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Primary Care Physicians' Role In Coordinating Medical And Health-Related Social Needs In Eleven Countries

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ABSTRACT Primary care physicians in the US, like their colleagues in several other high-income countries, are increasingly tasked with coordinating services delivered not just by specialists and hospitals but also by home care professionals and social service agencies. To inform efforts to improve care coordination, the 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians queried primary care physicians in eleven high-income countries about their ability to coordinate patients' medical care with specialists, across settings of care, and with social service providers. Compared to physicians in other countries, substantial proportions of US physicians did not routinely receive timely notification or the information needed for managing ongoing care from specialists, after-hours care centers, emergency departments, or hospitals. Primary care practices in a handful of countries, including the US, are not routinely exchanging information electronically outside the practice. Top-performing countries demonstrate the feasibility of improving two-way communication between primary care and other sites of care. The surveyed countries share the challenge of coordinating with social service providers, and the results call for solutions to support primary care physicians.

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High-income countries face rising health care costs, escalating medical needs of aging populations and patients with multiple chronic conditions, and persistent disparities by socioeconomic status. In response, they are increasingly focused on strengthening primary care because of its potential to prevent illness, manage care across providers, and contain health care costs.¹⁻⁴ Efforts to improve population health and promote equity in the distribution of health have also prompted governments to enact reforms addressing the social determinants of health—the conditions in which people are born, grow, live, work, and age.^{5,6} Many of these reforms call on primary care physicians to respond to patients' unmet

health-related social needs, coordinating with social service providers as needed.

Care coordination is recognized as a key component of high-performing primary care. Yet coordinating patient care across settings and providers remains challenging for health systems around the world, despite national efforts to improve communication between providers and patients and facilitate transitions in care.⁷

As the first point of contact with the health system, high-performing primary care offers patients convenient access to comprehensive, seamless, and longitudinal person-centered care. Primary care providers also play a central role in coordinating whatever services patients may need at home from specialists, hospitals, and community providers.⁸ As policy makers

demand more of primary care, it is useful to evaluate whether primary care can meet these demands.

This article uses data from the 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians, conducted in eleven high-income countries, to compare primary care physicians' experiences in coordinating care across medical and social services. Previous research has found frequent gaps in coordination between primary care and other parts of the health system.^{9,10} Findings from this recent international survey highlight the challenges to ensuring timely communication between clinical providers across settings and also provide new data on the difficulties physicians face in coordinating patient care with social service providers. The results should inform those who want to learn from approaches that lead to higher levels of coordination.

Study Data And Methods

DATA The 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians was administered to nationally representative samples of practicing primary care doctors in Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the UK, and the US. These samples were drawn at random from government or private lists of primary care doctors in each country except France, where they were selected from a nationally representative panel of primary care physicians.¹¹ Within each country, experts defined the physician specialties responsible for primary care, recognizing that roles, training, and scopes of practice vary across countries. In all countries general practitioners (GPs) and family physicians were included, with internists and pediatricians also sampled in Germany, Switzerland, and the US. Details on physician specialties responsible for primary care are in online appendix table 1.¹²

The questionnaire was designed with input from country experts and pretested in most countries. Pretest respondents provided feedback about question interpretation via semi-structured cognitive interviews. SSRS, a survey research firm, worked with contractors in each country to survey doctors in the period January–June 2019; the fieldwork period ranged from seven to nineteen weeks.¹³ Survey modes (mail, online, and telephone) were tailored based on each country's best practices for reaching physicians and maximizing response rates (see appendix table 1).¹² Sample sizes ranged from 500 to 2,569, and response rates ranged from 15 percent to 49 percent—comparable to those in the

2015 survey.¹⁰ Final data were weighted to align with country benchmarks along key geographic and demographic dimensions. For further details on survey methodology, see appendix table 1.¹²

MEASURES The analysis included two questions about extended access to primary care: use of home visits and after-hours care arrangements. Physicians' experiences providing care coordination was measured within two domains: coordination with other clinical providers across settings and coordination with social service providers in the community. The coordination of patient care between primary care and other clinical providers was measured by questions on timely communication with specialists, after-hours care, emergency departments (EDs), hospitals, and home-based nursing care. Coordination with social service and other community providers was measured through physicians' reports about how frequently their practice coordinated care with such providers and their reports of challenges in coordinating with these providers—including difficulty making referrals and lacking feedback about patients' needs from social service organizations.

Finally, we measured physicians' use of health information technology (IT) to facilitate patient engagement and communication with providers across settings. The measures included giving patients the option to electronically communicate with physicians; the use of video consultations or remote monitoring; the presence of patient portals with capacity to make appointments, request refills, and view test results and patient visit summaries; and the ability to electronically exchange patient information such as clinical summaries, laboratory or diagnostic test results, and medication lists with doctors outside the respondent's practice.

Response options for several questions used a five-point scale and included quantitative qualifiers to further standardize the interpretation of frequencies across countries and languages: "Usually" meant 75–100 percent of the time; "often," 50–74 percent; "sometimes," 25–49 percent; "rarely," 1–24 percent; and "never," 0 percent. Other questions included three response categories ("yes, frequently," "yes, occasionally," and "never"), without specifying quantitative qualifiers, or two categories ("yes" and "no"). All outcome measures were dichotomized to represent the "top" score, except in two instances where the incidence for that score was very low across countries.

ANALYSIS We conducted bivariate analyses using Stata, version 14. All exhibits show frequencies by country. Appendix tables 2–5 indicate where differences between countries were signif-

icant, based on Wald chi-square tests.¹²

LIMITATIONS This study had several limitations. First, it was descriptive and based on physicians' reports of their experiences. These reports could have been influenced by political events or media stories during the survey field period.

Second, response rates varied across countries, which is typical of international studies of this nature. In countries with lower response rates, the demographic profile of respondents (unweighted) was closely aligned with the known demographic parameters of primary care doctors in the country, which suggests that a lower response rate did not affect the representativeness of the data.

Third, given that responders and nonresponders looked similar demographically, the potential for nonresponse bias was low. Nevertheless, sample weights were used to account for differential nonresponse along known geographic and demographic parameters in each country.

Study Results

EXTENDED ACCESS TO PRIMARY CARE Among countries, the US was an outlier in lacking extended access to primary care (exhibit 1). Only 37 percent of US physicians reported that they or a health care professional in their practice made home visits frequently or occasionally, compared to 70 percent or more in all of the other

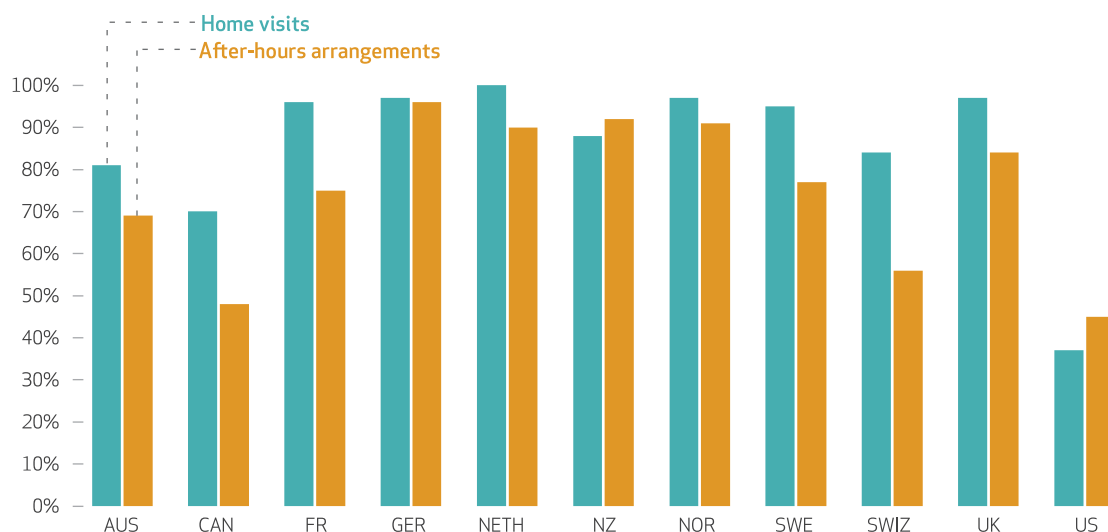
countries. Practices in the US and Canada were much less likely than those in other countries to provide after-hours arrangements whereby patients could be seen by a doctor or nurse when the practice was closed, without having to visit an ED. In contrast, 90 percent or more of physicians in Germany, the Netherlands, New Zealand, and Norway reported having these arrangements.

COORDINATING CARE WITH OTHER CLINICAL PROVIDERS Primary care physicians reported varying abilities to share salient information with clinical providers in other settings (exhibit 2). For specialty care, physicians in all countries were more likely to report sending information to specialists than receiving information from them. At least seven in ten physicians in France, New Zealand, Norway, and the UK received information from specialists about changes made to their patients' medication or care plans, in contrast to 49 percent or fewer of physicians in Germany, the Netherlands, Sweden and the US. That said, the timeliness of receiving information was better in the US than in nine other countries. Still, only one-third of US physicians said that they usually received timely reports from specialists within one week of the consultation.

Receiving notifications when a patient has been seen for after-hours care was relatively infrequent in the US (36 percent). Large majorities (77–97 percent) of physicians in the Netherlands,

EXHIBIT 1

Percent of primary care physicians in eleven countries who reported that they made home visits or provided after-hours arrangements, 2019



SOURCE 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians. **NOTES** "Home visits" means that a primary care physician or other health care professional in the practice "frequently" or "occasionally" makes home visits. "After-hours arrangements" means that the practice has arrangements (not including the emergency department) for patients to be seen when the practice is closed. Appendix table 2 is an expanded version of the exhibit that shows tests of significance (see note 12 in text).

EXHIBIT 2

Percent of primary care physicians in eleven countries who reported coordinating patient care with other clinical providers across settings, 2019

Country	When coordinating with specialists:			Usually notified when patient has been:			When coordinating with home-based nursing care providers:		
	Usually sends patient history and reason for consult	Usually is informed about changes to patient's medication or care plan	Usually receives results from specialist within 1 week	Seen for after-hours care	Seen in an ED	Admitted to a hospital	Information received within 48 hours of hospital discharge	Usually communicates about patient's needs and services to be provided	Usually is advised of relevant changes in patient's condition or status
AUS	94%	57%	14%	43%	40%	41%	24%	14%	21%
CAN	89	58	16	27	48	53	22	24	36
FR	92	73	24	8	24	48	14	36	45
GER	47	27	11	36	40	46	63	29	37
NETH	97	43	15	97	84	82	46	27	28
NZ	98	77	19	79	85	79	57	18	23
NOR	73	70	30	41	55	69	21	43	41
SWE	89	42	20	11	14	27	23	46	45
SWIZ	76	60	33	29	46	41	34	32	46
UK	91	69	9	77	66	63	23	30	43
US	75	49	32	36	48	53	52	33	42

SOURCE 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians. **NOTES** "Usually" means 75–100 percent of the time. Respondents who reported that they did not have patients requiring home-based nursing care were excluded. Appendix table 3 is an expanded version of the exhibit that shows tests of significance (see note 12 in text). ED is emergency department.

New Zealand, and the UK reported that they usually received such notifications. This pattern carried over to the receipt of notifications from EDs and hospitals in the Netherlands and New Zealand, where 79 percent or more of physicians said that they were usually notified when a patient had been seen in the ED or admitted to the hospital. In contrast, approximately half of Canadian and US physicians reported this. Receipt of hospital discharge information was inconsistent. Fifty-two percent of US physicians reported usually receiving a report from the hospital within forty-eight hours of discharge, compared to one-third or fewer in seven other countries. Physicians in Germany (63 percent) and New Zealand (57 percent) were the most likely to receive hospital discharge reports this quickly.

Communication with home-based nursing care providers was less than optimal across countries. In the US only 33 percent of physicians reported usually communicating with these providers about patients' needs and services to be provided, and 42 percent reported that these providers usually advised them of relevant changes in patients' condition or health status. In no country did more than half of physicians report either type of communication.

COORDINATION WITH SOCIAL SERVICES Seventy-four percent of physicians in Germany and 65 percent of those in the UK reported that they frequently coordinated patient care with social

services or other community providers (exhibit 3). In contrast, only about four in ten physicians in Australia (38 percent), the US (40 percent), and Canada (42 percent) did so. Frequent coordination with social service providers was least common in Sweden (12 percent) and France (21 percent).

About one-third or more physicians reported the following as major challenges to coordinating patient care with social services: the lack of a referral system (31 percent in the US, but up to 45 percent in France), inadequate staffing (36 percent in the US, but up to 56 percent in the UK), and the lack of follow-up from social service providers (37 percent in the US, but up to 61 percent in the UK). In general, primary care physicians in the Netherlands, Norway, and Switzerland were among those least likely to report these as major challenges, while physicians from Australia, Canada, France, and the UK were most likely to do so.

HEALTH INFORMATION TECHNOLOGY TO SUPPORT COORDINATION Overall, US physicians were among those who more frequently reported offering health IT tools to better communicate with and engage patients (exhibit 4). Seventy-seven percent offered patients the option to communicate with physicians about a medical question via email or a secure website. The use of other technologies—such as video consultations and remote monitoring of patients with chronic

EXHIBIT 3

Percent of primary care physicians in eleven countries who reported challenges in coordinating patient care with social services and other community providers, 2019

Country	Frequently coordinates with social services or other community providers	Major challenges in coordinating patient care with social services ^a		
		Lack of a referral system	Inadequate staffing to make referrals and coordinate with social services	Lack of follow-up from social services about services patient received or needs
AUS	38%	43%	43%	50%
CAN	42	34	42	42
FR	21	45	53	39
GER	74	32	32	30
NETH	47	20	24	43
NZ	52	27	34	39
NOR	57	12	20	25
SWE	12	27	37	39
SWIZ	51	20	16	25
UK	65	34	56	61
US	40	31	36	37

SOURCE 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians. **NOTES** Respondents reported whether they or another health care professional in the practice coordinated or had challenges in coordinating patient care. Appendix table 4 is an expanded version of the exhibit that shows tests of significance (see note 12 in text). ^aSwiss respondents had the option to report “do not coordinate with social services,” and 12–14 percent of them chose this option. Their responses were excluded from these analyses.

conditions—was rare in most countries, but US physicians were among the most likely to use them.

Physicians in four countries (Canada, France, Germany, and Switzerland) were less likely than

others to report offering patients web-based communication tools or patient portals with appointment scheduling, prescription refill, and test result or visit summary viewing capabilities. Among countries where physicians were more

EXHIBIT 4

Percent of primary care physicians in eleven countries who reported having health information technology that facilitates coordinating care with patients, 2019

Country	Practice offers patients option to communicate via email or secure website	Practice frequently or occasionally uses video consults	Practice usually or often uses remote monitoring or connected medical devices to monitor patients with chronic conditions	Patient can perform selected functions online:				
				Request appointments	Request Rx refills	View test results	View patient visit summaries	All 4 functions
AUS	32%	25%	4%	72%	12%	7%	9%	2%
CAN	22	16	7	21	9	32	5	1
FR	55	10	2	30	6	21	9	2
GER	60	4	6	15	21	2	<1	0
NETH	75	4	7	57	77	22	8	6
NZ	73	9	5	76	77	68	30	27
NOR	75	12	1	82	91	33	4	3
SWE	91	33	4	81	94	68	87	58
SWIZ	80	4	2	10	12	8	3	1
UK	60	9	9	90	91	52	46	38
US	77	20	11	60	73	76	67	50

SOURCE 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians. **NOTES** “Usually or often” means 50–100 percent of the time. Appendix table 5 is an expanded version of the exhibit that shows tests of significance (see note 12 in text).

likely to offer such capabilities, requesting refills was the most common functionality, while viewing results and visit summaries were among the least common. Physicians from Sweden and the US led in their ability to provide all four patient-facing functionalities.

Reflecting ongoing challenges with the interoperability of health IT, just over half of US physicians reported being able to exchange patient clinical summaries, laboratory and diagnostic test results, and patient medication lists with physicians outside the practice (exhibit 5). In contrast, the vast majority of physicians (72–93 percent) in the Netherlands, New Zealand, Norway, and Sweden reported having these abilities, although Canadian and German physicians rarely reported having them (12–33 percent).

Discussion

In all health systems, improving care coordination is not only central to achieving high-performing primary care but is also an indispensable strategy for reducing fragmentation, eliminating inefficiencies, and reducing costs of care.¹⁴ The survey results from eleven high-income countries highlight areas of coordination that are robust in some countries, but they also point to challenges to achieving more coordinated care, even in the US—which tended to rank in the middle range of performance among the countries we studied.

First, US primary care falls short of that in

other high-income countries in terms of providing extended access to care services such as home visits and after-hours arrangements. Ensuring the continuity of care delivered in settings outside the four walls of a primary care practice, but with the involvement of primary care through timely information exchange, is a central prerequisite for coordination.⁷

Second, compared to physicians in the Netherlands, New Zealand, and Norway, two-way communication of key patient information across specialists, after-hours settings, EDs, and hospitals is still incomplete in many countries, including in the US. Communication with home-based nursing care was less than optimal across countries. US physicians ranked in the middle of the group in terms of the ability to electronically exchange patient information outside their practice, although they were more likely than physicians in other countries to report offering patient portals. However, these electronic capabilities are not yet supporting the level of timely communication that enables primary care providers to coordinate care effectively.

Third, routine coordination with social service agencies to meet the health-related social needs of patients is a work in progress in most countries except Germany and the UK, where 65 percent or more of physicians reported frequently coordinating with social service providers. Still, physicians across countries reported major challenges in coordinating patients' care with social services, such as lacking referral systems, inadequate staffing, and lack of follow-up from social service organizations about patients' needs.

Below we offer some observations on country policies and reforms that aim to improve the coordination of care. We acknowledge that while systematic evaluations of these policies have yet to be published, they may offer a starting point for both policy makers and health systems seeking strategies to improve care coordination.

STRENGTHEN PRIMARY CARE AND EXPAND ACCESS TO CARE OUTSIDE THE CLINIC In the US primary care practices are challenged by a health system that lacks universal insurance coverage, imposes high out-of-pocket spending, and offers disjointed services—especially for patients with complex health needs or multiple chronic conditions. With the exception of the US, the surveyed countries have supportive national policies that envision a central coordinating role for primary care, including guaranteed access to primary care that provides after-hours arrangements and gatekeeping to ensure the appropriate use of specialty and other services (see appendix table 6).¹² For example, the governments of the Netherlands, Norway, and the UK—countries that have some of the leading primary care

EXHIBIT 5

Percent of primary care physicians in eleven countries who reported having health information technology that facilitates coordinating care with other clinical providers across settings, 2019

Country	Able to electronically exchange with any doctors outside the practice:		
	Patient clinical summaries	Lab and diagnostic test results	Lists of all medications taken by patient
AUS	50%	48%	46%
CAN	22	33	29
FR	61	60	48
GER	12	32	14
NETH	81	74	81
NZ	80	83	82
NOR	93	88	85
SWE	76	79	72
SWIZ	47	52	44
UK	66	63	67
US	53	54	53

SOURCE 2019 Commonwealth Fund International Health Policy Survey of Primary Care Physicians.

NOTES "Electronically exchange" does not include using fax or regular email. Appendix table 5 is an expanded version of the exhibit that shows tests of significance (see note 12 in text).

systems in Europe—make a public commitment to primary care that includes a primary care vision, a designated primary care unit at the executive (ministerial) level, and processes for priority setting and supply planning.⁴ In these countries most patients are registered with a named primary care provider who manages referrals to secondary and tertiary care, coordinating use of the larger health care system.¹⁵ Limiting or eliminating out-of-pocket spending for primary care visits can also improve access for patients. In Australia, Canada, Germany, the Netherlands, and the UK, all or most primary care visits are provided free of charge. Finally, well-planned and -staffed after-hours care systems in Germany, the Netherlands, and Norway could serve as an example for the US of how to provide readily accessible care 24/7.¹⁶

IMPROVE COORDINATION ACROSS PROVIDERS AND SETTINGS Effective care coordination requires the timely and efficient sharing of information relevant to the care of patients. Today's information technologies offer unprecedented communication capabilities, but in most countries they are not yet widely embedded in the practices and other settings that need to communicate with one another. The vast majorities of primary care physicians in Norway and New Zealand, however, reported efficient two-way communication with providers outside their practices, thanks to robust national electronic health information networks. In Norway, for example, the National Health Network, a state enterprise, provides efficient and secure electronic exchange of patient information between all relevant parties within the health and social services sectors and provides secure telecommunication for GPs, hospitals, nursing homes, pharmacists, dentists, and others.¹⁵ In New Zealand primary care providers across the country can transfer patients' records securely between practices, send electronic referrals, and receive electronic hospital discharge summaries.¹⁷

Technical, financial, trust, regulatory, and other barriers continue to inhibit electronic data exchange in health care in the US. However, current reforms—such as the 21st Century Cures Act of 2016 and initiatives by the Office of the National Coordinator for Health Information Technology in the Department of Health and Human Services—should help accelerate innovation and the adoption of health IT that will support the exchange of health information between patients, providers, and payers.

IMPROVE COORDINATION WITH SOCIAL SERVICES Emerging evidence suggests that routine screening of patients about social determinants of health and referrals to social services can improve pediatric outcomes.¹⁸ Some countries are

beginning to connect primary care with social services agencies. Since 2016 UK governments have prioritized social prescribing—the ability to refer patients to a range of nonclinical community services—in GPs' practices as a way to link people to needed services.¹⁹ Primary care physicians in the UK were more likely than those in any other country except Germany to report frequently coordinating care with social services or other community providers. Nevertheless, more than half of the primary care physicians in the UK reported major challenges with adequate staffing to help coordinate care, highlighting the resource challenges that other countries may confront as they coordinate primary care and social services.

It may be possible to use digital technology to streamline the processes for identifying patients in need of social services and providing referrals for needed services. Some electronic health records in the US are now enabling primary care practices to document and address patients' social determinants of health. For example, general internal medicine clinics at Boston Medical Center, the largest safety-net hospital in New England, developed and implemented an automated screening and referral process to address social determinants of health. Integrating referrals into the electronic health record workflow streamlined the sharing of information with patients.²⁰ No single screening tool, referral system, or agency coordination model will meet the needs of all primary care providers and communities in the US, but tools such as electronic directories of community-based organizations and standards for data exchange could facilitate routine screening and referrals. Professional societies can play a role as well. An American Academy of Pediatrics guideline recommends screening for poverty-related social risk factors at pediatric visits.²¹

Several countries are implementing policies to integrate care for health and social services, recognizing that siloed health and social services are inadequate to meet the increasingly complex health and social needs of patients. In Norway, for example, more than four hundred municipalities have combined their budgets for primary care and social care—which has created incentives to provide health and social services that meet the community's needs.²² In 2013 the Netherlands created nine pioneer sites for population management, serving more than two million people, to focus on integrating clinical and community services.¹⁵ While promising interventions have emerged from these pioneer sites, progress toward regional population health goals has been slow.²³

Beginning in 2015 the English National Health

Service moved more than one-third of the population of England into an integrated care system, devolving responsibility to local governments for commissioning care and services for their populations.²⁴ And in 2019 new GP contractual agreements called on GPs to create primary care networks to focus on population health, extend social prescribing, and develop more seamless connections to community services.²⁵ Over 99 percent of primary care physicians are now taking part in nearly 1,300 local networks.²⁶

In the US models that address social determinants of health are being tested by states and regional and local authorities.²⁷ The Center for Medicare and Medicaid Innovation (CMMI) awarded thirty-two five-year grants to develop the Accountable Health Communities model, which is focused on connecting Medicare and Medicaid beneficiaries with community services through screening, referral, and community navigation services.²⁸ The CMMI is also sponsoring State Innovation Models in eleven states that are developing and testing linkages between primary care, community-based organizations, and social services. For example, Idaho has created seven Regional Health Collaboratives that support primary care practices in creating formal referral and feedback protocols that link medical and social services providers.²⁷

As evaluations of these systemwide initiatives are conducted and disseminated, they could yield insights about the varied ways in which

system integration and coordination can address the social determinants of health and affect health outcomes, quality, and costs. Given the range of demonstrations under way, this is fertile ground for international sharing of evidence about the effectiveness of various strategies.

Conclusion

This survey of primary care physicians from eleven countries identified several gaps in the coordination of care. Examining the results reveals approaches that could help improve communication and coordination between providers and patients. Developments in computing and communication technologies are opening new avenues for efficient and effective communication and data sharing between health care organizations and social service providers. Digital health tools can engage patients and providers in new forms of coordination.

Improved technology alone will not suffice. Common ingredients of initiatives across countries include a strong commitment by government and other payers to primary care, the development of innovative care models, and active cooperation among professionals from the health care and social services sectors. Advancing initiatives with these ingredients could improve coordination over time and improve the health of the public without unnecessary increases in cost. ■

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NOTES

- 1 Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q*. 2005;83(3):457–502.
- 2 Organization for Economic Cooperation and Development. Realising the full potential of primary health care [Internet]. Paris: OECD; c 2019 [cited 2019 Oct 31]. (Policy Brief). Available from: <http://www.oecd.org/health/health-systems/OECD-Policy-Brief-Primary-Health-Care-May-2019.pdf>
- 3 Watkins DA, Yamey G, Schäferhoff M, Adeyi O, Alleyne G, Alwan A, et al. Alma-Ata at 40 years: reflections from the Lancet Commission on Investing in Health. *Lancet*. 2018;392(10156):1434–60.
- 4 Kringos DS, Boerma GW, Hutchinson A, Saltman RB, editors. Building primary care in a changing Europe [Internet]. Copenhagen: European Observatory on Health Systems and Policies; 2015 [cited 2019 Oct 31]. Available from: http://www.euro.who.int/__data/assets/pdf_file/0018/271170/Building-PrimaryCareChangingEurope.pdf
- 5 Alderwick H, Gottlieb LM. Meanings and misunderstandings: a social determinants of health lexicon for health care systems. *Milbank Q*. 2019;97(2):407–19.
- 6 Donkin A, Goldblatt P, Allen J, Nathanson V, Marmot M. Global action on the social determinants of health. *BMJ Glob Health*. 2017; 3(Suppl 1):e000603.
- 7 Kringos DS, Boerma WG, Hutchinson A, van der Zee J, Groenewegen PP. The breadth of primary care: a systematic literature review of its core dimensions. *BMC Health Serv Res*. 2010;10:65.
- 8 Bodenheimer T. Coordinating care—a perilous journey through the health care system. *N Engl J Med*. 2008;358(10):1064–71.
- 9 Schoen C, Osborn R, Squires D, Doty M, Rasmussen P, Pierson R, et al. A survey of primary care doctors in ten countries shows progress in use of health information technology, less in other areas. *Health Aff (Millwood)*. 2012;31(12):2805–16.
- 10 Osborn R, Moulds D, Schneider EC, Doty MM, Squires D, Sarnak DO. Primary care physicians in ten countries report challenges caring

for patients with complex health needs. *Health Aff (Millwood)*. 2015;34(12):2104–12.

- 11 Information on methods used to draw representative samples of primary care physicians in each country, including the lists (government or private) and panels used for the sampling frames, is available from the authors upon request.
- 12 To access the appendix, click on the Details tab of the article online.
- 13 The Commonwealth Fund provided core support, with cofunding from Haute Autorité de Santé, Caisse Nationale de l'Assurance Maladie, and the Directorate for Research, Evaluation, Studies, and Statistics of the French Ministry of Health (France); the German Federal Ministry of Health and the German Institute for Quality Assurance and Transparency in Healthcare (Germany); the Dutch Ministry of Health, Welfare, and Sport and Radboud University Medical Center (the Netherlands); the Norwegian Institute of Public Health (Norway); the Swedish Agency for Health and Care Services Analysis (Sweden); and the Swiss Federal Office of Public Health (Switzerland). Additional support to fund expanded samples was provided by the New South Wales Agency for Clinical Innovation and the Victoria Agency for Health Information (Australia); the Canadian Institute for Health Information, Canada Health Infoway, Health Quality Ontario, and the Ministère de la Santé et des Services Sociaux du Québec (Canada); and the Health Foundation of the United Kingdom (UK).
- 14 McDonald KM, Schultz E, Albin L, Pineda N, Lonhart J, Sundaram V, et al. Care coordination measures atlas [Internet]. Rockville (MD): Agency for Healthcare Research and Quality; 2014 Jun [cited 2019 Oct 31]. (AHRQ Publication No. 14-0037-EF). Available from: https://www.ahrq.gov/sites/default/files/publications/files/ccm_atlas.pdf
- 15 Mossialos E, Djordjevic A, Osborn R, Sarnak D, editors. International profiles of health care systems [Internet]. New York (NY): Commonwealth Fund; 2017 May 31 [cited 2019 Oct 31]. Available from: https://www.commonwealthfund.org/sites/default/files/documents/___media_files_publications_fund_report_2017_may_mossialos_intl_profiles_v5.pdf
- 16 Berchet C, Nader C. The organisation of out-of-hours primary care in OECD countries [Internet]. Paris: Organization for Economic Cooperation and Development; c 2016 [cited 2019 Nov 20]. (OECD Health Working Papers No. 89). Available from: https://www.oecd-ilibrary.org/social-issues-migration-health/the-organisation-of-out-of-hours-primary-care-in-oecd-countries_5jlr3czbqw23-en
- 17 Gauld R (University of Otago, New Zealand). The New Zealand health care system [Internet]. New York (NY): Commonwealth Fund International Health Care System Profiles; [cited 2019 Nov 20]. Available from: https://international.commonwealthfund.org/countries/new_zealand/
- 18 Byhoff E, Freund KM, Garg A. Accelerating the implementation of social determinants of health interventions in internal medicine. *J Gen Intern Med*. 2018;33(2):223–5.
- 19 Davison E, Hall A-M, Anderson Z, Parnaby J. Connecting communities and healthcare: making social prescribing work for everyone [Internet]. London: National Lottery Community Fund; c 2019 [cited 2019 Nov 20]. Available from: https://www.tnlcommunityfund.org.uk/media/social_prescribing_connecting_communities_health_care.pdf
- 20 Buitron de la Vega P, Losi S, Sprague Martinez L, Bovell-Ammon A, Garg A, James T, et al. Implementing an EHR-based screening and referral system to address social determinants of health in primary care. *Med Care*. 2019;(57 Suppl 6 Suppl 2):S133–9.
- 21 Council on Community Pediatrics. Poverty and child health in the United States. *Pediatrics*. 2016; 137(4):e20160339.
- 22 Grimsmo A. The Norwegian care coordination reform—what now? *Tidsskr Nor Laegeforen*. 2015; 135(17):1528.
- 23 Drewes HW, van Vooren NJE, Steenkamer B, Kemper PF, Hendriks RJ, Baan CA. Regio's in beweging naar een toekomstbestendig gezondheidssysteem: Landelijke Monitor Proeftuinen—reflectie op 5 jaar proeftuinen [Internet]. Biltoven: National Institute for Public Health and the Environment, Dutch Ministry of Health, Welfare, and Sport; 2018 Nov 26 [cited 2019 Oct 31]. (Report No. 2018-0140). Dutch. Available from: <https://www.rivm.nl/bibliotheek/rapporten/2018-0140.pdf>
- 24 National Health Service England. Integrated care systems [Internet]. Leeds: NHS; [cited 2019 Oct 31]. Available from: <https://www.england.nhs.uk/integratedcare/integrated-care-systems>
- 25 Baird B, Charles A. A significant moment for general practice [Internet]. London: Kings Fund; 2019 Oct 1 [cited 2019 Oct 31]. Available from: <https://www.kingsfund.org.uk/blog/2019/02/general-practice-contract>
- 26 Murray R. Primary care networks and community health services: further, faster! [Internet]. London: Kings Fund; 2019 Jul 5 [cited 2019 Oct 31]. Available from: <https://www.kingsfund.org.uk/blog/2019/07/primary-care-networks-community-health-services>
- 27 Artiga S, Hinton E. Beyond health care: the role of social determinants in promoting health and health equity [Internet]. San Francisco (CA): Henry J. Kaiser Family Foundation; 2018 May 10 [cited 2019 Oct 31]. Available from: <https://www.kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>
- 28 Centers for Medicare and Medicaid Services [Internet]. Baltimore (MD): CMS; 2017. Press release, CMS' Accountable Health Communities model selects 32 participants to serve as local "hubs" linking clinical and community services; 2017 Apr 6 [cited 2019 Oct 31]. Available from: <https://www.cms.gov/newsroom/press-releases/cms-accountable-health-communities-model-selects-32-participants-serve-local-hubs-linking-clinical>