply different techniques to advocate for their research has been demonstrated by Haynes et al. (2011) and encouraged by Cairney (2016).

Even though external research providers such as research institutions lack the control of how research is used by policy makers and other policy actors such as interest groups, the findings of this thesis add to the importance of research institutions in the facilitation of the use of research by public officials. This can be strengthened through the dissemination of high quality and contextual sensitive and salient commissioned research. This work could be further enhanced through the support of policy organizations in capacity building, EIPM performance management and evaluation.

The important role that policy organizations play in integrating research and developing evidence-informed policies demand more resources to be given to the organizational factors that facilitate this process. Especially resources for the creation of internal and external knowledge infrastructures are needed, both by the policy developing organizations and the governmental agencies responsible for translating scientific research into policy and practice.

Finally, this thesis stresses the importance of transparent policy procedures and documentation of evidence use for the promotion of EIPM.

5.8 Implications for future research

Research evidence and research providers have different roles depending on which decision-making stream that they are trying to influence. The thesis findings clearly stress the importance to offer more research on the role of external stakeholders in EIPM to better to understand how research evidence is best linked with engagement actions to ensure optimal evidence-informed policy decision-making (Lomas and Brown, 2009).

Future research on the involvement of external stakeholders could benefit from including social network analyses, which can generate findings on the person-to-person linkages between internal policymakers and external stakeholders, and identify the most influential people in the policy organization for the development of EIPM (Oliver et al., 2013; Oliver et al., 2015).

Also, the thesis highlights the need for more research on the use and the role of research and other type of evidence in different institutional contexts to support the development of tailored strategies and EIPM interventions.

Paper 3 demonstrates a knowledge gap of research that applies theories. Especially, more political theories and systems thinking approach are needed. The concept map of organizational factors facilitating research provides a good starting point for further research on the intra-organizational patterns of research use for EIPM.

Organizational culture within policy organizations in relation to research use, and EIPM needs to be investigated further and operationalized in order to identify possibilities for creating more research receptive cultures through tailored interventions and through minimal interferences in the organizational identities of policy organizations (Schein and Schein, 2017). The thematic content analysis in paper 3 enabled the development of themes from an operational view, from which further studies on policy organizational culture of research use for EIPM can be conducted (e.g. by applying the analytical method for analyzing organizational culture by Schein (ibid.).

6. Conclusions

This thesis explores the concept of evidence-informed policymaking (EIPM) in relation to the role of research, stakeholders and policy organizations. Across the three thesis papers important factors influencing the pathway of evidence-informed policy and practice were identified.

Together the three thesis papers address the complexity of evidence-informed public health policymaking; they show that the role of research, stakeholders and policy organizations in evidence-informed public health policymaking are highly complex and contextual. The thesis also highlights that focusing on the contextual factors of evidence use can provide useful learnings to the promotion of EIPM.

By exploring the role of research evidence in local public health policymaking, this thesis demonstrates the possibilities for promoting research use for evidence-informed policy decisions in the agenda setting phase of policymaking. Further, the thesis demonstrates that the policymakers prefer secondary literature synthesizing research evidence, and that there is a need for more contextually applicable research for local public health policymaking. It stresses also the importance of building and sustaining more networks between researchers and policymakers.

On a more general level, the thesis results emphasize the importance of national government in providing sufficient resources for the development and maintenance of a public health research system, which is responsible for knowledge translation (contextual applicable) and for facilitating cross-sectoral communication about research for public health policy.

The case study of 'Healthy Together' provided insight to the relational aspects of external stakeholder involvement and the large role of experts as providers of external stakeholder evidence. This thesis demonstrates the importance of policymakers in creating windows of opportunity for external stakeholders to inform the policy. Further, this case study showed that depending on political and organizational reasons external stakeholders' influence can be low in the policy formulation phase and on the other hand high in the implementation phase. Overall, this thesis points to the need for more research on the role of external stakeholders in EIPM.

The scoping review and thematic content analysis of the thesis gave an overview of the organizational factors that facilitate research use from an intra-organizational perspective. The review identified the research gap and the need for more applied theory, including political theories and systems thinking approach. The concept map of 64 identified organizational factors facilitating research use provides a basis for further research on the intra-organizational patterns and mechanisms facilitating research use for EIPM.

The evidence-informed policy and practice pathway (Bowen and Zwi, 2005) in combination with the multiple streams theory by Kingdon (2014) provided useful frameworks for understanding evidence use in real-world policymaking and the role of research and stakeholders in developing evidence-informed public health policymaking. Also, descriptive models of knowledge utilization proved useful in the analysis of the role of research evidence and external stakeholders in policymaking. This knowledge suggests new possibilities for applying these models of utilization for different types of evidence allowing comparisons across evidence types.

The integrated findings of this thesis lead to the following recommendations for policymakers and researchers for promoting EIPM:

1) Increased efforts to develop possibilities for an easy access for policymakers to contextually applicable research evidence from trusted sources, primarily local data, national reports with evidence-based recommendations and consulted experts.

2) The development of policy processes which allow genuine contribution from internal and external stakeholders.

3) Increased focus on the intra-organizational mechanisms, which increase the capacity of policy organizations to make evidence-informed decisions.

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Appendix 1 REPOPA WP1 Interview guide

Research into policy to enhance physical activity (Repopa)

WP 1: Role of evidence in policy making

Introduction

The following interview questions are for the continuation of search for research evidence and other kind of evidence used for health enhancing physical activity (HEPA) policy making in six European countries. Interviewing stakeholders and actors making HEPA policies will provide complementary, in many cases crucial information, for research evidence and other kind of evidence used for HEPA policy making. The interview phase will fill in the gaps from the HEPA document analysis phase and may clarify further what kind of research evidence was used in policy making process. Interviews should be adjusted to information gaps and needs after HEPA document analysis in each country (you may skip questions into which you have already answers).

Proposal for interview questions:

A. <u>HEPA policy development phase: research evidence and other type of evidence</u>

Background information

- What was your role/position/membership/participation/involvement in the HEPA policy development (please include here the name of your HEPA policy document)?
- In which organization were you working at the time of HEPA policy development?
- Which stakeholders and actors were driving forces in HEPA policy making? Were you or your organization one of the driving forces?
- What do you think about so called traditional evidence (clinical, RCT-base evidence) as the basis for policy making in contrary using other kind of evidence (unpublished reports, practical know-how, political priorities)?
- How do you see the attitudes towards evidence-informed approach in your country among decision makers and different sectors?

Stakeholders and actors

- You may have already information from HEPA documents, but you may ask additional information on stakeholder and their involvement, if needed:
  - Describe policy making process for HEPA policy document and its length
  - What was the political and organizational situation (political window opening, elections, new government, for example) when the process started and which previous policies led into this HEPA policy document?
  - How and what kind of development process was used for the HEPA policy document preparation (workgroups, committees, consultations, public hearing etc.)?
  - Which actors and stakeholders were invited for the HEPA policy making process and how were they involved? Which administrative or government bodies, private sector, academic sector or civil society, politicians across various institutes and policy areas were involved or

represented in various committee and/or working groups and policy making process?

Selected HEPA related issues in the HEPA policy making and underlying reasoning

- By which stakeholders were HEPA related issues raised up for the HEPA policy and with what argument? Did the research evidence play a role in choosing certain issues? (e.g. health outcome, PA level, access to facilities etc.)? Which type of research evidence (background reports, research reports and articles, studies etc.) was used in HEPA policy development?

Triggers for HEPA policy making and the relation to research evidence and other kind of evidence

- Did you make any proposal based on research evidence and other kind of evidence into the HEPA policy? What kind of proposals?
- Did you or others use research evidence and other kind of evidence to justify certain issues? What kind of knowledge was used as evidence to justify the certain issues? When were justifications based on research evidence, other kind of evidence (e.g. community preferences, practical know-how, traditions, statements from 'expert' or wise people, etc.)
-
- What was the trigger(s) for the HEPA policy development? Was the trigger(s) based on the research evidence and other kind of evidence? Was the decision to make such HEPA policy based on research evidence or other kind of evidence?
- Did the national and/or international health enhancing physical activity (HEPA) recommendations play a role in building HEPA policy? Did any other national/international recommendation or policy document play a role to form research or other kind of evidence informed base for HEPA policy? Which? Did these documents provide research evidence or other type of evidence to be used for HEPA policy making?

Use of research evidence and other kind of evidence in HEPA policy making

- Did the policy makers use research evidence or other kind of evidence for HEPA policy making? What kind of facilitators, barriers or communication challenges can be identified?
- Which stakeholders and actors were most eager/interested/open to use research evidence and other kind of evidence? How/in what issues? Which stakeholders and actors were most against use of research evidence and other kind of evidence?
- What kind of knowledge transfer between stakeholders and research institutes and producers of other kind of evidence exist in the country? What kind of research evidence infrastructure existed e.g. centers of expertise, evidence centers, bodies or persons functioning as brokers, and potential web-based provision? How were these resources used for the policy making process? How useful were these different resources?

- What kind of knowledge exchange and infrastructure for research evidence and other evidence use exist within the organization developing the HEPA policy?
- What kind of research evidence or other kind of evidence was presented for the level of the physical activity/health outcome of the population?

Intersectoral cooperation and research evidence and other kind of evidence

- Did one sector or more sectors present research evidence or other kind of evidence for HEPA policy? Did sectors, like environment, construction and planning, land use, health and social sector, education and culture or others legitimate cross sector issues? Were any arguments based on research evidence or other kind of evidence presented?
- What the possible benefits were for cross sector approach and involvement of other sectors? What were the possible benefits of multi-sectoral, multilevel, and inter-sectoral cooperation between sectors approaches?
- What the possible facilitators, barriers, benefits or drawbacks were of cross sector approach and involving other sectors?

B. Contents of the HEPA policies

Subgroups, equity, ethics and research evidence and other kind of evidence

- How were population subgroups for HEPA policy selected and how was research evidence and other kind of evidence concerning these groups present or absent in discussions of HEPA policy document making?
- How were population groups justified by research evidence and other kind of evidence?
- What kind of research and other evidence on HEPA for subgroups was discussed e.g. values, priorities, political agenda, and resources?
- How were research and other kind of evidence used to legitimate various settings (schools, workplaces, elderly homes, outdoors, indoors, services, etc.) for HEPA? Which of various settings were present in the HEPA policy document development phase? What type of research evidence and other type of evidence was used to legitimate chosen settings?
- How were research and other kind of evidence used to legitimate equity issues for HEPA policy? What type of research evidence was used to legitimate equity issues? If equity was not mentioned, why equity was not mentioned in your HEPA policy (equity between various population groups, rural/urban contexts, men/women participating in physical activity, equity in access to physical activity services, for example)?
- What kind of research evidence and other kind of evidence was used for vulnerable groups children, women, migrated, ethnicity, disabled, for example)? Based on what type of research evidence and other evidence were vulnerable groups presented as the focus for HEPA policy?
- What type of research evidence and other kind of evidence was used for judgment of health conditions in relation to promotion of physical activity (of population in general or specific) in HEPA policy making process?

- What kind of research evidence and other kind of evidence was used to legitimate social determinants (education, income, employment status etc.) for HEPA in HEPA policy making process?
- What other type of equity issues were present for HEPA policy and how research evidence and other kind of evidence was used to legitimate these issues?
- Where any ethical issues raised and discussed and to what extent was research evidence and other kind of evidence used to justify the policy in relation to ethical issues?

Accountability and research evidence and other kind of evidence

- Who was made accountable for HEPA policy and why? How accountability (responsibility) was planned and legitimated? What kind of research or other kind of evidence was used to support the legitimation?
- How were research and other kind of evidence presented or used to make certain geographical or HEPA policy areas or certain government/regional/local levels as accountable, major contributor or major actors for HEPA policy issues?
- Which sectors (like environment, construction and planning, land use, health and social sector, education and culture or others) were made accountable for the implementation of the HEPA policy?
- What types of actions (promotional, normative, monitoring or coordination) were included to support accountability into HEPA policy and what kind of research and other kind of evidence was used to support it? How was accountability established and defined? Was it as responsibility in general, for initiating or carrying through based on outcome or sanction-based?

Evaluation and research evidence and other kind of evidence

- What kind of plans were discussed to evaluate the policy document and were any research institutes or other partners (e.g. knowledge broker) involved for evaluation planning or were there discussion on surveys to be conducted for evaluation purpose? (Evaluation refers here for overall evaluation of the policy document)
- Were any evaluation models or theories proposed to be used (e.g. RE-AIM)? Which ones?

Sustainability and research evidence and other kind of evidence

- Did the HEPA policy making process include discussion on research evidence and other kind of evidence and sustainability? Did the discussion relate to financial, social, environment or health related sustainability? Were the arguments based on research evidence or other kind of evidence?
- Which sector(s) (sectors, like environment, construction and planning, land use, health and social sector, education and culture or others) were made financially responsible for HEPA policy**?**
- How would you describe the political, economic and cultural importance of the policy (impact, sensitivity, ability to change the policy)?

Others

- What kind of other matters related to HEPA policy were discussed during the HEPA policy making process? What kind of other matters related to HEPA policy and used research evidence and other kind of evidence were discussed in policy making process?

Appendix 2 REPOPA DKWP1 Interview guide

REPOPA: Research into Policy to enhance Physical Activity
7th Framework Programme: Theme Health 2011.3.3-3
Grant agreement no: 281532

DKWP 1: Interviewguide

Denne version er udarbejdet på baggrund af Shortlist of interview questions fra REPOPA WP 1 leder (THL) og bidrag fra DKWP1 medlemmer.

Version d. 24.10.2012

Introduktion

Tusind tak for din accept af deltagelse i interviewet. Din viden og erfaringer er af stor betydning, og vigtig for den videre forskningsproces og analyse af (nævn politkken).

Formål REPOPA

Jeg/vi foretager dette interview som repræsentant(er) fra (nævn institution), som deltager i forskningsprojektet REPOPA (REsearch into POlicy to enhance Physical Activity).

Formålet med REPOPA er, at undersøge brugen af forskningsevidens og andre former for information/viden i udviklingen af politikker, som har et fokus på sundhedsfremme via fysisk aktivitet i seks europæiske lande.

Hvis du har behov for mere information om REPOPA projektet, vil vi med glæde sende dig noget mere informationsmateriale, og du er meget velkommen til at kontakte os, hvis du har spørgsmål.

Historik

I foråret 2012 blev der foretaget en dokumentanalyse af (nævn politikken), hvor vi kiggede på brugen af forskningsevidens og anden form for viden i udviklingen af politikken.

XX's politik blev udvalgt fordi (nævn argumenter) og dermed er et bidrag til at forbedre sundheden i befolkningen på det strukturelle niveau.

Interviewfasen er en forlængelse af dokumentanalysen.

Formål interview

Vores formål med interviewet er at få en dybdegående forståelse for udviklingen af (nævn politikken) for at kunne undersøge rollen af forskningsevidens og anden form for viden/information i udviklingsprocessen.

Interviewet skal være med til at fylde hullerne fra dokumentanalysen og hjælpe med at afklare hvorvidt, hvornår, hvordan og hvilken form for forskningsevidens og anden viden/information der blev benyttet i udviklingen af politikken.

Interviewet er primært baseret på:

- Nævn politikken
- Process dokumenter/baggrundsdokumenter: X, Y, Z....

Procedure

Interviewet vil tage omkring en til halvanden time, og det vil blive optaget med en diktafon.
Optagelsen vil blive transskriberet, hvor navne og andre forhold som kan blive godkendt, vil blive ændret til koder.
Vi vil for en god ordens skyld gøre dig opmærksom på, at du via din underskrevne samtykkeerklæring har givet os tilladelse til at optage interviewet. Er dit samtykke stadig gældende?

Jeg skal gøre opmærksom på, at du nu eller i løbet af interviewet selvfølgelig har ret til at stille spørgsmål – tanken er at vi skal have en åben dialog. Du har også ret til at afbryde/stoppe interviewet, hvis du finder det nødvendigt. Det er således helt op til dig, om du vil gennemføre hele interviewet.
Vi er vældigt interesserede i at høre alle dine erfaringer, holdninger, kommentarer og forslag. Det er ingen rigtige eller forkerte svar; vi vil kommenterer undervejs.
Det vigtigste er, at du kan tale frit, så skal vi nok holde øje med, at vi får afdækket alle emnerne.

Baggrundsinformation og den ansattes rolle

1. Hvad er din professionelle baggrund?

2. Kan du fortælle lidt om hvad **din rolle** har været I udviklingen af politikken?

    - Afdækning af rolle i planlægning, udarbejdelse, høring, implementering, evaluering/forankring.
    - Hvilket fagområde/hvilken sektor repræsenterer du?

3. Kan du fortælle om **baggrunden for at udvikle politikken** og hvordan den politiske og organisatoriske situation var, da processen startede?

    - Afdækning af den politiske og organisatoriske situation, da processen startede og hvilke forrige politikker (lokale, regionale, nationale) førte til politikken
    - Afdækning af **udløsende faktorer** for politikken (Fx lokalbefolkningens præferencer, praktisk viden, traditioner, udtalelser fra "eksperter" eller indsigtsfulde folk, mv.)
    - Spillede forskningsevidens en rolle?

Brug af evidens i udarbejdelsen af politikken

4. Hvilken **form for viden/information eller evidens** (baggrundsrapporter, forskningsrapporter og videnskabelige artikler, studier, mv.) blev benyttet i udarbejdelsen af politikken?
    - Har I benyttet jer af evidens dvs. systematisk sammenfatning af videnskabelige artikler i udarbejdelsen af politikken?
        i. Hvor meget vægt fik den systematiske sammenfatning (evidens)?

    - Har I integreret forskellige former for viden fx kombineret evidens fra systematisk litteraturgennemgang med borgernes aktuelle behov og aktuelle økonomiske muligheder?
    - Hvilke andre former for viden, blev benyttet? (Fx, lokale forhold og præferencer, ressourcer, økonomi, samfundsmæssige og politiske forhold, "know how", m.v.)
5. Hvilke kriterier og argumenter blev **politikkens (hoved)emner** udvalgt på? Giv eksempler

    - Hvilken rolle spillede forskningsbaseret viden/evidens i udvælgelsen af emner (f.eks. sundhedsudfald, niveau af fysisk aktivitet, adgang til faciliteter, m.v.)?

    - Hvilken rolle spillede forskningsbaseret viden/evidens i beslutningsprocessen i forhold til andre former for information/viden/argumenter?

6. Hvilke forhold oplevede du som **fremmende i forhold** til brugen af forskningsbaseret viden/evidens i udarbejdelsen af politikken?

7. Hvilke forhold oplevede du som **barrierer eller udfordringer** i forhold til at anvende forskningsbaseret viden/evidens i udarbejdelsen af politikken?

    - Oplevede du nogle kommunikationsudfordringer i forhold til at dele forskningsbaseret viden/evidens?

Personlig holdning til brugen af evidens i beslutningsprocesser

8. I hvilket omfang synes du, at evidens dvs. systematisk sammenfatning af videnskabelige artikler bliver benyttet i udarbejdelsen af politikker på et **kommunalt, regional og nationalt plan i Danmark**?

    - Afdækning af holdning til traditionen og brugen af forskningsevidens og dens rolle i udviklingen af politikker i forhold til andre former for information/viden i Danmark.

9. Støtter den organisatoriske kultur og de organisatoriske **værdier** brugen af evidens, så beslutninger under udarbejdelse af politikker kan tages på et informeret grundlag?
    - Er der formelle strukturer/procedurer som I benytter jer af i søgen efter viden/evidens?

    - Hvilke **rutiner** har organisationen (kommunen) for anvendelse af evidens i beslutninger?

    - Er **forskningsevidens eller anden viden tilgængelig**? Er den tilgængelige forskningsevidens relevant, troværdigt, rettidig?

    - Hvordan overfører I eksisterende viden og evidens til den gældende politik (systematisk eller usystematisk)? Har I kompetencer og ressourcer til at benytte evidens i udvikling af politikker?

    - Har du **forslag** til hvordan man kan øge brugen af evidens i beslutninger?

Involvering af interessenter/aktører

10. **Hvem** har været involveret i udarbejdelsen af politikken, dvs. i hhv. planlægningen, udarbejdelsen, høringen, implementeringen, evalueringen og forankringen af politikken?

    - Afdækning af hvordan interne og eksterne interessenter og aktører blev involveret i udarbejdelsen af politikken, hvilke metoder der bliver benyttet samt holdningen til inddragelsen af interessenter.

    - Den tværfaglige repræsentation (både internt og eksternt) i de forskellige udvalg og arbejdsgrupper og deres indflydelse på politikken.

11. Hvilken information blev præsenteret af interessenter/aktører (baggrundsrapporter, forskningsrapporter, videnskabelige artikler, studier, underskriftsindsamlinger, m.v.)?

12. Hvem var **mest aktiv/højlydt** under udarbejdelsen af politikken i fht. hvilke emner og problematikker, der blev taget op og med hvilke argumenter?

    - Hvem var mest indflydelsesrige (dvs. fik sat præg på politikken) og hvorfor?

Tværfagligt samarbejde og ansvarsfordeling

13. Blev beslutningsprocessen udført i en **TVÆRFAGLIG kontekst**, dvs. på tværs af forvaltninger?
    - Hvad var argumenterne for den tværfaglige tilgang?
14. Hvordan ser du på magtfordelingen mellem de forskellige forvaltninger i fht til fremme af sundhed via fysisk aktivitet?
15. Hvordan vil du beskrive de forskellige **forvaltningers/interne interessenters bidrag og ejerskab til politikken**?
    - Fremlagde en eller flere forvaltninger forslag til politikken?
    - Blev nogen argumenter præsenteret på baggrund af evidens?
    - Hensigten vs. realiteten af det tværfaglige samarbejde og ejerskab?
16. Hvem var **ansvarlige** for politikken (planlægning og udarbejdelse) og hvorfor var de valgt som ansvarlige?
    - Hvordan blev ansvarsfordelingen planlagt og begrundet?
    - Hvilken form for viden/evidens blev benyttet til at støtte **begrundelsen for ansvarsfordelingen**?
17. Hvilke fagområder, forvaltninger og sektorer (fx miljø og teknik, kultur og fritid, børne og ungdom, sundhed og omsorg, socialsektoren) er/var ansvarlige for **implementering og forankring** af politikken?
    - Var der udfordringer i fht at fordele ansvaret imellem forvaltninger og sektorer?

Tværsektorielt samarbejde

18. Blev beslutningsprocessen udført i en **TVÆRSEKTORIEL kontekst**, dvs. ud af huset/kommunen?
    - Hvilke forhold **fremmede muligheden** for tværsektorielt samarbejde i fht deling af viden?
        - Hvad var **fordelene** ved den tværsektorielle fremgangsmåde?
        - Hvad var de største **udfordringer**?
    - Hvad var de **potentielle barrierer** ved det tværsektorielle samarbejde og ved høring/involvering af interessenter på lokalt, regionalt og nationalt niveau (dvs. multi-niveau problematikken)?
19. Fremlagde en eller flere **sektorer/eksterne interessenter** forslag til politikken?
    - Blev nogen argumenter præsenteret på baggrund af evidens?
20. Hvordan ser du på magtfordelingen mellem de forskellige sektorer og aktører i fht til fremme af sundhed via fysisk aktivitet?
21. Hvordan vil du beskrive **de forskellige sektorers ejerskab til politikken**?

22. Hvad var jeres **holdning til involvering** af eksterne aktører i udarbejdelsen af politikken?
    - Med eksterne aktører menes for eksempel: forskningsinstitutioner, forskere, eksperter, vidienspersoner, organisationer, befolkning

23. Hvordan har I **inkluderet unge i udviklingen af politikken**?
    - I hvilke faser af udarbejdelsen af politikken?
    - Findes der nogen tradition for at inddrage unge i udformning og implementering af politikker?
    - Hvis ikke, hvorfor?

24. Spillede **lobbyisme** en rolle i udvikling af politikken? Hvis ja, hvilken rolle spillede lobbyismen og med hvilke argumenter?

25. Hvordan ser du **relationen** mellem forskere og "policy makers" (dvs. politikkere og embedsværket), med hensyn til udarbejdelsen af politikken (indsigtsfuldt, tillidsfuldt, formelt og uformelt osv.)?
    - Søgte du råd fra nogen eksterne aktører under udarbejdelsen af politikken?

26. Når du tænker tilbage på politikkens udviklingsproces, var der **viden, ekspertise/samarbejde**, som du følte **manglede**?
    - Synes du, at forskere var **i stand til** at give dig den form for forskningsbaseret viden og evidens, som du havde brug for?

Befolkningsgrupper, lighed og etik i beslutningsprocessen

27. Hvordan er forskellige befolkningsgrupper/minoriteter/sårbare grupper udvalgt i politikken? (nævn nogle undergrupper fra politikken)
    - Var valget af befolkningsgrupper retfærdiggjort af viden eller evidens?
    - Hvem valgte I **ikke** at fokusere på og med hvilket argument? Var dette argument baseret på evidens eller anden form for viden?

28. Hvilken form for diskussion blev afholdt omkring **lighed** i sundhed og social ulighed under udarbejdelsen af politikken?
    - Hvilken type evidens/ viden/information blev benyttet til at **legitimere** tiltag rettet mod fremme af **lighed** i sundhed?
    - **Hvis lighed ikke blev nævnt**, hvorfor blev lighedsprincippet ikke nævnt i din politik (fx ligheden mellem forskellige befolkningsgrupper, landlig/bymæssig kontekst, mænd/kvinder som deltager i fysisk aktivitet, retfærdighed i adgangen til ydelser af fysisk aktivitet)?

29. Hvilken form for diskussion blev afholdt omkring etik under udarbejdelsen af politikken?

Evaluering

30. Er der blevet udarbejdet et plan for evaluering og monitorering af politikken både i forhold til proces og effekt?

    - Hvornår blev den udarbejdet? (i planlægningsfasen af politikken eller efter at politikken er blevet implementeret?)

    - Hvis der **ikke** blev udarbejdet en evalueringsplan, hvad var årsagen til dette?

31. Hvilke overvejelser er der blevet gjort i fht **evaluering** af politikken?

    - Var der nogen **faktorer** (ekspertise, formål, ressourcer) som påvirkede valget om evaluering og monitorering?

    - Hvor stor betydning havde udviklingen af en evaluerings- og monitoreringsplan?

    - Blev nogle **eksterne aktører** (fx vidensformidler/konsulenter/eksperter) inddraget i evalueringsplanlægningen?

    - Blev der foreslået nogen **evalueringsmodeller eller teorier**, som skulle benyttes (fx RE-AIM)? Hvilke?

32. Hvem har det overordnede ansvar for **evalueringen og monitoreringen** af politikken?

    - Hvilke forvaltninger og fagområder (fx miljø, byggeri, sundhed og social, uddannelse og kultur, mv.) er **ansvarlige** for evalueringen eller bidrager til evalueringen af politikken?

Bæredygtighed

33. Blev der i udarbejdelsen af politikken diskuteret kortsigtet og/eller langsigtet **forankring af politikken** med henblik på at sikre bæredygtige initiativer til fremme af fysisk aktivitet?

    - Relaterede diskussionen sig til økonomisk, social, miljø- eller sundhedsmæssig bæredygtighed?

    - Var disse argumentationer baseret på evidens eller anden form for viden/information?

Afslutning på interview:

34. Hvordan synes du at interviewet er gået? Er der nogle af de emner, vi har berørt, som du har behov eller lyst til at tale mere om inden vi afslutter interviewet?

Så vil jeg afslutte med at sige tusind tak for din tid og al den information vi har fået fra dig i løbet af interviewet. Dit bidrag vil indgå i en større rapport på tværs af alle medlemslande i juni 2013.

35. Jeg vil også lige spørge om jeg/vi kan få en uformel tilladelse til at kontakte dig senere hvis vi mod forventning får brug for mere data i løbet af analyseprocessen?

Begrebsafklaring:

Sundhedsfremme via fysisk aktivitet (SFA/HEPA): Sundhedsfremme via fysisk aktivitet er alle former for aktivitet som bringer sundhedsgevinster og som bedrer den funktionelle kapacitet hos individer, uden at forårsage skade eller anden form for sundhedsrisiko. Hovedkilderne til helsefremmende aktiviteter er normale og nemme aktiviteter som gåture, cykling, svømning, bjergvandring, stå på ski, havearbejde, dans, manuel træning og rekreationsøvelser (The Regional Office for Europe of the World Health Organization, 2007).

Evidens: Kan forstås som den bedst aktuelle viden, der kan opnås på et område:

- Forskningsevidens – den aktuelt bedste forskningsviden som kan opnås via omhyggelige og systematiske undersøgelser af indtil nu publicerede studier af god kvalitet og som er blevet kritisk vurderet af omverdenen/andre eksperter, f.eks. videnskabelige artikler, systematisk reviews eller meta-analyser og publikationer - fra eksperimenter og/eller observationer (kvantitativt og kvalitativt), Internationale-, nationale- og lokale rapporter og guidelines, som er baseret på systematiske litteraturstudier.

- Forskningsbaseret viden - forskningsbaseret information, materiale og publikationer som ikke er peer-reviewed, f.eks. evaluering af interventioner og programmer, økonomiske evalueringer, ekspert-udsagn, ”know-how”.

- Anden form for evidens (viden) – f.eks. lokale forhold og præferencer, sundhedsforhold, ressourcer, samfundsmæssige og politiske forhold. Dette er som regel forhold der er relevante faktorer i politiske beslutninger , men som ikke har været genstand for forskning

Evidens-informeret: En evidensinformeret beslutning, politik, program etc. baseres på: (1) den bedste tilgængelige evidens, herunder forskningsevidens, (2) præferencer fra de berørte parter, (3) ekspertise og færdigheder fra ansatte/personale. En evidensinformeret beslutningsproces er kompleks, multidisciplinær og transparent, og anerkender brugen af forskellige former for evidens/viden til at drage beslutninger ud fra.

Sektorer: Sektorer bliver brugt forskelligt. For nogen betyder ”andre sektorer” andre fagområder, både interne og eksterne, end de, der er ansvarlige for fysisk aktivitet/sport. Disse ”andre sektorer” kan være sundhed, social, handel, miljø, fysisk/geografisk planlægning, byggeri, transport, uddannelse mm. For andre betyder ”andre sektorer” enheder udenfor den organisation man betragter. Her ser man altså organisationen man betragter som en enhed opdelt i forskellige fagområder og afdelinger, mens andre organisationer med de samme eller andre fagområder hører til andre sektorer.

Lighed/lighed i sundhed/retfærdighed: Ulighed i sundhed er potentielt uundgåelige forskelle i sundhed mellem grupper af mennesker, der er forskelligt stillede socialt set. Disse forskelle placerer

systematisk socialt udsatte grupper i en yderligere sårbar sundhedsmæssig situation. Lighed i sundhed bygger på retfærdighed i fordelingen af ressourcer, tilbud, muligheder med fokus på at minimere uligheden i sundheden. Befolkningens behov skal lede distributionen af muligheder til lighed i sundhed. Alle mennesker skal have lige muligheder til at udvikle og bevare sin egen sundhed, igennem retfærdig og lig tilgang på ressourcer (Nutbeam, 1998).

Bæredygtighed: Hvordan brug af ressourcer, valg af investeringer, den teknologiske udvikling, samt den organisatoriske udvikling, sikrer at det nuværende ressourceforbrug ikke ødelægger mulighed for velfærd og sundhed i de fremtidige generationer (Nutbeam, 1998). Bæredygtighed kan i dette tilfælde betragtes som de tiltag der planlægges/gøres for at sikre de sundhedsfremmende elementer i politikken via fysisk aktivitet både politisk, økonomisk, socialt, miljømæssigt og sundhedsmæssigt på længere sigt.

Interessent/aktør: Er på et eller andet niveau medskabere eller samskabere af politikken og medvirker direkte eller indirekte i udarbejdelsen af politikken.

- Interessent = en person der har en interesse i politikken.
- Aktør = en som spiller en aktiv rolle. Aktører har været direkte involveret i udarbejdelsen af politikken, men de kan ofte deles op i centrale aktører (dvs. de fagprofessionelle) og ikke centrale aktører.

Eksterne interessenter/aktører kan f.eks. være forskningsinstitutioner, eksperter, organisationer, råd, offentlige og private virksomheder, repræsentanter for befolkningsgrupper herunder udsatte/sårbare befolkningsgrupper.