18 Rásky E, Regitnig P, Schenouda M, et al. Quality of screening with conventional Pap smear in Austria – a longitudinal evaluation. *BMC Public Health* 2013;13:998.

19 Canadian Agency for Drugs and Techonologies in Health. Rapid Response Report: Summary of Abstracts. Repeat Dual Energy X-Ray Absorptiometry Intervals in Osteoporosis: Clinical Effectiveness and Guidelines. 4 March 2015.

20 Mahboubeh M. Food allergy: a review. *Arch Pediatr Infect Dis* 2015;3:e22470.

21 National Institute for Health and Care Excellence. Final appraisal determination – Rheumatoid arthritis: adalimumab, etanercept, infliximab, certolizumab pegol, golimumab, tocilizumab and abatacept. Issue date: August 2015.

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Policy challenges and reforms in small EU member state health systems: a narrative literature review

Natasha Azzopardi-Muscat[1,2,3], Tjede Funk[2,3], Sandra C. Buttigieg[1], Kenneth E. Grech[1], Helmut Brand[2]

1 Department of Health Services Management, Faculty of Health Sciences, University of Malta c/o/Mater Dei Hospital MSD 2080 Msida, Malta
2 Department of International Health, CAPHRI School for Public Health and Primary Care, Maastricht University, 30 Duboisdomein Maastricht, The Netherlands
3 Directorate for Health Information and Research, Ministry for Energy and Health, 95 G'Mangia Hill Pieta', Malta

Correspondence: Natasha Azzopardi Muscat, Department of Health Services Management, Faculty of Health Sciences, University of Malta c/o/Mater Dei Hospital MSD 2090 Msida, Malta, Tel: 35623401576/35679438886, e-mail: natasha.azzopardi-muscat@um.edu.mt

Background: The EU directive on patients' rights and cross-border care is of particular interest to small states as it reinforces the concept of health system cooperation. An analysis of the challenges faced by small states, as well as a deep evaluation of their health system reform characteristics is timely and justified. This paper identifies areas in which EU level cooperation may bring added value to these countries' health systems. **Method:** Literature search is based primarily on PUBMED and is limited to English-language papers published between January 2000 and September 2014. Results of 76 original research papers appearing in peer-reviewed journals are summarised in a literature map and narrative review. **Results:** Primary care, health workforce and medicines emerge as the salient themes in the review. Lack of capacity and small market size are found to be the frequently encountered challenges in governance and delivery of services. These constraints appear to also impinge on the ability of small states to effectively implement health system reforms. The EU appears to play a marginal role in supporting small state health systems, albeit the stimulus for reform associated with EU accession. **Conclusions:** Small states face common health system challenges which could potentially be addressed through enhanced health system cooperation at EU level. The lessons learned from research on small states may be of relevance to health systems organized at regional level in larger European states.

Introduction

In the aftermath of the financial and economic crisis, there is renewed interest in small state studies.[1] Traditionally, literature on small states has largely focussed on international relations and economic concerns. Whereas some authors contend that small states perform relatively well in terms of economic growth and that small size plays a less significant role than generally ascribed in determining outcomes,[2] others emphasise the inherent vulnerabilities that characterise small states. Vulnerabilities associated with small size and geographical isolation, (in the case of islands) include lack of economies of scale, limited capacity and significant exposure to external economic shocks.[3] Whilst there may be disagreement about the extent to which small size constitutes a disadvantage in the global economy, small state scholars generally agree that good governance and social capital are particularly important for building resilience in small states.[3] The European Union (EU) has been described as an important source of shelter and support for small states through its ability to enlarge their capacity for action.[1] Despite the growth of health systems as an economic sector, literature on small states has not yet addressed the specific challenges that health systems in small states encounter. Specifically, the role of the EU as a potential 'shelter provider'[1] for health systems in small states does not appear to have received much attention. This is possibly due to the fact that the Treaty emphasises Member State (MS) competence for health systems as well small states seeking support for their health systems through bilateral alliances with larger states. The recently implemented EU directive on patients' rights and cross-border care[4] is highly relevant from a small state perspective. Firstly, patient mobility consistently emerges as being more important to citizens in small states.[5] Secondly, the directive provides an important legal basis for health systems cooperation through the development of European Reference Networks, networks for Health Technology Assessment and e health networks.[4] However, in order that appropriate health policy responses which provide clear added value from a small state perspective be made at EU level, it is necessary to have information on specific challenges facing health systems in small states. Mapping of literature on small state health systems can provide vital information for EU level health policy analysis. This article therefore includes a narrative literature review, which explores the following questions:

What are the challenges experienced by health systems in small EU Member States (MS)?

What are the characteristic features of health system reforms in small EU MS?

What role does the EU play in influencing small state health systems?

There is ongoing debate as to how one should define a small state but it is generally agreed that the 'small state' concept is relative and its utility lies mainly as a 'comparative focussing device'.[6] In this study, we define a small EU state as having a population under three million and therefore include Cyprus, Estonia, Latvia, Lithuania, Luxembourg, Malta and Slovenia in our scope (The Forum of Small States (FOSS) within the United Nations comprises countries with a population under ten million. The World Bank and the Commonwealth define their cut off point at countries with a population under 1.5 million. The recently established WHO network for small countries takes a population under one million as its cut off point.). Selected comparative data on demographic, economic and health financing indicators for these countries is presented in table 1.

Methods

Combinations of the following MeSH terms: 'health system', 'health facilities', 'health manpower', 'policy', 'health planning', 'delivery of health care', 'health care reform' with any one of the following terms: 'Malta', 'Cyprus', 'Luxembourg', 'Lithuania', 'Latvia', 'Estonia', 'Slovenia', were searched in PUBMED. The searches were carried out during September 2014. Articles were restricted to those published between 2000 and 2014 in order to incorporate the immediate EU pre-accession period for those MS that joined in 2004 while keeping the search feasible. Articles had to be published in the English language and have an abstract available for review in order to eliminate letters, commentaries and editorials. Searches carried out in Ministry of Health websites of the MS under study and other websites for example, the European Observatory on Health Systems and Policies, yielded two additional relevant articles. The publication abstracts were screened by two researchers. A third senior researcher screened dubious abstracts. If the relevance of the publication was uncertain, the full-text was reviewed. In considering the relevance of publications, the following criteria were applied: the publication had to be based on the analysis of primary or secondary data including at least one of the countries of interest and address at least one of the research questions. We used the technique of interpretive synthesis, reading and re-reading the primary sources and using narrative to summarise the key findings.[7] Each article was independently analysed by at least two researchers from the team. The literature was initially mapped drawing upon a commonly used frameworks for health systems. The evidence was then categorised in tabular form and is reported in line with the research questions.A consensus meeting was held to discuss and agree upon the key findings.

Results

Five hundred and seventy-seven records were initially identified, of which 76 finally met the relevance criteria as indicated in figure 1. The commonest reasons for exclusion were that the publications did not address at least one of the research questions or that none of the countries of interest were actually studied.

Characteristics of the publications

Twenty-three publications were multi-country publications featuring at least one of the countries included in this review. There is considerable variation in research output between countries; Lithuania nineteen publications, Cyprus ten, Estonia ten, Slovenia eight, Malta three, Latvia two and Luxembourg one publication. More than half (52%) of the publications analysed were published in the last 5 years of the 15-year period under review. This is indicative of increased research output from these countries in recent years. The full list of articles included in the review is available as supplementary material. Forty-one publications are policy analyses based on existing data and secondary data analysis (with the exception of three studies that also included primary data collection). Twenty-six publications collected their own data through surveys. The remaining publications were economic analyses,[4] case studies,[2] one bibliometric analysis, one observational study and one experimental intervention.

Mapping of the literature and analysis of findings

The literature map in figure 2 classifies the publications reviewed according to research topic and illustrates the number of publications on a particular topic. Nine publications are generic health system overviews. The most commonly researched topics are primary care with eleven publications, followed by health

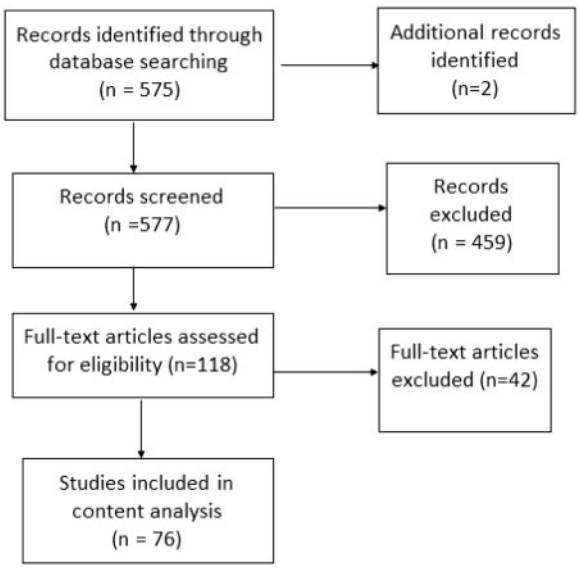

Figure 1 Flow chart of the selection process

Table 1 Characteristics of small states included in this literature review (Source European Health for All Database)

	Cyprus	Estonia	Latvia	Lithuania	Luxembourg	Malta	Slovenia
Population (2013)	1 141 166	1 324 612	2 013 385	2 956 121	543 202	423 282	2 060 484
GDP per capita in US$ (2013)	25.249	18.478	15.375	15.538	111.162	22.780	22.729
Life Expectancy at birth (years) (2012)	81.8	76.6[a]	74 .1	74.2	82.2	81.0	80.0[b]
Total Health Expenditure % GDP (2012)	6.6	5.9	6.1[a]	6.7	8.2[c]	10.0	8.8
Public Health Expenditure % GDP[d] (2012)	3.5	4.5	3.5	4.2	5.9	5.8	6.6

a: Data for the year 2011.
b: Data for the year 2010.
c: Data for the year 2009.
d: WHO estimates.

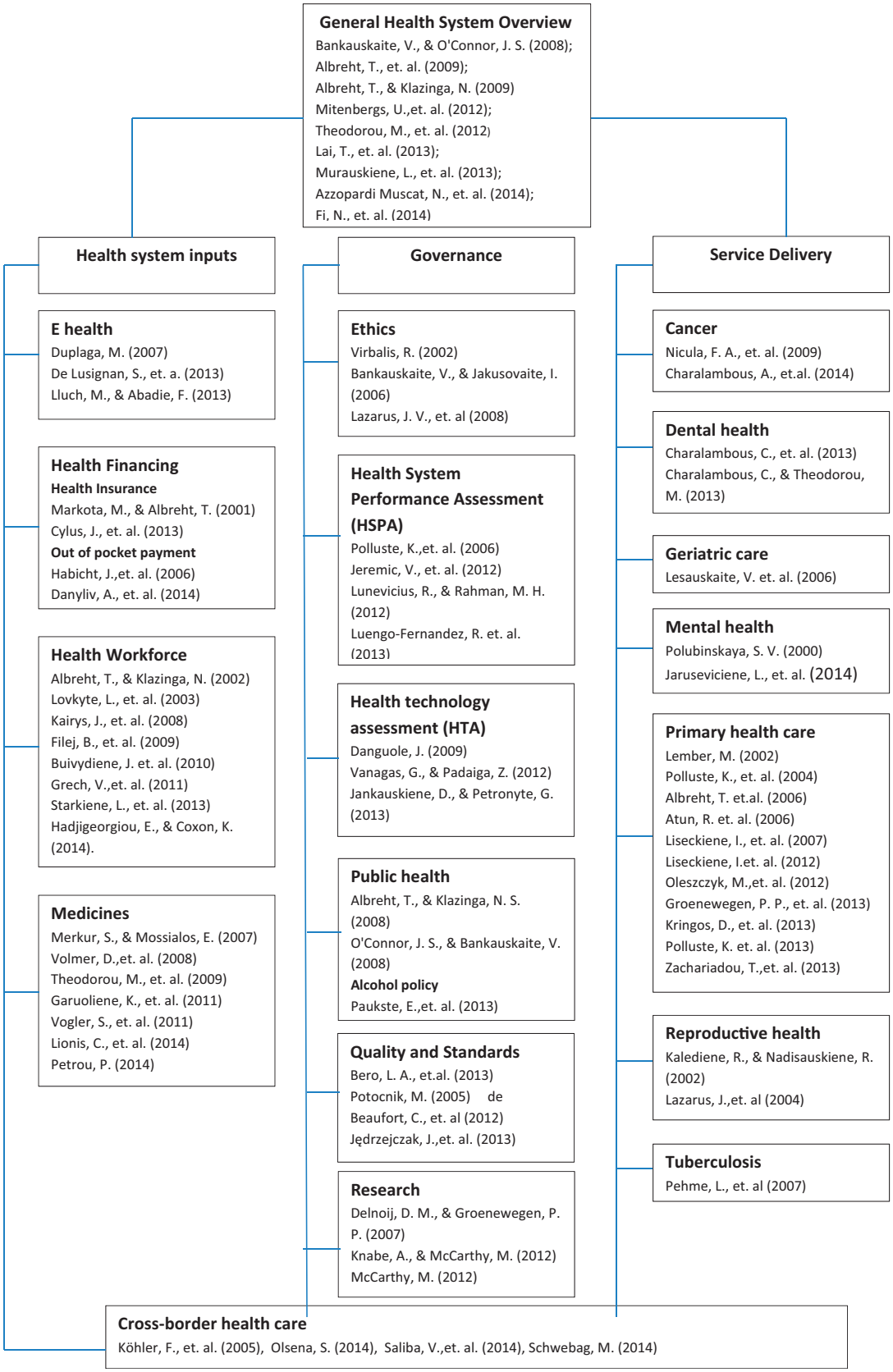

Figure 2 Literature Map: Health Systems in Small Research in European States

workforce eight and medicines seven publication. It is relevant to note that some publications are related to several aspects of the EU directive on patients' rights and cross-border health care, namely cross-border health care organisation four, e health three and health technology assessment also three publications. Some topics appear uniquely for specific countries, for example dental health for Cyprus and reproductive health for the Baltics.

The articles were then analysed according to the theme of the research questions. The findings from this analysis are presented in table 2.

Table 2 Key Findings from analysis of articles by theme and country

Challenges	Reforms	Role played by EU
Lack of capacity for health services research[a]	Successful implementation of primary care reform[c], Barriers to primary care reform implementation[g]	EU accession as a boost to political transformation[c–e]
Lack of capacity to produce national guidelines, quality assurance systems and accreditation programmes[a,f]	Timely implementation of human resource reforms to overcome brain drain facilitated by proximity of research and policy communitites[e,g]	Strengthening of patients' rights legislation through implementation of cross-border directive[d,e]
Limited capacity to provide highly specialised treatment for rare diseases[c,g]	Resistance to reform by powerful elites[g,h]	Initial development of speciality of family medicine following EU accession[c,d,e,g]
Weak primary care associated with high out-of-pocket payments[b,g]	Lack of resources, lack of leadership and institutional capacity are key barriers to reform[d,e]	Changes in alcohol policy exacerbated increased alcohol consumption[e]
Split public/private provision[b,g]	Delays and postponements in reform implementation e.g. health insurance reform[b]	EU working time directive led to increased need for specialist medical workforce supply[g]
Medical profession strong veto player[b,g,h]		Cooperation on HTA at EU level supports visibility and development at national level[e]
Decision-making lacks public and patient participation[e]		Application for financial bail-out as a stimulus for implementation of health insurance reform[b]
Outward mobility of health professionals[c,e,g]		
Power asymmetry faced by small states in negotiating with powerful multinational industries e.g. pharmaceuticals, alcohol[b,e]		
Lack of economies of scale in health financing systems[c–e]		

a: Multiple countries,
b: Cyprus,
c: Estonia,
d: Latvia,
e: Lithuania,
f: Luxembourg,
g: Malta,
h: Slovenia.

Challenges

The lack of capacity is an issue that gives rise to several common challenges. Health services research is comparatively weak in small countries[8] with some small states additionally reporting a lack of national guidelines, quality assurance systems and accreditation programmes.[9] Others report inadequacies in national guidelines in areas of highly specialised care, for example paediatric diabetes[10] or epilepsy.[11] Healthcare providers tend to follow standards and guidelines fixed at international levels, or by foreign bodies, frequently without adaptation at a national level.[12] This gap arises primarily from limited technical and human capacity. An example of this lack of capacity is evidenced by the need to prioritise health technologies for assessment due to the inability to undertake several HTA's simultaneously.[13] Furthermore, another emerging challenge is the limited capacity to provide highly specialised treatments for rare diseases. Small countries need to come to a decision as to whether such diseases are treated within the country (self-sufficient model) or if these patients should be treated abroad. The decision largely depends on the respective overall national plans for health care, the available funds and the number of patients. Successful bilateral cooperation programmes, for example the generic agreement between Malta and the UK,[14] or the programme between Germany and Estonia for congenital heart disease,[15] can lead to the development of a modified self-sufficiency model.

Cyprus and Malta exhibit specific problems arising out of their split public and private service provision. This is especially true for primary care, which is classified as weak in both countries.[16] Weak primary care systems are furthermore associated with irrational prescription of medicines and a high level of out of pocket payments.[17] There is also some evidence that the medical profession is a strong veto player in small health systems[18] where decision-making often lacks the active participation of patients and the public.[19] For example, in Slovenia, health care management is largely the domain of the medical profession,[20] whilst in Cyprus physician dominance is reportedly associated with medicalisation of childbirth and a high rate of Caesarean sections.[21] Outward mobility of health care professionals is another salient policy problem for certain small states. This was further exacerbated by EU membership.[22,23] Evidence on pharmaceutical pricing is mixed. Whilst a study in Cyprus showed high prices of medicines,[24] another study focussing on generic medicines in Lithuania showed the possibility to obtain relatively good prices.[25] Measures affecting the pharmaceutical industry during the financial crisis raise concerns about medicines availability, which has been an issue, especially for small national markets in European countries.[26] The power asymmetry faced by small states in dealing with multinational industries is not limited to the pharmaceutical industry but is also manifested in other public health issues. In the case of Lithuania, a series of proposals to restrict alcohol in response to public health consequences of increased consumption were initially implemented but the proposed advertising ban was eventually overturned. This policy U-turn was partly due to pressure from the international alcohol industry.[27]

Health system reforms

Successful reforms are exemplified by the implementation of primary care reforms in Estonia. The importance of a coordinated approach encompassing legislative change, organisational restructuring, modifications to financing and provider payment systems, creation of incentives to enhance service innovations, investment in human resources and support by civil society are highlighted.[28] Another positive example of policy implementation comes from Lithuania and describes how the implementation of

recommendations of research studies relating to physician emigration from Lithuania attracted the attention of policy-makers, health-care managers, and professional organizations. Appropriate and timely responses were taken including the establishment of human resource monitoring systems. This success is attributed to the proximity of researchers to the policy making community.[29]

Despite the sporadic success in health system reforms in small EU MS, several publications provide examples that indicate a general inertia and difficulty in health system reform implementation. Lack of financial and technical resources, weak inter-sectoral cooperation, strong industry pressure, insufficient separation between policy development and policy execution, lack of leadership and institutional capacity are described as key barriers.[30] For example, in Cyprus, implementation of the health insurance system has been delayed for more than 10 years.[17] In Slovenia, although some public health reforms were introduced, these are not described as 'far reaching' as the Ministry of Health reportedly sought to avoid radical reform which would have led to open confrontation with powerful medical elite.[31] Another case study dealing with trauma services in Lithuania listed several barriers to health system reform such as lack of political, academic and public will, absence of a national injury policy, no specialized injury research institute, no system of trauma centres, no injury surveillance system as well as the lack of a specialty of Emergency Medicine.[32] Similarly, primary care reform implementation in Malta was resisted by key stakeholders.[22] All three Baltic countries decentralized their health financing systems in the mid-1990s as part of the political post-Soviet transition but later reverted back to a more centralized system of financial administration[33] due to a lack of economies of scale.

Role played by the European Union (EU)

Out of the seven small states considered in this review, six acceded to the EU in 2004. The EU accession process was characterised by a sense of positive expectation although it also brought about certain challenges. For example, EU accession is considered to have created an additional boost for the political transformation process in the Baltic States. More recently, in Latvia and Luxembourg, a positive development in patients' rights legislation and implementation was expected due to obligations associated with the directive (2011/24) on patients' rights and cross border care.[12,34] In Cyprus, the application for a financial bail-out acted as a stimulus for recommitment to implement health insurance[17] and the Troika recommendation was viewed positively by domestic actors as an opportunity for reform.[35] On the other hand, EU membership is also reported to have created certain challenges. In Lithuania relative price reduction of alcohol due to cancellation of import tax, exacerbated public health problems associated with alcohol consumption.[27] In Malta, difficulties in coping with the requirements of the working time directive within the hospital sector led to the need to increase doctors in certain specialities, for example paediatrics, leading to a concern that the overall market would be oversupplied.[36]

Small states continue to harbour expectations of the EU. With regard to cancer screening, there is a perceived need to support coordination between screening centres at European level.[37] Cooperation at EU level on HTA is also perceived as a major factor influencing development of HTA at national level by increasing its overall visibility.[38] In primary care, although EU accession required the creation of family medicine as a specialty, the initial enthusiasm of implementing family medicine has declined with the lack of initiative from the EU to support and sustain primary care development being cited as one of the reasons.[39]

Discussion

Lack of capacity and small market size emerge as the key challenges for small state health systems. These in turn impact on elements of health system governance, health services delivery and the ability to implement health system reforms effectively. EU accession has undoubtedly provided a much needed incentive for reform in small states. However, apart from the stimulus for reform associated with EU accession, the EU to date appears to have played a marginal role in supporting small state health systems. Whilst the small states covered in this review have different health system policy reform objectives, stemming from their diverse historical, geographical and economic needs, common challenges and characteristics have been identified. Political ideology and financial crises emerge as the most common reasons for initiation of reforms. Powerful elites, including a patriarchal medical profession, appear to be more important in shaping the course of reform than popular support or civil society. A review of reform experiences in other small countries outside Europe[40] showed that dominant values, institutions and interests also play an important role in shaping outcomes of national health policy. Whilst in terms of effective implementation, small countries are often reported to be in a position to act faster than large nations, particularly in countries with strong central governments and weak or absent civil society in other cases, it was shown that organized stakeholders with strong veto power thwarted reforms. Findings from our review concur with these observations.

Methodological considerations

We present a narrative synthesis of health system specificities found in small EU MS. As our review explores the claims that authors make concerning innovations in research methods, we searched publications from peer-reviewed journals so that authors' claims were scrutinised by others in the field, indicating that the claims were deemed reasonable. We limited the search to relevant MeSH terms and key words and may have therefore missed articles that were not indexed using the terms we selected. We acknowledge that certain results are based on findings from one or two articles and may have inadvertently assumed that a particular issue is a characteristic of small states when further research is necessary to examine transferability across different small states. Whilst the significant variations between the country health systems that we included in this review detract from their comparability, we have sought to focus on themes that are relevant to the common factor, namely small population size.

Implications

Our review indicates that small states face certain common health system challenges, most notably linked to lack of capacity and a dominant medical profession. This lack of capacity also manifests itself in the sparse research on health systems, although it is noted that in the past years the capacity for publication in the field of health systems research in small states appears to have increased. Lack of capacity generally leads small states to adopt modified models of self-sufficiency in areas such as guideline development and provision of highly specialized care. Small states determine what is feasible to be accomplished at national level versus relying on technical capacity and resources found in larger countries. We believe there is the potential to address some of these challenges through enhanced health system cooperation at EU level although further research is required. Such initiatives may strengthen health system resilience in small states. As decentralization of responsibility for financing and organization of health systems to the regional level becomes more widespread in Europe, lessons learnt from the social ecology of health systems in small states could also be relevant to

regional health systems in larger states as these often face similar issues related to lack of capacity.

Conclusions

Our review has shown that small states do share some common health system challenges and reform characteristics. There is a notable gap in the literature on the influence of the EU on health system developments and reforms in small states. The high level of power asymmetry that is experienced between the European institutions and small states on the one hand and the benefits that can be reaped from enhanced collaboration on the other hand renders this topic an important priority for research on the future of European health policy.

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Key points

- Lack of capacity and small market size give rise to common challenges in governance and delivery of health services in small states
- Apart from the stimulus for reform associated with EU accession, the EU to date has played a marginal role in supporting small state health systems
- Lessons learned from research on small states may be of relevance to health systems organized at regional level
- Enhanced health system cooperation at EU level has the potential to strengthen health system resilience in small states

References

1 Thorhallsson B. Domestic buffer versus external shelter: viability of small states in the new globalised economy. *Eur Polit Sci* 2011;10:324–36.

2 Armstrong HW, Read R. The determinants of economic growth in small states. *The Round Table* 2003;92:99–124.

3 Briguglio L, Cordina G, Kisanga EJ eds. *Building the Economic Resilience of Small States*. London: Commonwealth Secretariat; 2006.

4 European Union. Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare. *Off J Eur Union* 2011 4; 88:45.

5 TNS Opinion & Social. Special Eurobarometer 425: Patients' rights in cross-border healthcare in the European Union. 2015;425.

6 Thorhallsson B. The size of states in the European Union: Theoretical and conceptual perspectives. *European. Integration* 2006;28:7–31.

7 Greenhalgh T, Potts HW, Wong G, et al. Tensions and paradoxes in electronic patient record research: A systematic literature review using the meta-narrative method. *Milbank Quart* 2009;87:729–88.

8 Delnoij DM, Groenewegen PP. Health services and systems research in Europe: overview of the literature 1995-2005. *Eur J Public Health* 2007;17:10–3.

9 Polluste K, Habicht J, Kalda R, Lember M. Quality improvement in the Estonian health system–assessment of progress using an international tool. *Int J Qual Health Care* 2006;18:403–13.

10 Beaufort C, Vazeou A, Sumnik Z, et al. Harmonize care to optimize outcome in children and adolescents with diabetes mellitus: treatment recommendations in Europe. *Paediatr Diab* 2012;13:15–9.

11 Jędrzejczak J, Marusic P, Haldre S, et al. Current status of epilepsy health care for adult patients from Central and Eastern European Union Countries—A survey of members of the Central Europe Epilepsy Experts Working Group. *Seizure* 2013;22:452–6.

12 Schwebag M. Implementation of the Cross-border Care Directive in EU Member States: Luxembourg. *Eur J Health Law* 2014;21:56–64.

13 Jankauskiene D, Petronyte G. A model for HTA priority setting: Experience in Lithuania. *Int J Technol Assess Health Care* 2013;29:450.

14 Saliba V, Muscat NA, Vella M, et al. Clinicians', policy makers' and patients' views of pediatric cross-border care between Malta and the UK. *J Health Serv Res Policy* 2014;19:153–60.

15 Köhler F, Schierbaum C, Konertz W, et al. Partnership for the heart: German–Estonian health project for the treatment of congenital heart defects in Estonia. *Health Policy* 2005;73:151–9.

16 Kringos D, Boerma W, Bourgueil Y, et al. The strength of primary care in Europe: an international comparative study. *Br J Gen Practice* 2013;63:e742–50.

17 Cylus J, Papanicolas I, Constantinou E, et al. Moving forward: Lessons for Cyprus as it implements its health insurance scheme. *Health Policy* 2013;110:1–5.

18 Albreht T, Klazinga N. Health manpower planning in Slovenia: a policy analysis of the changes in roles of stakeholders and methodologies. *J Health Politics Policy Law* 2002;27:1001–22.

19 Bankauskaite V, Jakusovaite I. Dealing with ethical problems in the healthcare system in Lithuania: achievements and challenges. *J Med Ethics* 2006;32:584–7.

20 Albreht T, Klazinga N. Privatisation of health care in Slovenia in the period 1992–2008. *Health Policy* 2009;90:262–9.

21 Hadjigeorgiou E, Coxon K. In Cyprus, 'midwifery is dying. . .'. A qualitative exploration of midwives' perceptions of their role as advocates for normal childbirth. *Midwifery* 2014;30:983–90.

22 Azzopardi Muscat N, Calleja N, Calleja A, Cylus J. Health Systems in Transition Malta. *Health* 2014;16:

23 Lovkyte L, Reamy J, Padaiga Z. Physicians resources in Lithuania: change comes slowly. *Croatian Med J* 2003;44:207–13.

24 Merkur S, Mossialos E. A pricing policy towards the sourcing of cheaper drugs in Cyprus. *Health Policy* 2007;81:368–75.

25 Garuoliene K, Godman B, Gulbinovic J, et al. European countries with small populations can obtain low prices for drugs: Lithuania as a case history. *Expert Rev Pharmacoeconom Outcomes Res* 2011;11:343–9.

26 Vogler S, Zimmermann N, Leopold C, et al. Pharmaceutical policies in European countries in response to the global financial crisis. *South Med Rev* 2011;4:69.

27 Paukštė E, Liutkutė V, Štelemėkas M, et al. Overturn of the proposed alcohol advertising ban in Lithuania. *Addiction* 2014;109:711–9.

28 Atun RA, Menabde N, Saluvere K, et al. Introducing a complex health innovation—Primary health care reforms in Estonia (multimethods evaluation). *Health Policy* 2006;79:79–91.

29 Starkiene L, Macijauskiene J, Riklikiene O, et al. Retaining physicians in Lithuania: Integrating research and health policy. *Health Policy* 2013;110:39–48.

30 O'Connor JS, Bankauskaite V. Public health development in the Baltic countries (1992-2005): from problems to policy. *Eur J Public Health* 2008;18:586–92.

31 Albreht T, Klazinga NS. Restructuring public health in Slovenia between 1985 and 2006. *Int J Public Health* 2008;53:150–9.

32 Lunevicius R, Rahman MH. Assessment of Lithuanian trauma care service using a conceptual framework for assessing the performance of health system. *Eur J Public Health* 2012;22:26–31.

33 Bankauskaite V, O'Connor JS. Health policy in the Baltic countries since the beginning of the 1990s. Health. *Policy* 2008;88:155–65.

34 Olsena S. Implementation of the Patients' Rights in Cross-border Healthcare directive in Latvia. *Eur J Health Law* 2014;21:46–55.

35 Petrou P. Pharmacoeconomics in the years of crisis: a solution or just a resolution? A Cyprus perspective. *Expert Rev Pharmacoecon Outcomes Res* 2014;14:627–36.

36 Grech V, Savona-Ventura C, Gatt M, et al. Factors influencing the future of paediatric private practice in Malta. *Paediatr Reports* 2011;3:e12.

37 Nicula FA, Anttila A, Neamtiu L, et al. Challenges in starting organised screening programmes for cervical cancer in the new member states of the European Union. *Eur J Cancer* 2009;45:2679–84.

38 Danguole J. Development of health technology assessment in Lithuania. *Int J Technol Assess Health Care* 2009;25:140–2.

39 Oleszczyk M, Svab I, Seifert B, et al. Family medicine in post-communist Europe needs a boost. Exploring the position of family medicine in healthcare systems of Central and Eastern Europe and Russia. *BMC Family Practice* 2012;13:15-2296-13-15.

40 Okma K. Beyond Euro-centrism: health care reforms of seven small countries. *J Health Serv Res Policy* 2011;16:65–6.

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Contributions of knowledge products to health policy: a case study on the Public Health Status and Forecasts Report 2010

Ingrid Hegger[1], Maarten O. Kok[2], Susan W.J. Janssen[1], Albertine J. Schuit[1,2] and Hans A.M. van Oers[1,3]

1 National Institute for Public Health and the Environment (RIVM), PO Box 1, Bilthoven, BA 3720, the Netherlands
2 Department of Health Sciences and the EMGO Institute for Health and Care Research, VU University, De Boelelaan 1085, Amsterdam, HV 1081, the Netherlands
3 Tranzo Scientific Center for Care and Welfare, Tilburg University, P.O. Box 90153, Tilburg, TL 5000, the Netherlands

Correspondence: Ingrid Hegger, National Institute for Public Health and the Environment (RIVM), PO Box 1, BA 3720 Bilthoven, the Netherlands. Tel: +31302743275, Fax: +31302742742971, e-mail: ingrid.hegger@rivm.nl

Background: The Dutch Public Health Status and Forecasts report (PHSF Report) integrates research data and identifies future trends affecting public health in the Netherlands. To investigate how PHSF contributions to health policy can be enhanced, we analysed the development process whereby the PHSF Report for 2010 was produced (PHSF-2010). **Method**: To collect data, a case study approach was used along the lines of Contribution Mapping including analysis of documents from the PHSF-2010 process and interviews with actors involved. All interviews were recorded and transcribed ad verbatim and coded using an inductive code list. **Results:** The PHSF-2010 process included activities aimed at alignment between researchers and policy-makers, such as informal meetings. However, we identified three issues that are easily overlooked in knowledge development, but provide suggestions for enhancing contributions: awareness of divergent; continuously changing actor scenarios; vertical alignment within organizations involved and careful timing of draft products to create early adopters. **Conclusion**: To enhance the contributions made by an established public health report, such as the PHSF Report, it is insufficient to raise the awareness of potential users. The knowledge product must be geared to policy-makers' needs and must be introduced into the scenarios of actors who may be less familiar. The demand for knowledge product adaptations has to be considered. This requires continuous alignment efforts in all directions: horizontal and vertical, external and internal. The findings of this study may be useful to researchers who aim to enhance the contributions of their knowledge products to health policy.

Introduction

Public health status and forecasts report

The Dutch National Institute for Public Health and the Environment (*Rijksinstituut voor Volksgezondheid en Milieu*, RIVM) has published a Public Health Status and Forecasts Report (PHSF Report) every four years since 1993, most recently in 2014.[1] The PHSF Report integrates research data on public health and identifies future trends in public health in the Netherlands.

Since the first edition, both the format and the focus of the PHSF report have changed repeatedly, reflecting developments in public health. An important moment in PHSF history was the establishment of its official status in the policy cycle by the Dutch Public Health Act (*Wet Publieke gezondheid*) in 2002. The PHSF Report provides the policy themes for the next step in this cycle: the publication of the 'National Health Memorandum' by the Public Health department on behalf of the Minister of Health[2] (figure 1).

Another interesting development is the translation of the national PHSF Report into local PHSF Reports by Community Health Services since 2006, in line with the decentralization of healthcare to municipality level in the Netherlands.[3]

Despite its established use for the National Health Memorandum, improvement of PHSF contributions to health policy-making is still an issue. It remains challenging to use the report as effectively as possible. Both RIVM and the Ministry of Health (MoH), Welfare and Sport want the PHSF Reports to serve as a knowledge base for policy-makers; not only for policy-makers of the PH department acting as the principal, but also for policy-makers of other MoH departments. For this study, we formulated the following research question: What improvements need to be made to the PHSF process in order to enhance PHSF contributions to national health policy in the broad sense?