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Health policy to address disease-related malnutrition: a scoping review

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ABSTRACT

Background Health policies promote optimal care, yet policies that address disease-related malnutrition (DRM) are lacking. The purpose of this study was to conduct a scoping review to identify literature on existing and planned policy to address DRM in children or adults and explore the settings, contexts and actors of DRM policy.

Methods A search strategy comprising DRM and policy keywords was applied to eight databases on 24 February 2023. Articles that addressed DRM and policy were selected for inclusion after two independent reviews. The health policy triangle (HPT) framework (ie, actors, content, contexts and processes considerations for policy) guided data extraction and thematic analysis.

Results A total of 67 articles were included out of the 37 196 identified. Some articles (n=14) explored established policies at the local level related to food and mealtime, nutrition care practices, oral nutritional supplement prescribing or reimbursement. Other articles gave direction or rationale for DRM policy. As part of the HPT, actors included researchers, advocacy groups and DRM champions while content pertained to standard processes for nutrition care such as screening, assessment, intervention and monitoring. Contexts included acute care and care home settings with a focus on paediatrics, adults, older adults. Processes identified were varied and influenced by the type of policy (eg, local, national, international) and its goal (eg, advocating, developing, implementing).

Discussion There is a paucity of global DRM policy. Nutrition screening, assessment, intervention and monitoring are consistently identified as important to DRM policy. Decision makers are important actors and should consider context, content and processes to develop and mobilise DRM policy to improve nutrition care. Future efforts need to prioritise the development and implementation of policies addressing DRM.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Disease-related malnutrition (DRM) is prevalent and associated with negative health outcomes.
⇒ Strategies to support DRM care exist but are not widely implemented and would likely benefit from policy direction.

WHAT THIS STUDY ADDS

⇒ Standard processes for nutrition care (eg, screen, assess, intervene, monitor) are iterated consistently as a key strategy to improve DRM care, although policy direction is sparse.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The problem of DRM is well articulated in the literature, as highlighted in this review.
⇒ Development and implementation of evidence-based policies to support future integration of DRM care practices are needed.

INTRODUCTION

Health policies and standards guide governments and organisations to work towards a common goal to improve quality care for citizens with a focus on prevention and intervention.[1–3] WHO and the United Nations (UN) are leaders in global health standards and sustainable goals that countries and organisations use to strive for improved health.[4–6] The UN Decade of Action on Nutrition (2016–2025) is an overarching platform where diverse actors can converge to support nutrition care advancement that will address malnutrition in all its forms while also impacting nutrition-related sustainable development goals.[4 7 8] The Decade of Action on Nutrition identified actions in six overlapping thematic areas.[4 7 8] Two areas of particular relevance to malnutrition care are: (1) involving health systems in the prevention and treatment of malnutrition, regardless of aetiology, using evidence-informed nutrition care and (2) strengthening governance and accountability to ensure effective actions between stakeholders and organisations.[4 7 8]

Disease-related malnutrition (DRM) is often not recognised, treated or considered as a contributor to overall expenditures in health systems.[9–15] It is a complex condition resulting from inadequate energy and protein intake or inadequate absorption of nutrients[16 17] in the context of disease processes or management, which affect food intake (eg, dysphagia, eating disorders), assimilation of food by the body (eg, gastrointestinal

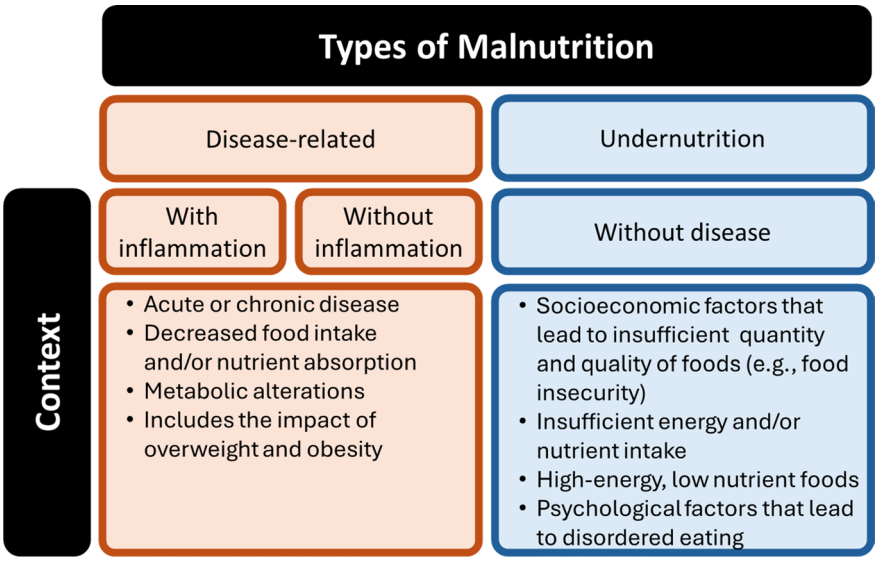

Figure 1 Malnutrition phenotypes and contextual factors that contribute to their development.

diseases), inflammation (eg, surgery) or other mechanisms.[18] DRM is often used interchangeably to describe malnutrition in patients being admitted to hospital or deteriorating in the hospital due to lack of nutrition care,[9] but it also exists in community settings. It is important to note that DRM is distinct from malnutrition that can result from lack of food availability and food security (figure 1). Evidence supports the use of screening, assessing, intervening and monitoring as key steps of standard processes for nutrition care that impact quality nutrition care, and result in reduced length of hospital stay and cost savings for healthcare systems.[9 12–14 19–22]

Over the past decade, several DRM initiatives have improved prevention, detection and treatment of malnutrition in hospitals, care homes and other settings.[23–30] The Effect of early nutritional support on Frailty, Functional Outcomes and Recovery of malnourished medical inpatients Trial (EFFORT) was a large multicentre study of medical inpatients at nutritional risk in Swiss hospitals.[31] EFFORT found that the use of individualised nutrition support aimed at achieving energy and protein intake goals improved survival[31] and was a highly cost-effective method for reducing hospital-associated complications.[19] Globally, nutrition care organisations have undertaken awareness campaigns including NutritionDay worldwide[29] and malnutrition awareness weeks in Europe, the UK, the USA, Canada, Australia, New Zealand and Brazil to mobilise knowledge and advocate for improved care practices.[29 30 32–36] Furthermore, nutritional care as a human right[5 37 38] is garnering traction internationally and stemmed from advocacy efforts related to the right to food in hospitals (eg, Resolution ResAP (2003)).[39]

Current health policy and focus of governments is on overnutrition, non-communicable chronic diseases such as obesity, diabetes and cardiovascular disease, acute care conditions and associated costs,[27 28 40] and undernutrition related to anaemia and stunted growth.[29] These health policies aim to impact the food environment, food system or purchasing through marketing restrictions and fiscal policies.[23 30] Many countries also have food policies that promote access to safe and nutritious food to support population health, highlighting the important linkage between food safety and nutrition.[41]

There are few known health policies or standards[42] with nutrition actions and governance affecting DRM that align with the goals of the UN Decade of Action on Nutrition. In Canada in 2022, the Canadian Nutrition Society and the Canadian Malnutrition Task Force submitted a formal commitment to support two action areas of the UN Decade of Action on Nutrition related to health systems preventing, detecting and treating DRM and coordinating stakeholders and sectors with accountability for DRM.[43] To inform and propel global action towards DRM policy that aligns with WHO and UN Decade of Action goals, an understanding of relevant policies is required. Thus, this scoping review was conducted to find policies related to DRM across various settings and countries in the peer-reviewed literature. The research questions for this scoping review were: (1) What types of policies exist that address or influence DRM in children and adults? (2) What factors influence DRM policies? (3) What are the facilitators and opportunities for DRM policy development, implementation and evaluation?

METHODS

Identifying relevant literature

A team-based mixed-methods approach to a scoping review as described by Westphaln *et al*[44] was applied and reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews.[45] An experienced medical information specialist developed and tested the search strategies through an iterative process in consultation with the review team (KLF, CB-H, RN, LG). The MEDLINE strategy was peer-reviewed by another senior information

Table 1 Inclusion and exclusion criteria for article eligibility

Element	Inclusion criteria	Exclusion criteria
Sources	Full-text peer-reviewed journal articles	Study protocols, conference abstracts, dissertations, full books, disease-specific practice guidelines not related to DRM
Language	English	Languages other than English
Population	People of all ages with DRM	People without DRM; people in low- and middle-income countries with malnutrition
Content*	DRM: ► Nutrition care practices for prevention, detection and treatment ► Diagnosis coding Policy: ► Government (all levels) ► Civil society organisations (eg, Canadian Nutrition Society) ► Healthcare facility/organisation	Malnutrition: ► Micronutrient or macronutrient supplementation ► Malnutrition in the context of undernutrition and overnutrition and non-communicable diseases ► Global health disparities Policy: ► Micronutrient fortification of food supply ► Food insecurity ► Future direction but no active component
Context (settings)	Acute care; care homes; community	Public health; day cares; schools

*Content had to contain at least one component pertaining to DRM and one component related to policy to be included.
DRM, disease-related malnutrition.

specialist prior to execution using the PRESS Checklist.[46] Using the multifile option and deduplication tool available on the Ovid platform, Ovid MEDLINE ALL, Embase and Global Health were searched. Next, CINAHL (Ebsco), the core databases of Web of Science and CAB Abstracts were searched. All searches were performed on 24 February 2023. The search strategies used a combination of controlled vocabulary (eg, "Malnutrition", "Health Policy", "Legislation as Topic") and keywords (eg, "undernutrition", "policy", "law") to target articles that focused on DRM and policy (online supplemental file 1). Vocabulary and syntax were adjusted across databases and where possible, animal-only records were removed.

Study selection

Records retrieved from the search were deduplicated using EndNote (Clarivate Analytics, V.9.3.3) and uploaded to covidence.org (Covidence, Melbourne, Australia). To ensure concordance among reviewers (KLF, CB-H, RN, LG), 40 titles and abstracts were reviewed independently by the four team members and discussed to refine the inclusion and exclusion criteria (table 1). Remaining titles and abstracts were reviewed independently by teams of two reviewers to select studies for full-text review, and these were independently screened by two reviewers. A primary reason was identified for each study that was excluded during the full-text review stage. At each stage, conflicts were resolved by a third reviewer or an advisor (MA).

Data extraction

A standardised data extraction template was developed to systematically collect information from each article selected for inclusion. Relevant data included authors, year of publication, country, type of document, target population(s), policy development and/or implementation process, and evidence of policy intervention effectiveness. Two researchers pilot tested the data extraction form and modifications were made. Data were extracted from included articles independently by two reviewers and discussed among the four reviewers.

Collating and summarising findings

Articles were collated based on a number of policies per country, setting (ie, acute care, care homes, community), level of policy (ie, institutional, regional, national, multinational (ie, two or more), international), policy content related to care pathways (ie, screening, assessment, whole pathway, food services, meal time), interventions (ie, prescribing, meals on wheels, enteral and parenteral nutrition, medical nutrition food). Findings were discussed among the review team to ensure that themes matched all reviewers' interpretation of the articles.

Guiding framework and definitions

Two researchers conducted thematic analysis of extracted data based on the health policy triangle (HPT) framework, which suggests that policy is informed by its content, and by contexts, actors and processes that are key considerations for policy analysis.[47 48] The study team extended the analysis to include these subthemes, enhancing the depth and specificity of the findings. Thus, the HPT framework guided data extraction and thematic analysis considering content, contexts, actors and processes. Here, content referred to the policy substance, particularly related to standard processes for nutrition care; contexts described why the policy was needed in a specific setting; actors considered any individuals, groups or organisations who participated in and influenced development and/or

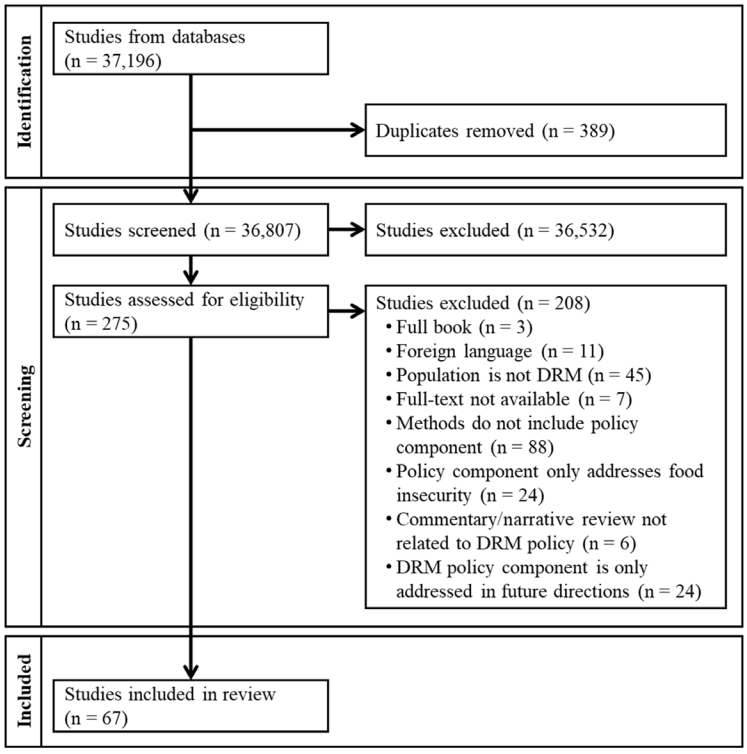

Figure 2 Flow diagram of articles included in this scoping review. DRM, disease-related malnutrition.

implementation of the policy and processes described the development and/or implementation of a policy.

Policy was defined by the Centers for Disease Control and Prevention as '*a law, regulation, procedure, administrative action, incentive or voluntary practice of governments and other institutions*'.[3] The scope of policy was deemed 'big Policy' (big P) when designed and implemented by a government (eg, national, state, provincial, etc).[1] Big P were typically legislation or executive actions that required elected officials' approval. 'Small policy' (small P) were policies at the local level (eg, hospital, clinic, patient care unit, etc) and were typically approved at the institutional level.[1] Studies that focused on implementation of a specific policy, including informal policies such as care pathways, were considered small P.

RESULTS

Summary of included studies

This scoping review identified 37 196 articles, of which 67 were eligible and included (figure 2). All included articles are described in online supplemental file 2. Articles were predominantly in the form of expert opinions and summaries (n=26[30 37 38 49–71]) and included organisational mandates (n=4[30 51 57 61]), expert meeting reports (n=3[56 63 69]) and position statements (n=2[38 58]). Also included were articles on best care practices (n=5[52–55 58]), reimbursement (n=2[63 65]) or health economics (n=1[67]). Surveys or audits were also used in articles (n=15[72–86]) to scan existing practices or processes to assess the success of policy implementation or one or more best practices to address DRM (eg, adoption of nutrition risk screening[85]). Development or implementation of best practices to address DRM and facilitate change in standard workflow was the focus of 13 articles.[26 87–98] Ten review articles addressed DRM-associated policy components and implications,[99–108] while few studies (n=3[109–111]) described development and/or implementation of a guideline or standard. Fourteen articles explored established policies,[49 59 64 70 78 82 89 90 95–98 104 108] with a focus on small P policies (table 2). Other articles provided direction or rationale for DRM policy, including content that future policy should address[54 73 85 101 102 109] and recommended actors who should be involved in policy development and implementation.[50 58 77 80 106]

Thematic analysis of the findings

Findings from this scoping review were collated into themes using the HPT framework including content, contexts, actors and processes,[47 48] with the understanding that these components are inter-related (figure 3). Here, content centred around standard processes for nutrition care (ie, screen, assess, intervene, monitor). Contexts included settings (ie, acute care, care homes, community), life stage (eg, paediatrics, adults, older adults) and reach (eg, national, global). Actors were typically those conducting the research, while processes were viewed as the type of policy (ie, big P vs small P) and its goal (eg, advocating, developing, implementing).

Table 2 Overview of included articles that addressed established policies pertaining to disease-related malnutrition (n=14)

Characteristic	Policy component			
	Food and mealtime policies	Nutrition care practices	Oral nutritional supplement prescribing	Reimbursement
Policy type				
Big P	1[64]	2[78 82]	0	2[49 70]
Small P	4[89 95 96 108]	4[59 90 97 104]	1[98]	0
Type of article				
Systematic review	1[108]	1[104]	0	0
Implementation study	3[89 95 96]	2[90 97]	1[98]	0
Survey/Audit	0	2[78 82]	0	0
Opinion/Summary	1[64]	1[59]	0	2[49 70]

Big P, big Policy; Small P, small Policy.

Content considerations

At the national level, big P content focused on regulations for quality food,[64] and facilitation of best care practices in local facilities (eg, nutrition risk screening and DRM treatment[78 82]). Policy development and implementation content related to food and mealtime policies,[89 95 96] components of standard processes for nutrition care such as nutrition risk screening[90 97] and oral nutritional supplement (ONS) prescribing[98] (table 2). Most studies advocated for the importance of health policy, specifically policies that would address DRM, but did not describe policy development, implementation and/or evaluation. Nonetheless, some studies (n=7[26 92 93 95 104 110 111]) described the development, implementation and/or evaluation of best care practices to create standard workflows. Seven articles focused on a specific nutrition care pathway such as the Integrated Nutrition Pathway for Acute Care (INPAC),[93] the Systemised, Interdisciplinary, Malnutrition Programme for implementation and Evaluation (SIMPLE),[26 109] the Malnutrition Quality Improvement Initiative (MQii)[83 110] or a food services guideline.[111]

Articles focused primarily on the nutrition care pathway, encompassing aspects such as screening and assessment, intervention, monitoring and food access/reimbursement, with the exception of two articles.[105 107] Screening and/or assessment was the focus of more than half of the articles (n=36[30 37 38 50–54 56–61 66 67 71 73–75 77–80 83 85–88 90 91 97 99 100 103 109 110]; online supplemental file 2), while four focused specifically on treatment.[63 69 98 101] Other articles addressed the whole nutrition care pathway (n=7[55 62 82 92 93 95 104]) or multiple components of the care pathway (eg, intervention and reimbursement,[65 70 76 94 102] food services and mealtime[68 96] or screening, assessment and monitoring[72 84]). Access to food was addressed in one article.[106] A few articles emphasised the importance of policies to promote DRM prevention through quality food and mealtime strategies to promote adequate nutritional intake.[64 68 81 89 96 104 108 111] Policy content also included access to a dietitian for nutrition services[77 98] and product reimbursement to facilitate treatment.[49]

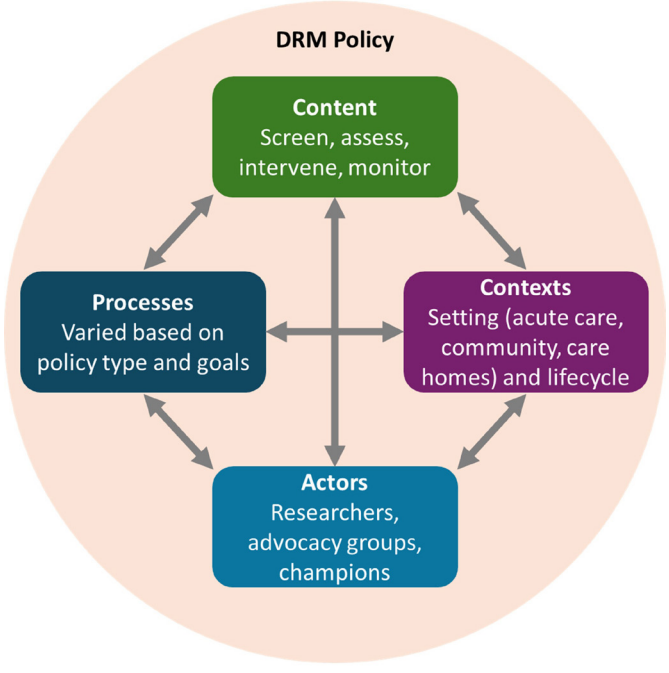

Figure 3 Components of the health policy triangle framework, including content, contexts, actors and processes,[47 48] are inter-related and contribute to the development and implementation of disease-related malnutrition policy. DRM, disease-related malnutrition.

Context considerations

Policy context included the target populations and policy reach, setting (ie, acute care, care homes, community) and drivers or rationale for DRM policy. Context characteristics are summarised in table 3. Articles stemmed from 14 distinct countries and focused on policy aspects that spanned from institutional to multinational. Most articles (n=43[3738495152545658606269717475788488939499108111]) focused on strategies with national or global reach (table 3), often emphasising the importance of standard food and nutrition care practices to address DRM. Studies also targeted the multinational (≥2 countries),[30 50 53 57 61 73 76 85 86]

Table 3 Context characteristics of the 67 articles included in this scoping review

Characteristics	Number of articles	Reference to article
Country		
Australia	9	26 74 75 87 91 92 97 104 109
Canada	7	69 77 81 89 93 96 106
Colombia	1	37
France	1	111
Ireland	1	53
Israel	2	60 80
Italy	2	72 102
Malaysia	1	90
The Netherlands	3	79 84 95
Poland	1	66
South Korea	1	82
Sweden	1	78
UK	6	52 59 64 68 71 100
USA	14	49 51 54 58 62 63 70 83 88 94 98 99 107 110
Unknown	4	101 103 105 108
Region		
≥2 European countries	6	30 50 57 61 76 85
Multiple countries (excluding Europe)	7	38 55 56 65 67 73 86
Setting		
Acute care	27	26 38 54 62–64 66–68 73 80–83 89 91–93 97 99 104 105 107–111
Care home	11	58 72 77–79 84 85 88 95 96 100
Community	10	49 70 74 87 90 94 98 101 103 106
≥2 settings	7	50 52 60 65 71 86 102
All settings	12	30 37 51 53 55–57 59 61 69 75 76
Lifecycle		
Adults	16	26 71 90 92 93 97 98 101–105 107–109 111
Older adults	23	50 53 58 68 72 74 75 77–79 83–88 91 94–96 100 106 110
Paediatrics	2	54 99
All stages	26	30 37 38 49 51 52 55–57 59–67 69 70 73 76 80–82 89
Reach		
Facility/Organisation	9	70 89–92 95 97 98 110
Global	14	37 38 52 55 56 65 67 100 101 103–105 107 108
Multinational (≥2 countries)	9	30 50 53 57 61 73 76 85 86
National	29	49 51 54 58–60 62–64 66 68 69 71 74 75 78–84 88 93 94 99 102 106 111
Regional/Provincial	6	26 72 77 87 96 109

facility/organisation[70 89–92 95 97 98 110] or regional/provincial levels.[26 72 77 87 96 109]

Expert opinions, summaries and review papers provided insights into the drivers for this work, including the health economic benefit of addressing DRM,[67 107] and gaps in existing policy and care practices.[66 68 103] Papers highlighted the need for policy to address DRM and identified key next steps to move forward. Policy levers to stimulate improved care and patient outcomes, while reducing health system costs, were described.[37 68 71 101 103] Organisations (eg, the European Nutrition for Health Alliance (ENHA)) described their calls to action and work towards addressing malnutrition through multinational collaborations.[30 57 61] Other papers described tailoring implementation strategies to the local context and provided recommendations to advance policy

Table 4 Key actors and processes identified in the 67 articles included in this scoping review

Characteristics	Number of articles	Reference to article
Actors		
Clinicians	5	80 90 91 97 98
Clinician-researchers	20	26 37 38 50 55 59 70 73 76 77 81 82 85 92 95 102–105 109
Industry	1	62
Organisation	9	30 49 51 56–58 61 64 83
Researchers	19	53 66 68 71 72 74 75 78 79 84 86–88 93 96 100 101 106 108
≥2 actors (eg, clinician-researchers and industry)	13	52 54 60 63 65 67 69 89 94 99 107 110 111
Processes*		
Big P	24	
Advocating	7	37 61 64 68 73 76 102
Describing	2	49 70
Developing	0	
Evaluating	2	78 82
Identifying needs	9	30 50 56 57 60 63 65 67 69
Suggesting	4	38 51 62 66
Small P	40	
Advocating	8	71 77 80 81 86 101 103 107
Describing	1*	104
Developing	4	97 109–111
Evaluating	20	26 72 74 75 79 83–85 87–96 98 108
Identifying needs	0	
Suggesting	7	52–55 58 99 105
Combination of processes	3	59 100 106

*Advocating: articles provided reasoning for improved DRM care and/or DRM policy. Describing: articles that described the process for establishing policies and the types of policies needed. Developing: articles that described the process for creating policies. Evaluating: articles focused on evaluation employed to advance DRM care or an audit of practice. Identifying needs: studies that identified needs, goals and/or outcomes for policy. Suggesting: articles provided guidance and suggestions to facilitate nutrition care.
Big P, big Policy; DRM, disease-related malnutrition; Small P, small Policy.

development.[74 75 85] Overall, the context set the stage for national/multinational frameworks or regulations with local policy development and implementation, while leveraging implementation methodologies to facilitate adoption.

Role of actors

Actors were identified as researchers contributing to the DRM policy literature and persons involved in developing and implementing DRM policy. Most publications were led by clinician-researchers or academics (table 4). Select studies were published by registered dietitians, while most clinicians were physicians. Several studies were led by large-scale established organisations (eg, Academy of Nutrition and Dietetics,[51 56 58 67 83 99 110] Association Française des Diététiciens Nutritionnistes,[111] Canadian Nutrition Society,[69] American Society of Nutrition,[63] American Society of Parenteral and Enteral Nutrition,[49 54] British Society for Parenteral and Enteral Nutrition[52]) or organisations with a mandate to address DRM and improve nutrition care (eg, ENHA,[30 57 61] Malnutrition in the Elderly,[53] feedM.E. Global Study Group[55]), and often in partnership with clinician-researchers.

Based on the included articles, organisations were key champions for big P change. For example, ENHA developed plans to address DRM at national levels and described working towards this goal for over 15 years.[30 57 61] Industry was an important actor given their role in medical nutrition therapy product production (eg, oral nutrition supplements, parenteral nutrition solutions, etc), and advocacy efforts for reimbursement and improved patient access to care.

Articles highlighted the importance of champions as drivers of change. Champions were often seen as physicians, nurses, registered dietitians and members of multidisciplinary teams, food service workers, hospital administrators, patients and the public, civil servants and community partners. For example, some studies used local policy led by nurses to demonstrate the value

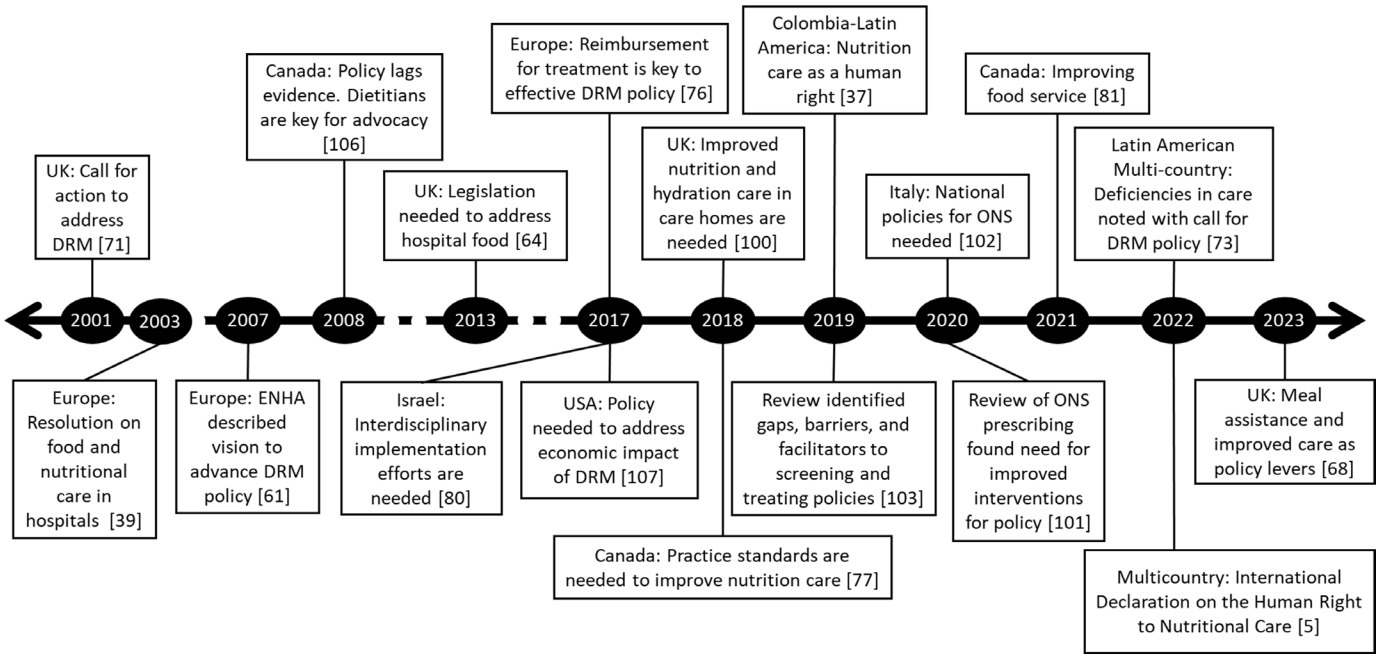

Figure 4 Timeline of advocacy efforts for DRM policy advancement. DRM, disease-related malnutrition; ENHA, European Nutrition for Health Alliance; ONS, oral nutritional supplements.

of nurse-led nutrition care policies.[97 104] Actors varied depending on the policy type (ie, big P vs small P). For big P, governments played a greater role in development, but clinician champions were viewed as key actors for driving the DRM policy agenda. Local clinician champions also played a key role for small P within their sphere of influence such as a site/facility, unit or clinic. Local champions were essential to drive the agenda to address DRM when there were numerous competing priorities and implementation.

Process considerations

Under this theme, big P and small P were identified as subthemes. Further exploration identified advocating, describing, developing, evaluating and suggesting policy (table 4) to provide a more detailed analysis, reflecting the unique insights from the information gathered. Process considerations included the stage of policy development, which ranged from broad aims and processes for national policies to more specific local policies at various stages from development to implementation, and evaluation. Process considerations that were consistent across articles included the need for advocacy and the use of systematic approaches to successful DRM policy development and implementation. A summary of advocacy efforts identified from the past two decades is illustrated in figure 4. Process considerations varied from big P to small P articles, with the majority of big P articles focused on advocacy or steps to address DRM, while most small P articles focused on evaluation or processes for measuring adoption of best practices to address DRM (table 4). Of the articles that described small P, a select few described the process for policy development, standard workflows and/or quality indicators[109–111] or provided suggestions for best practices, standards or policies to address DRM[52 54 55 58 99 100 105] (table 4).

Articles included key process steps for policy development, which generally incorporated evidence reviews, examination of current practices, Delphi methods to obtain expert consensus, clarification of roles within the policy and policy communication. Examples of national/multinational work with organisations included a signed charter or alliance agreement. A number of studies audited implementation of best practices and highlighted considerable gaps despite efforts across settings to communicate the importance of nutrition risk screening and DRM treatment. Articles suggested that both implementation methodology and policy drivers were required for successful adoption of DRM best practices.

Facilitators, opportunities and key learnings

The need for health policy to address DRM is evident in the literature; however, the development and implementation of such policies are lagging. Key facilitators to support DRM policy development and implementation included consistent messaging around standard processes for nutrition care, learnings from policy development and implementation work in adults and older adults in acute care and the involvement of champions in this work. Nonetheless, many opportunities for DRM policy advancement were identified and can be used to support future policy work. The overlap of food insecurity and DRM, community settings and paediatric populations were identified as content and contexts that require further insight. A lack of involvement from decision makers and policy makers, as well as individuals with lived experience was evident throughout the literature. Regardless of policy type, the opportunity for evaluation

Table 5 Summary of facilitators, opportunities and key learnings identified from the articles (n=67) included in this scoping review based on the components of the HPT framework

HPT component	Facilitators	Opportunities	Key learnings
Content	Consistent around the globe; focus is on standard processes for nutrition care	Overlap of food insecurity and DRM	Knowledge mobilisation is happening; there is awareness of the problem of DRM
Context	Acute care and care homes can be used as examples; most work has been in adults and older adults	Community settings and paediatric population (regardless of setting)	Big P provide direction for small P, which drive local implementation
Actors	Health system leaders; champions across all sectors and levels	Decision makers (elected, non-experts) and policy makers; individuals with lived experience	Site-level actors are integral to implementation efforts
Processes	Jurisdictional-level	Evidence-informed policy implementation and evaluation; the role of mandates	Policy evaluation parameters and/or key performance indicators are needed to mobilise evidence-informed policy

Big P, big policy; DRM, disease-related malnutrition; HPT, health policy triangle; small P, small policy.

and consideration of policy mandates emerged as a gap. Facilitators, opportunities and key learnings were identified in the literature and mapped to the HPT framework, as summarised in table 5.

DISCUSSION

Summary of findings

The UN Decade of Action on Nutrition indicates that malnutrition in all its forms needs to be addressed. DRM is one form of malnutrition that needs to be globally recognised and addressed through policy approaches. This comprehensive search strategy identified >37 000 articles, with 67 meeting the inclusion criteria and specifically addressing aspects related to DRM policy. Using the HPT framework,[47 48] this scoping review highlighted the multifaceted nature of health policy, focusing on content, contexts, actors and processes for DRM policy development and implementation. To our knowledge, this is the first scoping review on DRM policy. Because of the paucity of publications that studied policy and DRM directly, studies that included both formal policy and informal policies, such as care pathways, were included. With this review, we sought to understand the extent of the literature on the impact of policy on DRM and identify which policies have been found to be effective. However, few studies evaluated the impact of policy; instead, studies primarily highlighted the need for evaluation.

Limited studies addressed governmental policies and intersectoral big P related to DRM; at the national level, most policy work was focused on acute care and care homes. Government policy did not target specifically the paediatric population, although they may be considered a part of general acute care work. A gap in studies describing policy related to DRM in community settings was also identified. Regardless of population and setting, certain countries such as the USA, Australia, Canada and the Netherlands, as well as European and Latin American civil society organisations, have contributed to raising awareness of DRM in the peer-reviewed literature, especially over the past decade, although the corresponding impact on the international policy agenda is lagging. The types of articles (primarily reviews, opinions and commentaries) identified for this review indicated a lack of high-quality evidence on DRM policy. Findings from this scoping review emphasise the need for policy development, implementation, and evaluation to address DRM across care settings.

DRM policy content

DRM policy content was consistent across studies globally and focused on standard processes for nutrition care (ie, screen, assess, intervene, monitor). Consistency in policy content was observed regardless of whether the study described existing policies or the need for policy. The clarity in DRM policy content suggested that evidence-based standard processes for nutrition care are well established and highlighted the need for additional studies to evaluate the policy development and implementation process. Nutrition care pathways (eg, INPAC,[93] SIMPLE,[109] MQii[110]) described standardised workflow, emphasised nutrition risk screening, assessment, intervention and monitoring and can be adapted to the individual needs of an implementation setting. In Canada, standard processes for nutrition care and key aspects of INPAC served as the foundation for the development of the Malnutrition Prevention, Detection and Treatment standard *CAN/HSO 5066:2021(E)*,[42] highlighting the potential for care pathway application. Care pathways and standards serve as guiding documents and can be implemented at local levels to optimise patient care delivery.[1–3 42] Nonetheless, big P that acknowledge the importance of DRM care are essential to support dissemination and adoption of local-level small P to address DRM. National policies can also reduce barriers to local action though data-driven solutions, and supportive regulations and funding models,

as exemplified by work done in Israel to align with the Optimal Nutrition Care for All (ONCA) goals.[60]

Articles that evaluated small P often targeted specific elements of standard processes for nutrition care (eg, nutrition risk screening[87 90] and ONS prescribing[98]). Food and mealtime policies highlighted the importance of access to adequate nutritious food to promote optimal intake and were described as an essential component of standard processes for nutrition care. Two studies were included that examined protected mealtime strategies; although the one study that evaluated protected mealtimes within one facility reported benefits,[89] the systematic review of studies did not find an overall benefit.[108] Beyond these key areas, policy content extended to nutrition services and emphasised the importance of dietitian involvement and access to nutrition care to optimise nutrition care and support policy development.[101]

Despite numerous studies reporting on advocacy for improved nutrition care, an overall lack of policy implementation and evaluation was observed in the literature, which suggests a critical gap in translating policy to practice. Standard processes for nutrition care are linked to measurable outcomes (eg, prevalence of screening, rates of malnutrition diagnoses) and present opportunity for evaluation metrics. Additionally, gaps in DRM policy content included lack of recognition for ONS prescribing and reimbursement, which represents a disconnect between care needs and practice standards.[42] Establishing standards for medical nutrition foods, ONS funding and reimbursement and minimum care practices would further support nutrition care best practices and operationalise DRM policy development and implementation. Overall, gaps were found in content specific to paediatrics and the community settings, although recent work in Canada is making inroads that can support policy development and implementation.[28 112–115] In community settings, there is the potential for policies that would support patients with both food insecurity and DRM. This area of overlap requires greater exploration to understand what policy content is important to advocate for in community settings.

DRM policy context

Undernutrition is widely recognised as a public health issue and strategies and policy drivers to address undernutrition in low- and middle-income countries have been a focus in the literature.[116 117] DRM policy context described here addressed malnutrition in high-income countries based on our inclusion/exclusion criteria that eliminated studies of malnutrition in low- and middle-income countries, including malnutrition due to a lack of access to food and starvation, the double burden of malnutrition or undernutrition and overweight or obesity.

Most studies that described big P approaches to DRM originated from the USA, Canada, Australia, the UK and a collaboration of European countries. This pattern was not surprising given that these countries exhibit strong national or international organisation(s) that aim to raise awareness of DRM, advocate for improved nutrition care and drive policy levers to enact change.[30 43 57] In tandem with national efforts, countries supported local-level or facility-level drivers for policy change through research, audits of best care practices to describe gaps in care and champions to advocate for change. Studies emphasised the importance of both national frameworks and local grass-roots policy development built on implementation science and change management methodologies to facilitate policy adoption.

Although many studies described policy drivers (eg, economic,[67] food system[56] and patient benefits[26]), few studies described successful implementation and evaluation of policies to address DRM. A more cohesive approach to big P DRM that covers diverse populations and care settings is needed to coordinate local efforts and effect policy-level change. Most of the research and direction on best practices to address DRM is from acute care facilities and care homes. At the local/facility levels, evidence on best practices and gaps can be a driver for policy. At national and regional levels, policy drivers should target quality food and reduced waste in facilities, improved quality of life for care home residents and improved access to nutrition care including dietitian services, nutrition therapies (eg, enteral and parental nutrition) and oral nutrition supplements. Access to data and benchmarking among countries or jurisdictions is another lever to facilitate evaluation and advocate for DRM policy.[60]

Key actors in DRM policy

Clinician champions, researchers, nutrition-related civil society organisations, parenteral and enteral nutrition societies and industry companies were identified as actors associated with DRM policy development and implementation. The role of healthcare professionals, including dietitians, nurses and physicians, as DRM champions was especially pertinent, while the role of the interdisciplinary care team was less emphasised. Physicians were frequently seen as key actors in positions to advance DRM care. A study of physicians in Canada suggested an interest and awareness of DRM, but a perceived lack of resources to address or improve DRM patient care.[118] There is opportunity for physician champions to advocate for improved DRM and lead collaborative efforts to improve interdisciplinary nutrition care. In contrast to the direct-care champions, there was an observed gap in awareness from hospital and health system leadership regarding the need to drive DRM policy. This finding is consistent with other work in this area, where DRM key informants felt that health system leaders responsible for policy change lacked awareness of DRM. Consistent messaging and engagement of health system leaders to develop and implement small P and big P was identified as key areas of opportunity in the literature.

Large-scale civil society organisations were identified as key actors and represented an opportunity to disseminate consistent DRM messaging and advocacy efforts that can

drive DRM policy change, especially at national and international levels.[30 57 60 61] Parenteral and enteral nutrition societies and nutrition-focused organisations have been instrumental in DRM advocacy efforts over the past two decades and can influence national and international policy agendas.[29 61] These societies typically encompass actors from diverse settings (eg, healthcare, academia, industry) and have the capability of shaping DRM policy within their respective spheres of influence. On a global level, the WHO European Region and The European Society for Clinical Nutrition and Metabolism published a fact sheet on DRM calling for policy makers to recognise DRM in health policy.[119] DRM champions are needed at all levels to foster policy change. There is opportunity for large-scale organisations to drive big P at the government level and healthcare champions to play a pivotal role in highlighting the need for setting-specific small P amid competing healthcare priorities.

Processes for DRM policy development, implementation and evaluation

Studies of policy development and implementation processes described the use of evidence, consensus, understanding gaps in practice, and audits to evaluate change. These processes were used for the development of formal policies and care pathways and described implementation processes. A key gap in the literature was the lack of policy impact evaluation. Several studies audited adoption of a policy or best practice to address DRM but did not evaluate the impact of developing and implementing a policy on patient or system outcomes. There is opportunity to extend care pathway development and implementation studies to evaluate the impact of policy on pathway implementation. For example, a study from Israel demonstrated the use of big data through a common countrywide electronic medical record, which supported the success of their national policy and contributed to their commitment to ONCA.[60]

Studies that described national strategies and advocacy for policy illustrate how it can take many years to achieve success.[30 61] Processes described at national or regional levels emphasised the importance of coalitions to work together to advocate for change, with established goals, action plans and a strong commitment to change.[30 57 61] They described barriers and leveraging windows of opportunity to enact policy or regulations to support DRM. Examples included specific advocacy efforts, such as a bill in the UK to improve hospital food,[64] and changes to Medicare and Medicaid services coverage of medical nutrition therapy in the USA,[49] as well as broader advocacy initiatives like the ONCA policy by ENHA.[60] National or regional policy frameworks and direction for local/facility policies was seen as an important process to support local adoption. With multiple competing priorities within a facility, processes are needed to enable policy development and tailor implementation of best practices to address DRM. Studies that undertook surveys or audits found that despite existence of national regulations and awareness of best practices, there were gaps in local policy and adoption of best practices. Regular auditing and use of data was seen as an important process to monitor adherence and to continue to drive improvements; several studies described quality indicators to monitor.

Implementation science and knowledge translation methods to realise practice change have been well described in the literature.[120 121] Policy can facilitate change, but it is only one component of a strategy to achieve adoption of practice change.[1] A notable gap in the literature was that many of the studies acknowledged the need for DRM policy but did not include a broader strategy to create change and effect policy development and implementation. The Behaviour Change Wheel leverages the theoretical behaviour change framework, with an individual's capability, opportunity and motivation at the centre, while policy is an enabler for change.[122] The literature suggests that while policy is recognised as an enabler of change, it has not yet been effectively put into action. For example, 24 articles were excluded from this review during the screening phase because DRM policy was only addressed in the future directions section of the study. To see tangible progress towards addressing DRM policy, there is a need to move from suggesting future directions to implementing actual change.

Calls to action

We recommend the creation of a global alliance formulated with diverse key informants and experts who can advance DRM policy at all policy levels to address calls to action (box 1).

Box 1 Calls to action to address DRM within health policy

Research:
- Recognise the value and importance of implementation science to inform DRM policy.
- Studies of policy implementation and evaluation are needed to address gaps in the literature.
- Identify and institute DRM metrics as part of local, national and global reporting.

Policy:
- Policy makers need to consider the widespread implications of DRM.
- Inclusion of DRM within health policy across healthcare settings.
- Big P provides guidance and oversight.
- Small P drives implementation of best care practices (ie, screen, assess, intervene, monitor).

Big P, big Policy; DRM, disease-related malnutrition; Small P, small Policy.

Limitations

Despite a comprehensive peer-reviewed search strategy developed by a medical information specialist, it is possible that publications with malnutrition embedded within other guidelines (eg, cancer standards) were missed in our search. Additionally, the overlap between food insecurity and malnutrition is an emerging area of the literature that was not included in this review but represents two distinct perspectives from which DRM policy can evolve.

Conclusion

DRM is a form of malnutrition that has been overlooked by governments, health leaders and health systems. Governments (federal, provincial and international), civil society organisations and healthcare systems can effect change by recognising, preventing and treating this costly care issue, ultimately improving patient quality of care across multiple care settings. Key steps are to screen, assess, intervene and monitor. This scoping review highlighted that these key steps are consistent around the globe, with varying implementation to address different contexts. Despite advancements in DRM knowledge, advocacy and implementation, awareness among policymakers and resulting policy approaches to care are lagging.

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