

Proceedings from the Third Annual Conference of the Norwegian Network for Implementation Research (NIMP)

The State of Implementation Research in Norway

Anne Merete Bjørnerud¹ • · Helle K. Falkenberg² • · Nora Braathu³ • · Ane-Marthe Solheim Skar⁴ • · Thomas Engell⁵

Received: 3 October 2023 / Accepted: 16 January 2024 © The Author(s) 2024

Abstract

The third annual conference of the Norwegian Network for Implementation Research (NIMP) was held on November 28th, 2022, in Oslo, Norway. This event drew 98 participants from diverse sectors and disciplines such as health care, welfare, education, and government, with increased interest from non-research practitioners and policymakers (32% of attendees) compared to prior NIMP conferences. The conference featured a keynote presentation from Professor Per Nilsen, two plenary presentations, eleven parallel session presentations, and five poster presentations. The majority of presentations focused on applied implementation research (72%). However, 28% were from non-research implementation practice and policy work, indicating an increased awareness and use of implementation science outside of academia. The presentations were focused on implementation determinants and strategies, the use of theories, models, and frameworks, and research-to-practice partner-ships. The conference saw limited rigorous evaluation of implementation, and more robust evaluation methods with strong measures of implementation outcomes may be needed to enhance implementation evidence in Norway. To sustain engagement in the conference, NIMP should continue integrating implementation research and practice, and consider interactive cross-professional sessions to foster knowledge exchange and collaboration. The conference's increasing influence reflects the growing awareness and relevance of implementation science in Norway, and the conference may facilitate beneficial feedback loops between implementation research and practice to advance the science and practice of implementation in Norway.

 $\textbf{Keywords} \ \ \text{Conference proceedings} \cdot \text{Implementation research} \cdot \text{Implementation practice} \cdot \text{Implementation science network} \cdot \text{Norway}$

Introduction

The Norwegian Network for Implementation Research (NIMP) was launched in 2020. The network's development, mission statement, and organization were described and published in Global Implementation Research and Applications by Engell et al. (2021). The network has 286 registered members and 645 followers on Facebook as of September 2023. NIMP's aims are to "(1) raise awareness of implementation science in Norway, (2) promote the sharing and exchange of knowledge from implementation research in Norway, and (3) facilitate implementation collaboration within Norway and internationally" (Engell et al., 2021, p.

232). A key activity is arranging an annual national conference on implementation science and practice in Norway.

The aim of these conferences is to "bring together NIMP members and others interested in implementation science and practice, showcase the frontiers of Norwegian implementation research, and stimulate debate about critical next steps for implementation science in Norway" (Egeland et al., 2022, p. 333). The target group for the conference is researchers, practitioners, politicians, and others interested in implementation research and practice, to improve the quality of health and welfare services. Publishing proceedings from these conferences support the network's goals. The first conference was held digitally in 2020 (Engell et al., 2021), and the second conference was conducted physically in 2021 (Egeland et al., 2022). The aims of this paper are to

Extended author information available on the last page of the article

Published online: 06 February 2024

present proceedings for the third annual NIMP conference, analyze and discuss the content of abstracts to provide a current state of affairs in Norwegian implementation research and practice, and discuss needs for the future.

The Third Annual NIMP Conference

Organizing Committee

The conference committee consisted of two elected members of the NIMP board and three volunteer members of NIMP. The other board members of NIMP provided support, including the last author (TE). One PhD student (NB) and one research coordinator assisted with planning conference practicalities, coordination, and registering participants.

Abstract Procedure and Review

Abstracts were sought for oral and poster presentations through e-mails to NIMP-members and social media. The call for abstracts asked for contributions from both implementation research and implementation practice, in particular contributions that promote the use of evidence-informed implementation and innovative approaches. These themes were spurred by the conference proceedings from the last NIMP conference specifically calling for more presentations of the use of implementation science in natural practice settings, without necessarily being implementation research (Egeland et al., 2022). Also, as reviewed in the proceedings from the first NIMP conference in 2020 (Engell et al., 2021), implementation science has limited uptake in Norwegian policy and practice. Thus, in planning the conference, the NIMP board recognized that the need for innovations to improve the dissemination and use of implementation science in Norway is still substantial. The scope was broad in terms of subject areas, methods, and design, as well as the use of implementation theories and frameworks. The call emphasized the use of evidence-informed implementation in natural practice settings, partnerships between policy, research, and practice, and contributions that focused on sustainability and scaling.

The committee received 24 abstracts. Two members of the conference committee (RK, CV) and one member of the NIMP board (TE) rated the abstracts on how well they met the scope and emphasized themes in the call. Fourteen abstracts were accepted for oral presentations and six were accepted for poster presentations. Four abstracts that focused on evaluating an intervention were not accepted. Two abstracts were chosen as plenary presentations because they were considered particularly relevant for Norwegian implementation researchers and practitioners.



The Conference Program, Pricing, and Setting

The conference was held on November 28th, 2022, with 98 attendees at the Oslo University Hospital, Radiumhospitalet, in Oslo, Norway. The one-day conference had one keynote speaker, two parallel sessions with eleven oral presentations, five poster presentations, and two plenary presentations at the end. The conference was not streamed, and all participants attended in person. Early bird pricing was 1500NOK (140USD), and the regular rate was 2000NOK (187USD). The price included lunch and membership in NIMP for 2022.

Methods

Data Collection

Data were collected from accepted abstracts and Power-Point presentations. Demographics of conference attendees were collected from the conference registration form (see Table 1). The abstracts were collected in the submission procedure, and the organizing committee gathered the Power-Point slides prior to or during the conference. One oral presenter was prevented from attending the conference, one

Table 1 Characteristics of attendees at the 2022 NIMP conference

Attendees at the NIMP conference $(N=98)$	N	(%)
Women	86	(88)
Title		
Consultant/advisor/project manager	31	(32)
Researcher (professor, associate professor)	24	(24)
PhD student/Postdoctoral	15	(15)
Director/manager	8	(8)
Psychologist	8	(8)
Other practitioner (social worker, pedagogue)	4	(4)
Coordinator	3	(3)
Student	2	(2)
Nurse	1	(1)
Medical doctor	1	(1)
Affiliation		
Research- and quality improvement organizations (institutes, intermediaries, etc.)	34	(35)
Academia	28	(29)
Municipal services	13	(13)
Bureaucracy/government/governmental agencies	10	(10)
Hospital/specialist services	8	(8)
Advocacy and user-representation organizations	2	(2)
Funder	2	(2)
Private services	1	(1)

poster presenter withdrew their accepted abstract, and one oral presenter declined inclusion in this article due to the use of preliminary data. A total of 17 abstracts were therefore included in the analysis with informed consent from the authors. Tables 2 and 3 show the titles and names of the presenters giving oral and poster presentations, respectively. Hashtags (#) in this article indicate the order they presented at the conference and their number in the tables and the supplementary files. The abstracts are available in Norwegian and English in supplementary files 1 and 2.

Data Analysis

A summative content analysis (Hsieh & Shannon, 2005) was conducted to categorize and count the information presented in both oral and poster presentations at the conference. The analysis focused on the text in abstracts provided by the presenters, with additional reference to PowerPoint slides when necessary. The text was categorized into specific codes, including Target Group, Setting, Study Design or Implementation Approach, Implementation Theory, Model or Framework (TMFs), and Aim of the study or implementation practice effort. Per Nilsen's categorization of TMFs (Nilsen, 2015) was used to categorize the aims of the implementation study or practice effort into (1) describing and/ or guiding the process of translating research into practice, (2) understanding and/or explaining what influences implementation outcomes, (3) evaluating implementation. Frequency counts were used to summarize the content, and the results are contextualized in the discussion by reviewing the results in light of prior conferences, current trends in the field of implementation science and practice, and needs for the future.

The first author (AMB) conducted a preliminary analysis. In the preliminary analysis, all the abstracts were preliminary coded and categorized into a pre-defined coding framework. After the first round of coding, we revised the codes to improve fit and appropriateness. The codes theme, purpose, and type of hybrid design were removed, and the code target group was added. Subsequently, all authors discussed the codes to ensure a shared understanding. The authors HKF, NB, and AS then individually analyzed five to six presentations each. In instances where differing opinions arose, discussions took place to resolve disagreements and reach consensus. When needed, TE was consulted for further input. All authors participated in the final stage of the analysis.

The invited keynote presentation provided by Professor Per Nilson was not part of the analysis because the content did not represent Norwegian implementation research or practice. However, Professor Nilsen's keynote and the two other plenary presentations were summarized to inform the discussion of the current state of affairs in Norway in light of trends in the global field of implementation science in general.

Results

Parallel Sessions

The conference had two parallel sessions. In parallel session one, there were three presentations on implementing various health interventions aimed at families (#2, 3, 4) and three on how to implement in cooperation with practitioners in the services (#5, 6, 7). In parallel session two, there were two presentations in one hall, one on implementing evidence-based practice in the municipality (#8) and one on how implementation leadership and climate affect implementation outcomes (#9). The other hall had three presentations on implementing health interventions for adults or the elderly (#10,11, one declined inclusion). See Table 2 for details.

Posters

The conference had a poster walk with five posters and a 60-min lunch break with the poster presenters available for questions. There were two posters related to implementation of health interventions aimed at families (#14, 15), one about creating and implementing a national guideline for social workers in hospitals (#16), and two related to tailoring and executing implementation strategies for the digitalization of mental health services (#17, 18). See Table 3 for details.

All in all, the majority were research presentations, and the research methods most used were qualitative (n = 5) or mixed (n = 4). Most of the research was conducted in primary care/services (n = 8), and the primary target groups were practitioners or mixed users (practitioners, leaders, and/or next of kin). Seven different theories, models, and frameworks (TMFs) were used, and Active Implementation Framework (Fixsen & Blase, 2020) and Normalization Process Theory (May et al., 2009) was used by two separate presentations. Fifteen of the presentations related to understanding and/or explaining what influences implementation outcomes (aim 2 in Nilsen's classification, 2015). Two related to evaluating implementation (aim 3), and two related to describing and/or guiding the process of translating research into practice (aim 1). Three presentations had two aims (#7, 9, 18).

Summary of Plenary Presentations

The conference opened with Professor Per Nilsen from Linköping University giving an invited keynote presentation titled "Implementing Change—Challenges and



Table 2 Overview of oral presentations at the 2022 NIMP conference (N=13)

-	Presenters	Title of presentation	Target group	Setting	Design	Frame-work	Aima
Z	Nilsen, P. (Keynote)	Implementing change—challenges and opportunities					
2 Dr	Drozd, F., Pettersen Sandtrø, H., Skjerve Leksbø, T., Haga, S. M., Størksen, H. T	Implementation of an internet-based intervention for sleep difficulties in children—A concept mapping study	Ь	PC	Mixed	ERIC	2
3 Нс	Holte, E., Elnæs Fredriksen, K	Implementation of SIBS in Lillestrøm Municipality—a qualitative study of barriers and facilitators using the CFIR framework	Γ	PC	Qualitative	CFIR	2
4 St	Stølan Hymer, I., Lie Romm, K., Holter, M., Morka, E	REACT-NOR—a guided web-based self-help tool for next of kin of individuals with psychosis. Experiences from a fully digital implementation process	$oldsymbol{\mathbb{Z}}$	SC	Mixed	AIF	2
ž Ž	Nordahl, K., B., Mørk Thøgersen, D	"Co-development—a form of stealth implementation?" Implementation prerequisites for a foundational model for intervention measures in the child welfare services	Ь	CW	Practice	NA	2
6 SK	Skage, I., Ertesvåg, S. K., Dyrstad, S. M	The levels of use approach as a framework for understanding factors associated with the sustainable implementation of physically active lessons	Ы	S	Qualitative	LoU	2
7 Ge	Gerhard, S	Implementation of the Classroom Assessment Scoring System (CLASS) in FUS kindergartens	Ь	KG	Practice	AIF	1, 2
8 La	Larun, L., Thuve Dahm, K., Langøien, L. J., Instefjord Moldøen, H., Bjerk, M	Implementation of evidence-based practice in municipalities	NA	PC	Policy	EtD	2
9 Eg	Egeland, K. M., Borge, R. H., Skar, A. S	Does implementation leadership and implementation climate correlate with successful implementation?	Ь	SC	Quantitative	NA	2,3
10 W	Westergård, BE., Skalstad, E., Kylland, H	Implementing Life Story Work (LSW) as a Foundation for Person-Centered Practice (PCP) in services for people with disabilities	\mathbb{Z}	PC	Qualitative	NA	2
11 So I	Solberg Mathisen, T., Ormstad, H., Eilertsen, G., Falkenberg, H. K	"Et slag for syn"; Implementation of competence and routines for structured vision assessment after stroke in the municipal health service	А	PC	Qualitative	KtA	2
12 Sk	Skar, A-M. S., Blom-Bakke, K. M., Venkateswaran, M., Gopinathan, U	How can implementation research contribute to equal and fair access to effective health care to support the objectives of UN's sustainable development goal 3 "to ensure healthy lives and promote well-being for all at all ages"?	N A	Health	Policy	NA A	NA
13 O _E	13 Os, K. A., Rømuld, I. W., Melby, A. K. I	New national professional council—"Systematic implementation of national professional guidelines and recommendations for achieving lasting practice improvement"	M	Health Policy	Policy	NA	5

Titles translated from Norwegian into English by the presenters and/or the authors and approved by the presenters

Child Welfare (CW), Schools (S) and Kindergarten (KG). ERIC expert recommendations for implementing change (Powell et al., 2015), CFIR consolidated framework for implementation research (Damschroder et al., 2009), LoU levels-of-use (Hall et al., 2006), AIF active implementation framework (Fixsen & Blase, 2020), EtD evidence-to-decision (Treweek et al., 2013), KTA knowledge-to-action (Graham & Tetroe, 2010), NPT normalization process theory (May et al., 2009) ^aAim classified from Nilsen (2015): (1) describing and/or guiding the process of translating research into practice, (2) understanding and/or explaining what influences implementation outcomes, (3) evaluating implementation. Leaders (L), Practitioners (P) or Mixed users (M); next of kin, practitioners and/or leaders. Primary Care/services (PC), Secondary Care/services (SC),



Table 3 Overview of poster presentations at the 2022 NIMP conference (N=5)

#	# Presenters	Title of presentation	Target group Setting Design	Setting	Design	Frame-work Aim ^a	rk Aim ^a
ΙĊ	14 Olavesen, E. S	Implementation of Mamma Mia at Norwegian health centers	M	PC	PC Mixed	NA	2
-	15 Boman, C., Bernhardsson, S., Lauruschkus, K., Lundqvist, S., Melin, K	Prerequisites, barriers and facilitators for implementing physical P activity on prescription for children with obesity in pediatric health care: a cross-sectional survey	А	PC	Mixed	NPT	7
<u> </u>	16 Nilsen, H.S., Steen Abrahamsen, C., Tveitan, S., Jensen, M., Vikan, J., Metzoni, C., Stenberg, U., Østertun Geirdal, A	The social worker's psychosocial assessment and evaluation of patients in hospital	Д	SC	Practice	NA	-
	17 Standal, B., Teig, I. L., Knudsen Gullslett, M., Nordgreen, T., Kenter, R	How to increase the use of guided internet-delivered treatment for anxiety and depression in specialized mental health services: A qualitative exploration among therapists and leaders	Σ	SC	Qualitative NA	NA	7
1	18 Kenter, R. & Nygård, H	Evidence-based tailored implementation strategies for implementing digital mental health services in routine mental healthcare	Mix	PC	NA	NPT	2,3

Titles translated from Norwegian into English by the presenters and/or the authors and approved by the presenters

^aAim classified from Nilsen (2015): (1) describing and/or guiding the process of translating research into practice, (2) understanding and/or explaining what influences implementation outcomes, (3) evaluating implementation. Leaders (L), Practitioners (P) or Mixed users (M); next of kin, practitioners and/or leaders. Primary Care/services (PC), Secondary Care/services (SC), Child Welfare (CW), Schools (S) and Kindergarten (KG). ERIC expert recommendations for implementation framework (Fixsen & Blase, 2020), EIR consolidated framework for implementation framework (Fixsen & Blase, 2020), EID evidence-to-decision (Treweek et al., 2013), KTA knowledge-to-action (Graham & Tetroe, 2010), NPT normalization process theory (May et al., 2009)



Opportunities" (#1). Professor Nilsen spoke about professionals' responses to change (Nilsen et al., 2019), behavior change theories, and a quadric tool (the 2×2 model) for reflecting on two important dimensions to consider in implementation efforts: (x-axis) from individual-level influences to collective-level influences, and (y-axis) conscious cognitive processing to nonconscious cognitive processing. He presented a logic model of implementation science with three stages: (1) Diagnostic analyses to identify barriers and facilitators to desired changes, (2) developing, executing, and evaluating strategies that matched these determinants, and (3) achieving evidence-based healthcare. He spoke about the importance of understanding professionals' change responses to facilitate implementation (Nilsen et al., 2019), and that people tend to fear the unknown and are comforted by the familiar. Nilsen also talked about a psychological uncertainty associated with change that may be rooted in fear of losing something of value, which we are unable to adapt to, and therefore may lead to stress and health issues. This can act as a barrier to change. He also presented findings suggesting that successful change can be obtained if healthcare professionals: (1) Initiate or have an opportunity to influence the change, (2) are prepared and the changes are clearly communicated, and (3) value the change and/or recognize the need for or benefit of it (Nilsen et al., 2020). Nilsen reviewed four perspectives on behavior change: Behaviorism, social-cognitivism, dual process models, and culture, and emphasized that each of these theoretical perspectives has their limitations and may imply different implementation strategies. Nilsen concluded that a theoretical understanding of behavior change is critical for implementation research and practice.

The second plenary presentation (#12) by Dr. Skar, Dr. Blom-Bakke, and Dr. Venkateswaran was related to global implementation research from the perspective that achieving equal and fair access to effective healthcare is challenging both in Norway and globally. They emphasized that knowledge from implementation research can improve strategies and methodological approaches that contribute to evidence-based, inclusive, and fair decision-making processes and good health outcomes. Skar, Blom-Bakke, and Venkateswaran presented a selection of global implementation research projects related to health registries, health financing, digital health interventions, and non-communicable disease prevention and control. The projects are conducted by the Global Health Cluster, organized under the Division for Health Services at the Norwegian Institute of Public Health.

In the third plenary presentation (#13), Os, Rømuld, and Melby, senior advisors at the Norwegian Directorate of Health, presented that the directorate is developing new national recommendations for implementation of professional guidelines and practice recommendations to

increase the likelihood that the health, welfare, and social services will introduce and comply with these. The presenters emphasized that even though the understanding and competence regarding implementation is increasing in the services, implementation science is still a large and complex field that is difficult to navigate. Thus, the directorate wants to develop a pragmatic and more standardized web-based resource with evidence-informed advice, methods, and tools for the implementation of national guidelines and recommendations. They presented preliminary advice and recommendations and encouraged feedback from experts in the audience.

Discussion

The third annual NIMP conference in Oslo, Norway, included 98 participants, a keynote presentation, 13 oral presentations, and five poster presentations. This represents an increase of eight participants from the previous conference in 2021, and the same number of presentations. However, more of the presentations were held orally due to increased quality in the abstract submissions. The call for abstracts asked for presentations on both implementation research and non-research implementation practice, reflecting an increased awareness in NIMP about the fundamental importance of implementation practice informing the science of implementation. Seventy-two percent of the presentations were from applied implementation research, and 28% were from implementation practice and policy work where research was not an aim - indicating a welcomed growing interest in implementation science outside of academia. Also, the majority of the audience (32%) identified as consultants, advisors, or project leaders, many of whom likely would fit the description of what implementation scientists have defined as implementation support practitioners (Albers et al., 2020).

The conference presentations reflected the transdisciplinary nature of implementation science, with variation in terms of sectors and services where implementation was practiced or researched (e.g., hospitals, kindergartens, government directorates, rehabilitation services, nursing homes, child welfare services, mental health services, and schools and mental health clinics in low- and middle-income countries), goals of the work (e.g., evidence-based treatment, guideline implementation, policy development, quality assurance), and use of implementation approaches informed by different disciplines (e.g., participatory and action research, design thinking inspired co-creation, knowledge translation, behavior change science, and organizational psychology).



Developments from Prior Conferences

In the first NIMP conference in 2020, many presentations focused on barriers and facilitators when implementing new initiatives. At that point, knowledge from implementation science had limited uptake in Norwegian policy, academia, and service systems. The proceedings article from that conference suggested more could be gained from research on multi-level strategies and mechanisms that would drive effective implementation in different contexts (Engell et al., 2021). The second conference in 2021 indicated development in line with this call, with fewer presentations focused on barriers and facilitators to implementation, and more on evaluating multi-level implementation strategies and investigating implementation mechanisms in clinical and educational settings (Egeland et al., 2022).

At the third conference in 2022, we saw an increased emphasis on TMFs (e.g., abstract #11), a sustained emphasis on barriers and facilitators (e.g., #3), and a few studies on efforts to match implementation strategies to identified barriers and facilitators (e.g., #18). This development, to some degree, aligns with calls from the field emphasizing (1) the purposeful use of TMFs (Damschroder, 2020; Moullin et al., 2019) and the importance of (2) tailoring implementation strategies to sufficiently address contextually important implementation determinants (Waltz et al., 2019). Nevertheless, we would like to recommend that more implementation initiatives in Norway learn from the few presentations that purposefully used readiness assessments (i.e., identifying barriers and facilitators) to inform the development and local tailoring of implementation strategies—as we continue to see, both inside and outside of the conference, a tendency to treat readiness assessments and choosing and tailoring implementation strategies as two separate unconnected activities to "check off" the list provided by the chosen TMF.

Furthermore, there was a welcomed increase in engagement from policymakers and non-research practitioners in terms of abstract submissions and participant attendance compared to the first conference, in line with the call mentioned earlier. The conference has established itself as a significant arena for networking and sharing implementation research and practice. It has evolved from the first conference in the number of submitted abstracts, participants, and interest from a wider domain of implementation researchers and practitioners. The increasing participation from policymakers, practitioners, and non-research stakeholders reflects an awareness and shift towards a more holistic approach to implementation where research, practice, and policy converge in order to succeed with societal improvements.

Integrating Implementation Research, Policy, and Practice

The apparent necessary convergence of research, policy, and practice to successful implementation at scale brings an awareness of the complexity inherent in systematic implementation efforts. Subsequently, this awareness also illuminates current limitations in tools, methods, and TMF's developed from implementation science regarding practical use in non-research settings and systems. Currently, evidence-based implementation can seem daunting for most, and the conference included remarks from non-research participants experiencing "information overload" trying to navigate implementation science. More pragmatic methods and tools, common language with less jargon, and authentic research-practice partnerships are all frequently suggested to mitigate this implementation science to implementation practice gap (Beidas et al., 2022; Lyon et al., 2020). Future NIMP conferences may specifically call for such efforts.

Developing professional guidelines and recommendations is another longstanding tradition in making scientific knowledge practical. The ongoing national implementation guideline development, presented at the conference by the Norwegian Directorate of Health, can potentially help summarize complicated implementation science and methods into practical recommendations. However, we stress that to be truly practical, such recommendations must provide advice about *how* to carry out recommendations and not only state *what* is important to consider and address. Also, implementation science is advancing rapidly, and the recommendations likely need to be continuously updated as the science progresses.

Although we highly support the efforts to make implementation science practical and accessible to a broad range of audiences and users, we want to stress that such efforts do not necessarily oppose deep specializations in implementation research. In most sciences, it is not uncommon that highly practical scientific applications that improve and ease people's lives are discovered or generated through rigorous, meticulous, and sometimes necessarily complicated science over time. Not all implementation research needs to be practically useful immediately, but practical applicability should always be a key consideration and goal. Subsequently, we argue that the NIMP conference should continue to integrate implementation research and non-research implementation practice—and perhaps NIMP could use its platform to engage its community in developing a more common and vernacular implementation language in Norway.

Advancing the Use of Theories, Models, and Frameworks

The increased emphasis on TMFs at the conference can be interpreted as a sign of maturation in the field in Norway.



Appropriate use of TMFs can provide structure for designing, evaluating, and understanding implementation efforts. However, TMFs are neither recipes, manuals, nor accurate reflections of the realities of a particular implementation process. They are theories about what tends to be important to consider and address across implementation efforts, and they are tools that help us navigate through what are commonly complex implementation environments. TMFs need to be mindfully contextualized in their application, and their assumptions need to be continuously tested across different contexts and revised accordingly. Thus, careful monitoring and reporting of how and in what circumstances they are used and adapted may advance their science. As such, as the field continues to embrace and adapt a diverse range of TMFs, it becomes increasingly important to ensure that their use aligns with contextual needs and the implementation projects at hand, and that details about how and why a particular TMF was chosen and adapted is transparently reported. This alignment and reporting can enhance the clarity and comparability of results, facilitating the accumulation of knowledge and best practices across studies and implementation projects. An inherent feature of theories is their testing and evolvement over time, and it is therefore important that researchers engage in testing and refining the TMFs, and that implementation practitioners look for updated versions or extensions of frameworks to avoid overlooking advancements or new knowledge (Glasgow et al., 2020).

Addressing Implementation Evaluation

While the proceedings show considerate focus on important aspects of the process of implementation, such as implementation strategies, identifying influential implementation determinants, and using TMFs, few presentations evaluated the effectiveness of implementation with strong measures of implementation outcomes. Only two presentations could be classified as aim 3 (evaluating implementation) in Nilsen's (2015) categorization. Moving beyond strategies and determinants, the conference could benefit from presentations and discussions around strong measures of implementation outcomes and how they relate to service, patient, and population health outcomes. Although understanding context and process is essential to successful implementation, incorporating rigorous evaluation methods will strengthen the implementation evidence and contribute to a more comprehensive understanding of the impact of implementation efforts in Norway. The limited number of large-scale implementation evaluations may indicate that barriers reported in prior NIMP proceedings, such as lack of funding opportunities and incentives for dedicated implementation research, persists (Egeland et al., 2022; Engell et al., 2021).



Sustaining Interest and Engagement

The increasing interest from a wider audience, including those from policy, practice, and other non-research domains, is a positive sign of the conference's influence and the growing relevance of implementation science in Norway. Sustaining the interest and engagement likely relies on implementation science showcasing real-world impact on the quality of health and welfare services, so that the interest in and credibility of implementation science continues to grow. Also, facilitating interactions between researchers and practitioners can foster feedback loops, where research findings directly inform practice and policy, and practice-based evidence and experiences shape research priorities. Making the effects of these feedback loops visible at the conferences may work as a mechanism for sustaining engagement—for instance, highlighting contributions that directly build on contributions or discussions from prior conferences. The conference also marked a substantial rise in pricing compared to prior NIMP conferences, which may disqualify students, trainees, and participants without or with limited funding for conferences through their university or employer. Discount opportunities and travel awards may be warranted to ensure inclusivity in engagement.

Directions for the Next Conference

We suggest NIMP continue integrating implementation research and non-research implementation practice and policy for the next year's conference through their call for abstracts. Incorporating more interactive sessions, such as workshops and panel discussions, could facilitate deeper engagement and collaborative learning among participants. We would like NIMP to welcome everything from large hybrid implementation/intervention trials, rigorous studies of implementation mechanisms, natural experiments, and studies focused on economic and socioeconomic aspects of implementation, to lessons learned from implementation case studies in natural practice. More studies examining the effects of implementation using strong measures of implementation outcomes appear to be needed in the field and will hopefully surface in future conferences. Lastly, we especially recommend the call for system science approaches to large-scale implementation efforts, including protocols of planned studies, ongoing studies, preliminary results and lessons, and completed studies—as we see system science and other approaches embracing complexity as instrumental to the future progress of implementation science.

Conclusion

The third annual NIMP conference showcased implementation research, policy, and practice in Norway. The presentations were diverse in aims and domains, and

emphasized implementation determinants and strategies, the use of theories, models, and frameworks, and research-to-practice partnerships. The need for rigorous evaluation methods and strong measures of implementation outcomes was apparent. Engaging a wider audience, including policy and practice, ensures ongoing momentum, and also illuminates disconnections between implementation research and practice. To sustain progress and engagement, future conferences could incorporate interactive sessions and foster collaboration to further bridge the gap between research, policy, and practical implementation.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s43477-024-00116-8.

Acknowledgements The authors would like to thank the conference committee Marianne Bæver, Cecilie Varsi, Ståle Gerhard, Robin Kenter, and Karin Borgen and the organizers Nora Braathu and Aurora Norebø Omre for their efforts in planning and carrying out the conference. Thanks are also due to the Oslo University Hospital, Radiumhospitalet, for hosting. Thank you to all presenters and participants for their contributions.

Author Contributions All authors contributed to the study conception and design. Material preparation, data collection and obtaining consents were performed by TE. The first draft of the manuscript was written by TE and AMB, AMSS, HKF, NB and AMSS contributed with analysis, writing sections, reviewing, and editing. NB, AMB and TE contributed with writing and editing supplementary files. All authors commented on previous versions of the manuscript and approved the final manuscript.

Funding Open access funding provided by University of South-Eastern Norway. The authors' time for writing this manuscript was supported by the authors' respective organizations of employment.

Declarations

Conflict of interest The authors declare no conflicts of interests.

Consent for Publication All included abstracts in the proceedings have been approved by the presenters.

Consent to Participate Not applicable.

Ethical Approval Not applicable.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

- Albers, B., Metz, A., & Burke, K. (2020). Implementation support practitioners: A proposal for consolidating a diverse evidence base. BMC Health Services Research, 20(1), 368. https://doi. org/10.1186/s12913-020-05145-1
- Beidas, R. S., Dorsey, S., Lewis, C. C., Lyon, A. R., Powell, B. J., Purtle, J., Saldana, L., Shelton, R. C., Stirman, S. W., & Lane-Fall, M. B. (2022). Promises and pitfalls in implementation science from the perspective of US-based researchers: Learning from a pre-mortem. *Implementation Science*, 17(1), 55. https:// doi.org/10.1186/s13012-022-01226-3
- Damschroder, L. J. (2020). Clarity out of chaos: Use of theory in implementation research. *Psychiatry Research*, 283, 112461. https://doi.org/10.1016/j.psychres.2019.06.036
- Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science*, 4(1), 50. https://doi.org/10.1186/1748-5908-4-50
- Egeland, K. M., Engell, T., Halvorsen, J., & Varsi, C. (2022). Proceedings from the second annual conference of the norwegian network for implementation research. *Global Implementation Research and Applications*, 2(4), 332–339. https://doi.org/10.1007/s43477-022-00069-w
- Engell, T., Varsi, C., Graverholt, B., & Egeland, K. M. (2021). Launch of the Norwegian network for implementation research (NIMP): proceedings from the first annual conference. *Global Implementation Research and Applications*, 1(4), 223–232. https://doi.org/10. 1007/s43477-021-00027-y
- Fixsen, D. L., & Blase, K. A. (2020). Active implementation frameworks. In P. Nilsen & S. A. Birken (Eds.), *Handbook on implementation science* (pp. 62–87). Edward Elgar Publishing.
- Glasgow, R. E., Estabrooks, P. A., & Ory, M. G. (2020). Characterizing evolving frameworks: issues from Esmail et al review. *Implementation Science*, 15(1), 53. https://doi.org/10.1186/s13012-020-01009-8
- Graham, I. D., & Tetroe, J. M. (2010). The knowledge to action framework. In J. Rycroft-Malone & T. Bucknall (Eds.), *Models and frameworks for implementing evidence-based practice: Linking evidence to action* (pp. 207–222). Wiley-Blackwell.
- Hall, G. E., Dirksen, D. J., & George, A. A. (2006). Measuring implementation in schools: Levels of use. Southwest Educational Development Laboratory.
- Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687
- Lyon, A. R., Comtois, K. A., Kerns, S. E. U., Landes, S. J., & Lewis, C. C. (2020). Closing the science-practice gap in implementation before it widens. In B. Albers, A. Shlonsky, & R. Mildon (Eds.), *Implementation science 3.0* (pp. 295–313). Springer International Publishing.
- May, C. R., Mair, F., Finch, T., MacFarlane, A., Dowrick, C., Treweek, S., Rapley, T., Ballini, L., Ong, B. N., Rogers, A., Murray, E., Elwyn, G., Légaré, F., Gunn, J., & Montori, V. M. (2009). Development of a theory of implementation and integration: Normalization Process Theory. *Implementation Science*, 4(1), 29. https://doi.org/10.1186/1748-5908-4-29
- Moullin, J. C., Dickson, K. S., Stadnick, N. A., Rabin, B., & Aarons, G. A. (2019). Systematic review of the exploration, preparation, implementation, sustainment (EPIS) framework. *Implementation Science*, 14(1), 1. https://doi.org/10.1186/s13012-018-0842-6
- Nilsen, P. (2015). Making sense of implementation theories, models and frameworks. *Implementation Science*, 10(1), 53–53. https://doi.org/10.1186/s13012-015-0242-0



- Nilsen, P., Schildmeijer, K., Ericsson, C., Seing, I., & Birken, S. (2019). Implementation of change in health care in Sweden: A qualitative study of professionals' change responses. *Implementation Science*, 14(1), 51. https://doi.org/10.1186/s13012-019-0902-6
- Nilsen, P., Seing, I., Ericsson, C., Birken, S. A., & Schildmeijer, K. (2020). Characteristics of successful changes in health care organizations: An interview study with physicians, registered nurses and assistant nurses. *BMC Health Services Research*, 20(1), 147. https://doi.org/10.1186/s12913-020-4999-8
- Powell, B. J., Waltz, T. J., Chinman, M. J., Damschroder, L. J., Smith, J. L., Matthieu, M. M., Proctor, E. K., & Kirchner, J. E. (2015). A refined compilation of implementation strategies: Results from the Expert Recommendations for Implementing Change (ERIC) project. *Implementation Science*, 10(1), 21. https://doi.org/10.1186/s13012-015-0209-1
- Treweek, S., Oxman, A. D., Alderson, P., Bossuyt, P. M., Brandt, L., Brożek, J., Davoli, M., Flottorp, S., Harbour, R., Hill, S., Liberati, A., Liira, H., Schünemann, H. J., Rosenbaum, S., Thornton, J., Vandvik, P. O., & Alonso-Coello, P. (2013). Developing and evaluating communication strategies to support informed decisions and practice based on evidence (DECIDE): Protocol and preliminary results. *Implementation Science*, 8, 6. https://doi.org/10.1186/1748-5908-8-6
- Waltz, T. J., Powell, B. J., Fernández, M. E., Abadie, B., & Damschroder, L. J. (2019). Choosing implementation strategies to address contextual barriers: Diversity in recommendations and future directions. *Implementation Science*, 14(1), 42. https://doi.org/10.1186/s13012-019-0892-4

Authors and Affiliations

Anne Merete Bjørnerud¹ • Helle K. Falkenberg² • Nora Braathu³ • Ane-Marthe Solheim Skar⁴ • Thomas Engell⁵

Anne Merete Bjørnerud anne.m.bjornerud@usn.no

Helle K. Falkenberg helle.k.falkenberg@usn.no

Nora Braathu nora.braathu@nkvts.no

Ane-Marthe Solheim Skar Ane-MartheSolheim.Skar@fhi.no

Thomas Engell te@r-bup.no

Faculty of Health and Social Sciences, University of South-Eastern Norway, Drammen, Norway

- Faculty of Health and Social Sciences, National Centre for Optics, Vision and Eye Care, University of South-Eastern Norway, Kongsberg, Norway
- Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS), Oslo, Norway
- Global Health Cluster, Division for Health Services, Norwegian Institute of Public Health, Oslo, Norway
- Centre for Child and Adolescent Mental Health, Eastern and Southern Norway, Oslo, Norway

