

Can National Medical Association Journals Make Greater Contributions to Global Health?

An international survey and comparison

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Abstract

Background National medical associations (NMAs) publish many kinds of periodicals to educate their members and improve medical science, clinical care, and public health. As the internet and related forces continue to disrupt this mode of communication, NMAs will increasingly face complex decisions in areas such as their new responsibilities to global society, whether to publish in print or electronically, to focus on domestic or international audiences, and which languages to publish in. However, little is known about the nature, purpose, underlying policies and other aspects of periodicals published by NMAs worldwide.

Purpose To determine the characteristics of the NMAs and their periodicals, with a focus on general medical journals and the obstacles to their having a greater international scope.

Methods We surveyed the 92 NMAs that are members of the World Medical Association (WMA) and/or the Confederation of Medical Associations in Asia and Oceania (CMAAO) on the characteristics of their organization and periodicals. Some responses were clarified by interviews and reviews of NMA websites.

Results The response rate to the survey was 34% (31/92). NMAs varied greatly in their human resources, including number of members (1,150–395,000), staff (3–1,000), and staff density (staff per thousand members 0.12–5.44). The type of membership in 86% (25/29) of NMA respondents was voluntary, and the participation rates ranged from 5 to 99%. Journals' revenues came mainly from NMA budgets (46%) and advertising revenues (43%). Approximately 73% (19/26) of journals provided free online access to full text, and 71% (22/31) were fully or partly published in English. Most NMA journals were domestically focused in terms of readers and first authors (93%). Only a few journals had a scientific influence, as measured by "impact factors."

Conclusions While NMAs had different capacities and business models, most of their general medical journals had a domestic focus. For a journal to have a global impact requires substantial resources and intelligent marketing in highly competitive markets. NMAs can more likely make meaningful global contributions by using English and the internet, and by developing a unique niche.

Key words Medical association, Periodical, Journal, Impact factor, International, Communication

Introduction

For decades, national medical associations (NMAs) have published a wide range of newsletters and medical journals to educate and communicate

with their physician members, and to advance medical science, clinical care, and public health.¹ This communications environment is being irrevocably changed by the internet and other new media technologies that have greatly increased

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the speed of communications and transformed the nature of information, making national boundaries more porous and leading to the emergence of global communities. As a result, many NMAs will increasingly be faced with determining their responsibilities to this new global society, and with complex decisions in areas such as whether to publish in print or online, to focus on domestic or international audiences, and which language or languages to publish in.

Making these decisions will require in-depth knowledge on a wide range of factors, such as a periodical's purpose, history, circulation, publishing frequency, human and financial resources, peer review system, global influence and online access. NMAs would be better able to evaluate possible options if they had information on the periodicals published by their international peers, but little research has been done on NMAs, and their periodicals' characteristics cannot usually be determined from the publications themselves or their websites.

We surveyed NMAs worldwide to establish the characteristics of their periodicals, with a focus on general medical journals. Our goal was to obtain comparative data that could help NMAs make informed, strategic decisions about the future of their organizations, operations, and possible international scope. To our knowledge, this is the first research conducted on the periodicals published by NMAs.

Methods

Sample: National medical associations

In October 2008 we emailed a questionnaire to all 92 NMAs in two international organizations, the World Medical Association (WMA) and the Confederation of Medical Associations in Asia and Oceania (CMAAO). The WMA is the only worldwide organization of NMAs.² Founded in 1947, in 2008 it had 85 NMA members in six regions (Asia, Africa, Europe, North America, Latin America, and Pacific). The CMAAO, which was created in 1956, had 17 members, most of whom were also members of the WMA, with the exception of Cambodia, Macau, and Sri Lanka.³ We included these three NMAs in our sample along with four former WMA members whose contact information was still available in the WMA directory (Dominican Republic, Ecuador, Poland, and Venezuela),⁴ in order to obtain the

most globally representative data possible.

Of these 92 NMAs, 10 were in Asia (11%), 12 in Africa (13%), 39 in Europe (42%), 2 in North America (2%), 16 in Latin America (17%), and 13 in the Pacific (14%). We asked the contact persons at each NMA to fill out the questionnaire or to find appropriate persons to do so.

Survey questionnaire

As we found no other studies that had surveyed NMAs on their organizational characteristics or on the periodicals they publish, we developed the questionnaire to collect descriptive data on these attributes. The questionnaire was reviewed by staff members of 2 NMAs, and the project and questionnaire were discussed with officers of 14 NMAs. The questionnaire was written in English, Spanish and French, which are the official languages of the WMA (the official language of the CMAAO is English). In all, 69 NMAs (75%) used English as their official language, followed by Spanish (16/92, 17%) and French (7/92, 8%).

The questionnaire has four sections (see **Appendix**). Section 1 mainly poses demographic questions about the country and the NMA such as its official language(s), number of physicians, members, and staff; and participation rate (the number of members divided by the number of physicians in the country).

Section 2 consists of questions about the NMA's periodicals including type (e.g. journal, newsletter, email magazine), year founded, circulation number, publication frequency (e.g. weekly, monthly, quarterly, annual), readership (e.g. Are they all members? Is the journal read by people outside the country?), and purpose (e.g. education, policy, science).

Sections 3 and 4 were designed for NMAs that also publish general medical journals. The two sections contain the same questions, but section 3 was for NMAs whose journals have a global audience, while section 4 was for NMAs whose journals focus on domestic readers. The questions in these sections request information on a range of issues including languages used, nationality of readers and first authors, journal mission, number of editors and staff, copyright ownership, types of articles (e.g. percentages of original articles, reviews, and case reports), peer review and reviewers, acceptance rate, type of anonymity, average time from submission to publication, impact factor, subscription price, profitability, and access.

Table 1 Demographic data and GDP of NMAs and their countries

Response (31)	WMA/CMAAO official language ^{a)}	NMA country (92)	Survey data					Population ^{c)}	GDP ^{d)}	GDP Rank ^{d)}
			No. of members	Participation rate (%)	No. of staff	Staff density ^{b)}	No. of physicians in country			
North America (Response 2/2, 100%)										
Yes	E	Canada	69,000	(70) ^{e)}	170	2.46	99,000	32,577	1,326,376	9
Yes	E	United States	231,000	(33) ^{f)}	1,000	4.33	700,000	302,841	13,811,200	1
Pacific (Response 8/13, 62%)										
Yes	E	Australia	26,000	(50)	42	1.62	52,000	20,530	821,716	15
Yes	E	Hong Kong	7,557	(70)	25	3.31	10,962	7,019	206,706	36
Yes	E	Japan	165,086	(60)	189	1.14	277,927	127,953	4,376,705	2
Yes	E	Korea	75,476	(80) ^{g)}	137	1.82	95,179	48,050	969,795	13
Yes	E	Malaysia	7,897	(36)	22	2.79	17,797	26,114	180,714	37
Yes	E	New Zealand	4,000	(40)	10	2.50	10,000	4,140	129,372	51
Yes	E	Philippines	28,000 ^{h)}	(50)	22	0.79	110,000	86,264	144,129	45
Yes	E	Taiwan	37,518	(100) ^{g)}	32	0.85	37,518	22,921	—	—
No	—	(Fiji Islands, Indonesia, Samoa, Singapore, Thailand)								
Asia (Response 4/10, 40%)										
Yes	E	Bangladesh	35,000	(80)	120	3.43	45,000	155,991	67,694	59
Yes	E	India	175,000	(27) ^{f)}	85	0.49	645,825 ^{e)}	1,151,751	1,170,968	12
Yes	E	Israel	18,000	(94)	70	3.89	25,138 ^{e)}	6,810	161,822	43
Yes	E	Sri Lanka	3,000	(20)	10	3.33	15,000	19,207	32,354	77
No	—	(Cambodia, China, Kuwait, Macau, Nepal, Vietnam)								
Euro (Response 15/39, 38%)										
Yes	E	Azerbaijan	1,480	(5)	8	5.41	30,000	8,406	31,248	78
Yes	F	Belgium	— ⁱ⁾	(25)	10	—	45,000 ^{j)}	10,430	448,560	18
Yes	E	Czech Republic	—	—	23	—	36,595 ^{e)}	10,189	168,142	39
Yes	F	France	—	—	—	—	207,277 ^{e)}	61,330	2,562,288	6
Yes	E	Germany	395,200	(100) ^{f,g)}	100	0.25	>400,000 ^{j)}	82,641	3,297,233	3
Yes	E	Hungary	30,000	(95)	11	0.37	32,000	10,058	138,182	48
Yes	E	Iceland	1,254	(99)	5	3.99	1,300	298	19,510	93
Yes	F	Luxembourg	1,150	(73)	3	2.61	1,576	461	47,942	63
Yes	E	Macedonia	4,500	(75)	3	0.67	6,000	2,061	7,590	122
Yes	E	Netherlands	38,906	(58)	137	3.52	66,872	16,379	754,203	16
Yes	E	Norway	22,055	(97)	120	5.44	22,415	4,669	381,951	23
Yes	E	Russia	—	—	—	—	614,183 ^{e)}	143,221	1,291,011	11
Yes	S	Spain	206,000	(96) ^{f,g,k)}	25	0.12	214,000	43,887	1,429,226	8
Yes	E	Switzerland	33,655	(98)	71	2.11	35,000	7,455	415,516	22
Yes	E	United Kingdom	138,000	(64)	450	3.26	133,641 ^{e)}	60,512	2,727,806	5
No	—	(Andorra, Austria, Bulgaria, Croatia, Denmark, Dominican Republic, Estonia, Finland, Georgia, Ireland, Kazakhstan, Latvia, Liechtenstein, Lithuania, Malta, Poland, Portugal, Armenia, Romania, Slovak Republic, Slovenia, Sweden, Turkey, Vatican State)								
Latin America (Response 2/16, 13%)										
Yes	E	Brazil	120,000	(36)	45	0.38	333,000	189,323	1,314,170	10
Yes	S	Uruguay	8,500	(60)	26	3.06	14,000	3,331	23,087	83
No	—	(Argentina, Bahamas, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Haiti, Mexico, Panama, Peru, Venezuela)								
Africa (Response 0/12, 0%)										
No	—	(Cape Verde, Dem. Rep. Congo, Egypt, Ethiopia, Ghana, Namibia, Nigeria, Somalia, South Africa, Tunisia, Uganda, Zimbabwe)								
		Mean	69,749	(64)	102	2.37	139,813	86,026	1,281,907	35
		Median	30,000	(67)	32	2.50	45,000	20,530	398,734	23

a) E = English, F = French, S = Spanish.

b) Staff number per 1000 member physicians.

c) WHO 2006 (population is in thousands). The data for Hong Kong, Macedonia and Taiwan are from the *CIA Factbook 2008*.

d) World Bank (Millions of USD) 2007. Ranking is among 185 countries.

e) Membership was voluntary or mandatory, depending on the province.

f) Calculated based on the given data.

g) Membership is mandatory in 4 countries: Korea, Taiwan, Germany and Spain.

h) The number of members is 60,000, but only 28,000 are active.

i) Members are not affiliated directly. Only 23,000 physicians are active within the framework of social security.

j) The number of practicing physicians is 395,200.

k) Membership is obligatory, except in four regions.

Table 2 Year founded, circulation number, and publication frequency of NMA periodicals (survey data)

NMA country (30)	Periodical (98)	Since (69)	Circulation (63)	Frequency ^{a)} (93)	Journal G(15) D(16) ^{b)}
Australia	Medical Journal of Australia	1914	26,300	Semimonthly	D
	Australian Medicine	1989	26,300	Semimonthly	
	GP Network News	2004	4,800	Weekly	
	e-DIT	—	2,120	No fixed schedule	
Azerbaijan	AzMa Vision	2007	1,000	Quarterly	
Bangladesh	Bangladesh Medical Journal	1985	—	Quarterly	G
Belgium	Bulletin syndical	1964	—	Quarterly	
	Bericht van het Vlaamse Artsensyndicaat	1964	—	Quarterly	
	Magazine des Glèms	1964	—	Monthly	D
Brazil	Jornal da Associação Médica Brasileira (JAMB)— Brazilian Medical Association Journal	1951	80,000	Bimonthly	
	Revista da Associação Médica Brasileira (RAMB)— Brazilian Medical Association Magazine	1954	10,000	Bimonthly	D
	AMB News—electronic newsletter	2007	6,000	Weekly	
	O Médico & Você—The physician and you	2008	500,000	Quarterly	
Canada	CMAJ	1911	72,000	Semimonthly	G
Czech Republic	Časopis lékařů českých	1861	—	Monthly	D
	Acta chirurgiae plasticae	—	—	Quarterly	
	Anesteziologie a intenzivní medicína	—	—	Bimonthly	
	Česká a slovenská farmacie	—	—	Bimonthly	
	Česká a slovenská oftalmologie	—	—	Bimonthly	
	Česká a slovenská psychiatrie	—	—	8/year	
	Česká gynekologie	—	—	Bimonthly	
	Česká revmatologie	—	—	Quarterly	
	Česká stomatologie a Praktická zubní lékařství	—	—	Bimonthly	
	Česko—slovenská dermatologie	—	—	Bimonthly	
	Česko—slovenská patologie a Soudní lékařství	—	—	Quarterly	
	Česko—slovenská pediatrie	—	—	Monthly	
	Epidemiologie, mikrobiologie, imunologie	—	—	Quarterly	
	Otorinolaryngologie a foniatrie	—	—	Quarterly	
	Pracovní lékařství	—	—	Quarterly	
	Praktický lékař	—	—	Monthly	
	Rehabilitace a fyzikální lékařství	—	—	Quarterly	
	Rozhledy v chirurgii	—	—	Monthly	
	Transfuze a hematologie dnes	—	—	Quarterly	
	Revizní a posudkové lékařství	—	—	Quarterly	
Germany	Deutsches Aerzteblatt	1872	395,200	Weekly	G
	Deutsches Aerzteblatt International	2008	(Online)	—	
Hong Kong	Hong Kong Medical Journal	1948	6,000	Bimonthly	G
	HKMA News	1948	8,000	Monthly	
	HKMA CME Bulletin	2000	8,000	Monthly	D
	Email messages	2003	3,000	No fixed schedule	
Hungary	MOTESZ Magazin	1992	(National)	Quarterly	D
Iceland	Læknablaðið	1915	1,700	11/year	D
India	Journal of IMA	1928	175,000	Monthly	G
	Your Health	1952	4,000	Monthly	D
	Apka Swasthya	1953	3,000	Monthly	D
	IMA News	—	4,000	Monthly	
	Annals of IMA AMS	—	8,000	Annual	
	Journal of Family Medicine	—	3,500	Quarterly	

a) Daily usually means every weekday. We included 48–51/year in weekly, 20–22/year in semimonthly (biweekly/twice a month/fortnightly), 11/year in monthly, 8/year in bimonthly (every two months), and 2–4/year in quarterly. b) G stands for global journal and D for domestic journal, based on the NMA's definition. c) Source: <http://www.cmj.slma.lk/>. d) Source: <http://student.bmj.com/about/about.php>.

(Table continues on next page)

Table 2 Year founded, circulation number, and publication frequency of NMA periodicals (survey data) (continued)

NMA country (30)	Periodical (98)	Since (69)	Circulation (63)	Frequency ^{a)} (93)	Journal G(15) D(16) ^{b)}
Israel	HaRefuah	1924	18,000	Monthly	G
	IMAJ	1999	18,000	Monthly	G
	Zman Harefuah	—	—	—	
	IMA Around the Globe	—	—	—	
Japan	Nippon Ishikai Zasshi (Journal of the Japan Medical Association)	1921	167,900	Monthly	D
	JMAJ	1958	1,478	Bimonthly	G
	JMA News Letter	1961	170,000	Semimonthly	
	JMA Fax News	1989	5,700	Semiweekly	
	Shirokuma Tsushin (White bear email magazine)	2004	10,259	Daily + No fixed schedule	
Rep. of Korea	Journal of Korean Medical Association	1948	35,000	Monthly	D
Luxembourg	Le Corps Medical	1948	—	Bimonthly	D
Macedonia	Makedonski Medicinski Pregled (Macedonian Medical Review)	1946	4,500	3/year	G
	Lekarski vesnik na Makedonsko Lekarsko Drustvo (Medical Newsletter of Macedonian Medical Association)	2008	4,500	Bimonthly	
Malaysia	Medical Journal of Malaysia	1890	3,500	Quarterly	G
	Berita MMA	1969	10,000	Monthly	
Netherlands	Medisch Contact	1945	42,000	Weekly	D
	Arts in Spe	2004	20,000	Quarterly	
	Artsennet Newsletter	2004	31,836	Weekly	
	Medisch Contact Newsletter	2004	29,906	Weekly	
New Zealand	New Zealand Medical Journal	1887	(Internet)	20/year	G
	Medspeak (newsletter)	2002	5,000	Bimonthly	
	NZMJ Digest	2007	5,000	Bimonthly	
Norway	Tidsskrift for Den norske legeforening (Journal of the Norwegian Medical Association)	1881	25,000	Semimonthly	D
Philippines	Journal of the Philippine Medical Association	1960	13,000	Annual	D
	The Physician—PMA Newsletter	1970	13,000	Annual	
Russia	RMS Corporation	—	—	—	
	RMS Scientific	—	—	—	
Spain	Medicosypacientes.com	2008	(Internet)	Daily	G
Sri Lanka	Ceylon Medical Journal	1887 ^{c)}	3,000	Quarterly	G
	SLMA News Letter	—	3,000	Monthly	
Switzerland	Schweizer Ärztzeitung SÄZ/Bulletin des médecins suisses	1919	34,000	Weekly	
	Political E-Mail-Newsletter "Today's Press"	2005	1,209	Daily	
	Newsletter, FMH-Flash	2006	34,000	2–4/year	
Taiwan	Taiwan Medical Journal	1958	38,000	Monthly	D
United Kingdom	BMJ	1840	140,000	51/year	G
	Student BMJ	1995 ^{d)}	20,000	11/year	
United States	Journal of the American Medical Association (JAMA)	1883	326,645	48/year	G
	Archives of Internal Medicine	1908	83,294	22/year	
	Archives of Pediatrics & Adolescent Medicine	1911	20,611	Monthly	
	Archives of Dermatology	1920	13,778	Monthly	
	Archives of Surgery	1920	15,182	Monthly	
	Archives of Otolaryngology—Head & Neck Surgery	1925	11,126	Monthly	
	Archives of Ophthalmology	1929	14,348	Monthly	
	Archives of General Psychiatry	1959	33,578	Monthly	
	Archives of Neurology	1959	13,132	Monthly	
	Archives of Facial Plastic Surgery	1999	3,304	Bimonthly	
	Morning Rounds	2007	—	Daily	
	American Medical News	1958	251,591	48/year	
Uruguay	AMA Voice	—	—	Monthly	
	Noticias	1960	10,500	Bimonthly	

a) Daily usually means every weekday. We included 48–51/year in weekly, 20–22/year in semimonthly (biweekly/twice a month/fortnightly), 11/year in monthly, 8/year in bimonthly (every two months), and 2–4/year in quarterly. b) G stands for global journal and D for domestic journal, based on the NMA's definition. c) Source: <http://www.cmj.slma.lk/>. d) Source: <http://student.bmj.com/about/about.php>.

Table 3 Percentages of domestic readers and authors of NMA periodicals

	% of member readers			% of domestic readers			% of domestic authors		
	Mean	Median	N ^{b,c)}	Mean	Median	N ^{b)}	Mean	Median	N ^{b)}
Periodical ^{a)}	90.5	98.0	(47)	95.6	99.0	(60)	—	—	—
Journal	88.3	96.7	(24)	92.9	99.0	(27)	93.2	99.0	(26)
Global Journal	78.2	90.0	(11)	89.9	97.0	(14)	88.4	95.0	(14)
Domestic Journal	96.9	99.0	(13)	96.1	99.0	(13)	98.9	100	(12)

a) Periodicals include journals. b) N = number of responses out of the total number of periodicals (98) and journals (31). c) In calculating member readers for the CMAJ (Canada), we counted it as two journals (print and online).

Additional data

The data mainly consist of NMAs' responses to the questionnaire. In certain cases, respondents were contacted again to clarify their responses, and some responses were supplemented with information from NMA websites and interviews (indicated in Results). All the data on population and some on the numbers of physicians are from the World Health Organization, the United Nations, and the *World Factbook 2008* by the Central Intelligence Agency.

Analysis

This was an exploratory study, and we present only simple descriptive statistics of totals, percentages, means, and medians.

Results

We emailed the questionnaire to 92 NMAs and received responses from 31, an overall response rate of 34%. The number of responses to each question varied, due to missing data.

Section 1: Characteristics of national medical associations

Of the 29 NMAs that reported their type of membership, 25 (86%) responded that it was voluntary while 4 (Korea, Taiwan, Germany and Spain) said it was mandatory (**Table 1**). Among the 25 NMAs with voluntary membership, 5 had participation rates that exceeded 90% (Hungary, Iceland, Israel, Norway and Switzerland). NMA membership ranged from the smallest, Luxembourg (1,150, membership rate of 73%), to the largest, Germany (395,000, mandatory). The number of staff also varied, from 3 (Luxembourg) to 1,000 (US). Staff density (number of staff per thousand members) was highest in Norway

(5.44), Azerbaijan (5.41) and the US (4.33), and lowest in Germany (0.25) and Spain (0.12).

Section 2: NMA periodicals

Table 2 presents the survey data on NMA periodicals.

Type and history

Of the 30 NMAs that responded to this question, 26 published journals, 16 published newsletters, 8 had email magazines, and one faxed a newsletter. Of the total of 98 periodicals reported, information was given on when 69 were first published. *BMJ* (UK) is the oldest (1840), followed by *Časopis lékařů českých* (Czech, 1861) and *Deutsches Aerzteblatt* (Germany, 1872). Five other journals were first published in the 19th century, and 13 periodicals were founded in the early 20th century, including 6 US medical journals. Ten journals were founded in the late 1940s and 1950s, eight periodicals were begun in the 1960s–70s and seven in the 1980s–90s. With the advent of the internet and other new media, 18 periodicals have been launched since 2000.

Circulation and publication frequency

The largest circulation (500,000) was for *O Médico & Você* published quarterly by the Brazilian MA, which provides the general public with medical and pharmaceutical news. *Deutsches Aerzteblatt*, a weekly medical journal published by the German MA, was second with 395,000 copies (equal to the number of its members), followed by the *Journal of the American Medical Association (JAMA)* (327,000) and *American Medical News* (250,000). Azerbaijan had the smallest circulation (1,000) in its quarterly bulletin to members, *AzMa Vision*, due at least in part to the association's short history (founded in 1999) and low membership rate (5%).⁵

Of the 98 periodicals, 95% (93) reported on

Table 4 Global and domestic general medical journals published by 26 NMAs (by circulation size)

NMA country (26)	Journal (31)	Circulation (24)	No. of members (29)	Copies/ members (24)	Official language (31)	Journal language (31)
Global journal (15)		(12)	(15)	(12)	(15)	(15)
Germany	Deutsches Aerzteblatt	395,200	395,200	1.00	German	German + Partly English
United States	Journal of the American Medical Association	326,645	231,000	1.41	English	English
India	Journal of the Indian Medical Association	175,000	175,000	1.00	English	English
United Kingdom	BMJ	140,000	138,000	1.01	English	English
Canada	CMAJ	72,000	69,000	1.04	English	English
Israel	HaRefuah	18,000	18,000	1.00	Hebrew	Hebrew
Israel	IMAJ	18,000	18,000	1.00	Hebrew	English
Hong Kong	Hong Kong Medical Journal	6,000	7,557	0.79	English	Eng + Eng & Chinese abst.
Macedonia	Makedonski Medicinski Pregled	4,500	4,500	1.00	Macedonian	Eng (web), Macedonian + Eng abst.
Malaysia	Medical Journal of Malaysia	3,500	7,897	0.44	English	English
Sri Lanka	Ceylon Medical Journal	3,000	3,000	1.00	Sinhalese and Tamil	English
Japan	JMAJ	1,478	165,086	0.01	Japanese	English
Spain	medicosypacientes.com	Internet	206,000	—	Spanish	Spanish
New Zealand	New Zealand Medical Journal	Internet	4,000	—	English	English
Bangladesh	Bangladesh Medical Journal	—	35,000	—	Bengali	English
	Mean	96,944	98,483	0.89		
	Median	18,000	35,000	1.00		
Domestic journal (16)		(12)	(14)	(12)	(16)	(16)
Japan	Journal of the Japan Medical Association	167,900	165,086	1.02	Japanese	Japanese
Netherlands	Medisch Contact	42,000	38,906	1.08	Dutch	Dutch
Taiwan	Taiwan Medical Journal	38,000	37,518	1.01	Mandarin	Mandarin
Rep. of Korea	Journal of the Korean Medical Association	35,000	75,476	0.46	Korean	Korean + Partly English
Australia	Medical Journal of Australia	26,300	26,000	1.01	English	English
Norway	Tidsskrift for Den norske legeforening	25,000	22,055	1.13	Norwegian	Norwegian + Eng abst., Some fully translated into English
Philippines	Journal of the Philippine Medical Association	13,000	28,000	0.46	English	Eng + Filipino
Brazil	Revista da Associação Médica Brasileira	10,000	120,000	0.08	Portuguese	Portuguese
Hong Kong	The Hong Kong Medical Association CME Bulletin	8,000	7,557	1.06	English	English
India	Your Health of IMA	4,000	175,000	0.02	English	English
India	Apka Swasthya	3,000	175,000	0.02	English	Hindi
Iceland	Læknablaðið	1,700	1,254	1.36	Icelandic	Icelandic + Partly English
Hungary	MOTESZ Magazin	(National)	30,000	—	Hungarian	Hungarian + Partly English
Czech Republic	Časopis lékařů českých	—	—	—	Czech	Czech + Partly English
Luxembourg	Le Corps Medical	—	1,150	—	French	French
Belgium	Magazine des Glems	—	—	—	French, Néerlandais	French, Néerlandais
	Mean	31,158	64,500	0.73		
	Median	19,000	33,759	1.01		

their publishing frequency. The most common response was “monthly” 30% (28), followed by quarterly 23% (21), bimonthly 18% (17), weekly 11% (10), semimonthly 7% (7), every weekday (4, all electronic media), annual (3), no-fixed schedule (2) and semi-weekly (1, fax news). At the time of the survey, *American Medical News* was published weekly with 48 issues a year; since then its print frequency has been halved and its website updates expanded to every weekday.⁶

Audience

NMA members exceeded 90% of the readership in 36 of the 47 periodicals (77%) that responded to this question (Table 3). These percentages were exceptionally lower only in *JAMA* (44%, US), *American Medical News* (38%, US), and *CMAJ* (online version, 15%, Canada). Many periodicals also distributed a small number of copies to non-members, including the media, journalists, government, hospitals, health-related organizations and libraries. Domestic readership exceeded 90% in 54 out of the 60 periodicals (90%) that responded to this question.

Periodical purpose and role

Of the 28 NMAs that responded to these questions, 89% reported that their periodicals reported association activities, 86% provided medical and pharmaceutical news, 82% promoted medical science, and 64% provided members with a forum. Of the 71 periodicals named, 58% (41) promoted science, 56% (40) reported NMA activities, 54% (38) provided news and 34% (24) provided a member forum (data not shown in table).

Sections 3 and 4: General medical journals

As noted, we asked NMAs to categorize their journals as either global (G, section 3) or domestic (D, section 4). We classified the four journals that were published for both domestic and global readers as “global.” The 26 NMAs that responded to this question published a total of 31 general medical journals, 15 of which were global and 16 domestic, with four NMAs (15%: Hong Kong, India, Israel and Japan) publishing two or more general medical journals (Table 4).

Circulation and publication frequency

We received circulation information on a total of 24 journals. The mean circulation of the 12 global journals was 96,944 and the median was 18,000, with Germany having the greatest (395,000) and Japan the smallest (1,478). The mean circulation of the 12 domestic journals was 31,158 and the

median was 19,000, with Japan having the greatest (167,900) and Iceland the smallest (1,700).

The publishing frequency of the journals was 39% monthly (12/31); 16% quarterly (5); 13% bimonthly, semimonthly and weekly (4 each); and 3% daily and annual (1 each). More than half the domestic journals (56%) were published monthly, while the publishing frequency of global journals varied from daily to quarterly (Table 2).

Languages

Approximately 71% (22/31) of journals were published either partly or fully in English, which was the language of 87% (13/15) of the global journals and 56% (9/16) of the domestic journals. Approximately two-thirds (11/17) of non-native English-speaking NMAs used English in their journals either fully or in part, six of which defined their scope as “global” (Table 4).

Reader and author nationalities

Domestic readers exceeded 90% of the readership in 11 out of the 14 global journals and in the 11 of the 13 domestic journals (Table 3). Three global journals had a wider readership—*JMAJ* (Japan, 38%), *CMAJ* (Canada, 75%) and *Medical Journal of Malaysia* (85%)—as did two domestic journals, *Časopis lékařů českých* (Czech, 80%), and *Journal of the Korean Medical Association* (85%).

As for first author nationality, domestic authors exceeded 90% of the submissions in 10 out of the 14 global journals and in all 12 domestic journals. Only four global journals had appreciable numbers of international authors: *New Zealand Medical Journal* (20%), *CMAJ* (20%), *JMAJ* (30%) and *BMJ* (60%).

Mission and nature

Of the 24 journals that described their mission (multiple answers allowed), 29% (7) indicated that they focused on local or national physicians or health; 25% (6) cited education or professional development; 21% (5 each) cited advancing medical science, and updating physicians on developments in their field; 17% (4 each) cited public health, and educating patients and the general public; and 13% (3 each) cited health policy, and the art of medicine.

We asked about the nature of the journal, allowing for multiple answers. Many journals selected more than one response; the average was 2.8. Of 30 journals, 87% (26) chose science, 80% (24) education, 60% (18) policy, 30% (9) public relations, 10% (3) for-profit business, and

7% (5) chose other, which included public health, trade union, medical practice and health news.

Personnel

Approximately 71% of the journals (20/28) had five staff members or fewer. The journals with the largest staffs were *JAMA* (100, US), *BMJ* (40, UK) and *CMAJ* (32, Canada). At the same time, the percentage of the publication staff to overall staff was low at these same three journals, *JAMA* 10%, *BMJ* 9% and *CMAJ* 19%. Of the 29 NMAs that responded, 3 outsourced their journal to a publisher such as Elsevier.

We asked how journals selected their editor-in-chief and editors and how their terms were set. In 29 journals, 72% (21) appointed their editor-in-chief, 21% (6) elected them, and 2 selected them following the posting of a job application. Similarly, of 30 journals, 80% (24) appointed their editors while 5 elected them. In 27 journals, the editor-in-chief's term was permanent or non-specific in 41% (11), on a contract basis in 18% (5), and 11 answered "other" (e.g., a fixed number of years, the same as the term of council members). The findings for editors' terms were similar.

Of the 24 journals that reported the number of editors, the mean was 23 and the median was 13, with a high of 146 and a low of 4. Editors were MDs in 63% (17/27) of the journals that responded; the other journals included small numbers of other health professionals, lawyers, journalists and statisticians as editors. MDs made up the majority of the editorial board in all but two journals, *medicosypacientes.com* (Spain) and *Medisch Contact* (Netherlands).

Copyright ownership

Medical associations reserved copyright in 80% (24/30) of journals. Copyright was reserved by both the medical association and the author in two journals, *Ceylon Medical Journal* (Sri Lanka) and *Magazine des Glems* (Belgium), and by both the medical association and the publisher in one journal, *The Hong Kong Medical Association CME Bulletin*. The publisher reserved the copyright in two journals, *Deutsches Aerzteblatt* (Germany) and *Le Corps Medical* (Luxembourg), while authors retained the copyright in three journals: *BMJ* (UK), *Taiwan Medical Journal* and *MOTESZ Magazin* (Hungary).

Sources and types of articles

Among 29 journals, 57% of published articles were contributed by "outside authors" (general

manuscript submissions from authors who did not work for the journal), 26% were invited articles, and 17% were written by the editors. Outside authors accounted for more than 90% of articles in one domestic journal (Norway) and six global journals (Malaysia, Hong Kong, New Zealand, Sri Lanka, and two in Israel); for between 65–85% of articles in five domestic journals and two global journals; for 50% of articles in *Apka Swasthya* (India); and articles were more or less evenly split among outside authors, invited articles and editors in *CMAJ* (Canada, 33% each), *Magazine des Glems* (Belgium, 30, 40, and 20%) and *Taiwan Medical Journal* (30, 20, and 50%). Article sources in *The Hong Kong Medical Association CME Bulletin* were shared equally between editors and invited articles. Invited articles were the predominant source in three journals—*JMAJ* (Japan, 100%) *Journal of the Japan Medical Association* (97%), and *Journal of the Korean Medical Association* (Korea, 95%)—and editors contributed 90% of the articles in *medicosypacientes.com* (Spain). Six journals (Germany, UK, US, Luxembourg and two in India) did not specify their percentages but used the same three sources for articles, except the US, which used only outside authors and editors.

Among 30 journals, 80% (24) published original articles, followed by reviews in 73% (22) and case reports in 67% (20). Clinical medicine was the most common medical area in 87% (26), followed by social medicine in 63% (19), basic medicine in 57% (17), policy in 50% (15) and management in 33% (10). Non-academic articles included editorial in 87% (26) latest news in 70% (21), pharmaceutical information in 63% (19), essays in 43% (13), and conference or seminar minutes in 40% (12).

Peer review, acceptance rate, and number of reviewers

Among the 29 journals that responded to these questions, 66% (19) peer reviewed more than 90% of their articles, a rate that was almost double that of the 10 journals that responded "not all articles are peer reviewed" (34%). The breakdown of "not all" included "editors are authorized to decide in some cases" (9), "invited articles are not peer reviewed" (5), and "only academic articles are peer reviewed" (2). Among 23 reporting journals, the acceptance rate was higher in the 12 domestic journals (mean 79%,

Table 5 Impact factors for (general medicine category) and NMA journals

Rank	Journals	Impact factors
1	New England Journal of Medicine (Massachusetts Medical Society)	52.589
2	The Lancet (Elsevier)	28.638
3	JAMA (American Medical Association)	25.547
4	Annals of Internal Medicine (American Society of Internal Medicine)	15.516
7	BMJ (British Medical Association)	9.723
9	CMAJ (Canadian Medical Association)	7.067
25	Medical Journal of Australia (Australian Medical Association)	2.537
55	SAMJ South African Medical Journal (South African Medical Association)	1.268
75	Israel Medical Association Journal (Israel Medical Association)	0.577

(Source: 2007 JCR Science Edition¹¹)

According to Thomson Reuters, the journal impact factor "is a measure of the frequency with which the 'average article' in a journal has been cited in a particular year or period." It is calculated by first totaling the number of times in a given year articles from one journal are cited, and then dividing that figure by the number of source items the journal published during the previous two years.¹⁰

median 88%, range 38–95%) than in the 11 global journals (mean 38%, median 35%, range 4–75%). The number of reviewers among 25 journals was two or three in 68% (17), more than four in 20% (5), and one reviewer in 12% (3).

Anonymity

Out of 23 journals, 48% (11) used single-blind peer review, where the authors do not know who reviewed their papers but the reviewers know who wrote them, and 35% (8) used a double-blind system in which neither reviewers nor authors know who the other is. These anonymous or closed peer review procedures accounted for 83% (19) of the journals, while 17% (4) used an open peer review policy in which both authors and reviewers know who the other is. One of these is the *BMJ*, which has actively promoted this policy since 1999 based on ethical and other arguments.^{7,8} *JAMA* and the *New England Journal of Medicine (NEJM)*, on the other hand, are unlikely to change their system of blind peer review for the foreseeable future, as they believe it allows reviewers to be more candid (Interviews conducted by MH with editors from these journals in September 2008 and May 2009).

Time from submission to publication

The 13 responding domestic journals tended to publish submissions more quickly than the global journals: less than a month in 6 journals, 1–3 months in 3 journals, and more than 3 months in 4 journals. Among the 12 global journals, it took 1–3 months in 2 journals and more than 3 months in 10 journals.

Impact factor

The impact factor (IF) is an annual measure of the number of citations in science and social science journals calculated since 1955 by Thomson Reuters.^{9,10} Among 31 journals, 5 global journals (US, UK, Canada, New Zealand, and Israel) and one domestic journal (Brazil) reported their IFs. **Table 5** lists the six NMA general medical journals that are ranked in the top 100 of the 2007 JCR Science Edition.¹¹

Price, profitability, and financial resources

Forty-one percent (12/29) of respondents reported that their journal was free, although in many cases journal prices are almost certainly included in NMA membership fees. Other journals applied a price range that depended on the type of membership, institution's size, lump-sum payment, and national/international shipment. Of the 29 journals that reported on their profitability, 4 were published on a for-profit basis: the 3 global journals (Germany, UK, US) answered that they were profitable, while the domestic journal (Hong Kong) reported that it was not.

The revenues used by Asian NMAs to publish journals tended to come from the associations' budgets (often consisting mainly of membership fees), while a major source of revenues for many European countries was advertising revenues from their journals (**Table 6**). When journals had subscription fees paid by readers as a revenue source, they also tended to have several other sources. Of the 24 journals that gave the percentages of their financial resources, association

Table 6 Revenue sources for 24 responding NMA journals (anonymous)^{a)}

Region	NMA budget	Advertising	Readers	Authors	Licensing revenue	Other	G/D journal	Free
Budget type (11)								
Asia-Pacific	100%						G	Free
Asia-Pacific	100%						D	Free
Asia-Pacific	100%						D	Free
Asia-Pacific	100%						D	
Latin America	100%						D	
Europe	80%	20%					G	Free
Asia-Pacific	78%	20%	2%				D	
Asia-Pacific	63%	34%			3%		G	
Europe	60%	40%					D	Free
Asia-Pacific	56%	44%					D	
Asia-Pacific	55%	43%	2%				G	
Advertising type (6)								
Europe		100%					G	Free
Europe		100%					D	Free
Europe		100%					D	
Europe		95%	5%				D	Free ^{c)}
Europe	9%	90%	1%			b)	D	
Asia-Pacific		90%		10%			G	
Subscription type (7)								
Oceania		33%	67%				G	
Europe	50%	10%	40%				D	
Asia-Pacific	60%	10%	20%	10%			G	
Asia-Pacific	62%	20%	18%				D	
Europe		80%	17%		3%		G	
North America	15%	30%	15%		10%	30%	G	
North America	14.5%	72.3%	4.4%		2.2%	6.6%	G	Free ^{c)}
Mean	45.9%	43.0%	8.0%	0.8%	0.8%	1.5%		
Median	55.5%	33.5%	0%	0%	0%	0%		

a) Twenty-four journals responded to these questions; their names have been kept anonymous. b) Included in the membership fee. c) Free to members.

budgets (46%) and advertising revenues (43%) ranked highest, subscription fees paid by readers accounted for 8%, and submission fees paid by authors and licensing revenues each accounted for less than 1%.

Requirements for article submission

Among 29 responses, 38% (11) journals had no specific requirements for submitting a paper, while 31% (9) required membership or a submission fee. Other responses included “No scientific papers, only news,” “Topics should be based on general medical practice,” “Invited articles,” “Author prominence,” “Editorial board decision,”

and “Non-members pay a fee equivalent to a yearly membership fee.”

Online availability

Of the 30 journals that reported on their publication media, 80% (24) were published both in print and online. Spain published online only (website), and 5 journals were published in print only. Among the 26 journals that reported online availability, full text was available for free in 73% (19), partly available for free in 4, and available to members only in 5. No journal charged authors, while 4 charged readers. Other responses included institutional licenses (US), and an embargo model,

in which the contents are password protected for the first six months (New Zealand).

Discussion

Great variation in NMA organizational characteristics

The characteristics of NMAs varied widely. A country's economic size was associated with the number of NMAs' member physicians but not with the participation rate or staff size. For example, among the 27 NMAs that reported their membership size, the 7 with more than 100,000 members—Germany (395,200), US (231,000), Spain (206,000), India (175,000), Japan (165,086), UK (138,000) and Brazil (120,000)—have relatively high GDPs,¹² but their participation rates differed. Germany and Spain have mandatory membership systems (100%), the voluntary participation rates for Japan (60%) and UK (64%) were close to the median (67%), while those for Brazil (36%), the US (33%) and India (27%) were among the lowest.

At the same time, the American MA had the largest staff (1,000), more than twice that of the runner-up, the UK (450), and far more than any other NMA. The US ranked third in staff density (4.33) among 27 NMAs, while the other NMAs with large staff were in the middle range: UK (3.26/10th), Japan (1.14/19th), Canada (2.46/15th), and Korea (1.82/17th). Germany, Spain, India and Brazil, who have some of the greatest numbers of physician members, had the lowest staff densities (<0.5).

The general medical journals' financial resources also varied. This at least partially reflects differences in their business models, in which we found possible evidence of a regional trend. Many Asia-Pacific NMAs publish their journals out of their association budgets, which are largely dependent on membership fees, while journal advertising revenues are the main financial resource for many European NMAs. Submission fees and licensing revenues were not common sources of revenue, but we did find that different journals published by the same NMA could have different financial resources. For example, both the Japan and Hong Kong MAs publish two journals, but only one of each pair had advertising revenues. These results point to how, beyond gathering revenues from membership fees, some NMAs are more active in earning income.¹³

What does it take to publish a high-impact journal?

Most of the NMA general medical journals had a domestic focus in terms of readers and authors. Even the *BMJ* and *JAMA* answered that, respectively, they had 90% and 99% domestic readers, though their high IFs and international renown make this hard to believe. In this regard, our survey did not capture who beyond the subscriber reads the journals, or its online readership. As for the first author's nationality, domestic authors contributed 99% of the submissions in the 12 responding domestic journals and 88% (median 95%) in the 14 global journals. This implies that NMA journals are highly centered on their own countries.

We also found that approximately 70% of the responding NMAs published a general medical journal with five or fewer staff members. The major exceptions were the US (100) and UK (40), who publish weekly, and Canada (32) which publishes biweekly. Only these journals along with three others (Australia, South Africa, and Israel) had Thomas Reuters IF rankings for 2007, and all are published in English.¹¹ Although the IF metric is frequently criticized, it is nevertheless widely used as a proxy for a journal's influence or importance.^{14–16} It would also seem to reflect a journal's human resources.

Even a cursory review of the Thomson Reuters IFs shows that the medical journal marketplace is replete with publishers, from specialty medical journals to commercial publishers, actively competing with one another. The general medical journal with the highest IF in 2007 (52.589) was the *NEJM*, which is published weekly in the US by a state medical association, the Massachusetts Medical Society (MMS). The MMS has 21,291 member physicians and more than 400 staff, for a staff density of 18.79, or more than three times the highest NMA in our survey (Norway, 5.44).¹⁷ The journal ranked second in general medicine is *The Lancet*, which is published weekly by Elsevier, one of the world's leading commercial science and health publishers with editorial offices in London and New York. It has a strong global reach, with 1.8 million users having registered at its website since it first began publishing online in 1996.¹⁸

In short, the medical journal market is highly competitive and dominated by English. As of April 2008, MEDLINE, the biomedical and life

science literature database compiled by the US National Library of Medicine, contained over 16 million references to journal articles, with more being added daily. MEDLINE compiles citations from approximately 5,200 journals worldwide in 37 languages, but 90% of those added during 2000–05 were published in English, 79% had English abstracts, and 47% of the articles were published in the US.¹⁹ This reflects not only that the US invests far more than any other country in medical and public health research,²⁰ but the extent to which English is the global lingua franca, especially in science.²¹

To compete in this marketplace, NMAs also need skilled personnel with specialized knowledge in many areas, including marketing, the global standards for medical journals, and research and publication ethics; as well as an editorial system that can manage complicated, labor-intensive procedures that involve editorial staff, authors, reviewers and many other stakeholders. Limitations in any of these capacities would very likely make it difficult for NMAs to publish a journal that had a scientific impact that translated into global influence.

Essential conditions for global contributions

As the world's growing interconnectedness confronts NMAs with the question of making contributions beyond their national boundaries, non-English-speaking countries cannot avoid the language issue. One possibility for reaching both domestic and global readers is to publish journals only in English, which is what some specialty medical societies in Japan are doing. However, this strategy is still rare, and it places a burden on countries where English is not widely used. We found two non-English-speaking NMAs (Japan and Israel) that published two or more general medical journals both in their native language and English, along with two NMAs that have English as one of their official languages (Hong Kong and India). However, publishing in two languages requires even greater financial resources.

As another indication of the ubiquity of English and of how the boundary between global and domestic journals is blurring, fully three-quarters of our overall sample of 92 NMAs listed English as its official language. Furthermore, of the 31 journals that responded to our survey, more than 70% (22) were partly or fully published in English, 40% (9) of which described themselves

as “domestic journals.” English is the official language of four of these NMAs, but it is the native tongue of only one.

NMAs that seek a greater international presence also need to harness the internet and other new media.²² For instance, in a move that is becoming increasingly common, in 2009 the *American Medical News* shifted its focus of distribution from print to the internet.⁶ We are also now seeing the emergence of a number of new online journals with different business models, including the open access Public Library of Science (PLOS), which covers its expenses by charging authors to publish their work.²³ Indeed, the issue for many is not between print or online distribution, but between open access, or at least free online access or differential pricing for those in less developed countries.²⁴ It may be difficult for many NMAs to adopt new information technologies (IT), which keep evolving and accelerating (e.g., podcasts and RSS feeds) and require a certain level of investment.^{25,26} But there can be little doubt that IT offers NMAs tremendous opportunities for reaching out globally, and that in many cases this reach can be greatly extended by combining IT with English.

Developing a niche

The historical barriers to information publishing have been formidable, and the resources necessary to publish a high-impact medical journal are considerable. Yet as the publishing paradigm continues to change, NMAs that are able to identify and develop their unique strengths, and to carve out a niche based on some combination of publishing media, language, geography and content, may find unique opportunities to contribute not only to the health of their own members but to global society.

Widening access to health medical information could be one way. For example, in our survey, approximately 73% of 26 NMA journals provided open access to their full texts. Even high-impact journals like *CMAJ* and *BMJ* provide either free online access to full text²⁷ or scientific articles.²⁸ *JAMA* uses podcasts, twitter and RSS feeds to help broadcast its rich contents.²⁹ So does the *BMJ* which, though it is the oldest NMA journal of them all, continues to innovate, including making its scientific papers freely available, allowing authors to own their copyrights, and a using system of open peer review.

As for reaching out globally, Germany translates medical articles into English³⁰; Norway does the same with selected articles and provides open access³¹; Sri Lanka publishes an open access quarterly journal in English, which is not its official language³²; and Japan, India, Hong Kong and Israel publish plural journals, one in English the other in the native tongue.

And in an alternative to reaching out internationally, both India and Brazil—two middle-income countries that are on the development fast track and have very large populations—not only publish journals for medical professionals but periodicals for the general public. While the impact of these efforts may be difficult to quantify, they illustrate how NMAs can identify their unique situations and work in new ways to improve the health of their populations.

Limitations and strengths

This research has several limitations. First, this survey received replies from only 31 of 92 NMAs with only 2 responses from Latin America and none from Africa. The responses that were received were often missing data, due in part to the detailed nature of the questionnaire. In that regard, the survey did not capture the complete global picture on NMAs and their periodicals. Second, this paper

reports descriptive statistics only. Nevertheless, our study was the first international comparative survey on periodicals published by NMAs, and the data provide new information on a wide range of areas related to NMAs and their periodicals.

Conclusion

NMAs' resources and business models exhibit great variety, but, with few exceptions, their general medical journals have a domestic focus and impact. Publishing scientifically influential journals with a far-reaching impact, like the *BMJ* and *JAMA*, requires at the very least considerable human and financial resources. NMAs can more readily make meaningful global contributions by harnessing the power of English and the internet, and by identifying their strengths, to develop a unique niche.

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Appendix

Questionnaire on Periodicals Published by National Medical Associations

1. General questions

- 1) Name of your medical association:
- 2) Official language(s) in your country:
- 3) Number of member physicians in your association:
- 4) Membership rate (%) and number of physicians in your country:
- 5) Is membership in your association mandatory or voluntary?
- 6) Number of staff members in your association:

2. Questions about periodicals (publications published at regular intervals)

- 1) What kinds of periodicals does your medical association publish?
 - Journal
 - Newsletter
 - Fax news
 - Email magazine
 - Other:
- 2) Name of each periodical and...
 - Since
 - Circulation
 - Frequency
 - Percentage of audience
 - (1) Members (%)
 - (2) Non-members (%)
 - (3) Other (%)
 - Nationality of audience
 - (1) Domestic readers (%)
 - (2) Readers outside of your country (%)
 - Purposes and roles (multiple answers allowed)
 - (1) Promote medical science
 - (2) Report activities
 - (3) Provide medical and pharmaceutical news
 - (4) Forum for members
 - (5) Other:
 - Section in charge (multiple answers allowed)
 - (1) Publishing
 - (2) International
 - (3) Public relations
 - (4) Academic
 - (5) Other:

3. If your association publishes a journal to provide information on general medicine* for GLOBAL readers, please answer the following questions (*except periodicals on specific fields, e.g. immunology).

- 1) Name of the journal:
- 2) Language
 - English
 - Official language other than English:
 - Partly contains language other than official language:
 - Other:

- 3) Nationality of readership
 - Domestic (%)
 - Nearby countries (%)
 - Other (%)
- 4) Nationality of the first authors
 - Domestic (%)
 - Outside of your country (%)

MISSION

- 5) What is its mission or overall purpose?
- 6) What is its nature? (Multiple answers allowed)
 - Science
 - Policy
 - Education
 - Public relations
 - For-profit business
 - Other:

PEOPLE

- 7) How is the editor-in-chief selected?
 - Election
 - Appointment
 - Other:
- 8) How long is the term of office of the editor-in-chief?
 - Permanent (non-specific term)
 - Contract basis:
 - Other:
- 9) How is the editorial board formed?
 - Election
 - Appointment
 - Other:
- 10) How long is the term of office of editors?
 - Permanent (non-specific term)
 - Contract basis:
 - Other:
- 11) What kinds of people are included in the editorial board and how many by each kind and in total?
 - Physician (MD): person(s)
 - Other health professional: person(s)
 - Lawyer: person(s)
 - Financial advisor: person(s)
 - Marketer: person(s)
 - Other:
 - In total: people
- 12) How many staff members of the secretariat are involved in this publication?
- 13) Is the journal outsourced to a publisher? (e.g. Elsevier) Yes/No
- 14) Who owns the copyright on articles published in your journal?
 - Your association
 - Publishing company

- Author
- Other:

CONTENTS

- 15) What is the source of published articles?
- Contributed by outside authors (%)
 - Contributed by editors (%)
 - Invited articles (%)
 - Other:
- 16) What types of articles does your journal include? (Select from options, multiple answers allowed. And/or describe in 'Other').
- Original article
 - Review
 - Case report
 - Basic medicine
 - Clinical medicine
 - Social medicine
 - Management
 - Policy
 - Pharmaceutical information
 - Latest health and medical news
 - Minutes of conference/seminar
 - Editorials
 - Essay
 - Other:

PEER REVIEW PROCESS

- 17) Are all the published articles peer reviewed?
- Yes (100%)
 - Not all, but % are peer reviewed because
 - editors are authorized to decide to publish an article in some cases.
 - invited articles are not peer reviewed.
 - of other reason:
- 18) Acceptance rate of submitted articles:
- 19) How many peer reviewers are involved in an article generally?
- 1 person
 - 2 persons
 - 3 persons
 - more than 4 persons:
- 20) Is the peer review process conducted anonymously?
- Reviewers are not given the author information.
 - Authors don't know who reviewed his/her article.
 - Readers don't know who reviewed which article.
 - Other:

- 21) How long does it take from submission of an article to publication, generally?

- 22) Impact Factor* (if any) (*a widely recognized measurement of citations to scientific journals):

FINANCIAL RESOURCE

- 23) Is it published on a for-profit basis? Yes/No
- 24) Is it profitable? Yes/No
- 25) Price per issue (in US dollar)
- 26) Payment distribution (%) (*financial resources received by the journal)
- Paid by your association (%)
 - Paid by readers (subscription fee, pay per article) (%)
 - Paid by authors (submission fee, etc.) (%)
 - Advertising revenue (%)
 - Licensing revenue (%)
 - Other (%)

ACCESS

- 27) Are there any requirements for submitting an article?
- No requirement
 - Membership
 - Submission fee
 - Other:
- 28) Is the journal published in print and/or electric media?
- Both in print and electric media
 - In print only
 - In electric media only:
- 29) Online availability
- Free (Full text)
 - Partly free (Abstract only, etc.)
 - Members only
 - Charged, and
 - Paid by authors
 - Purchased by subscribers
 - Other:
 - Other:

4. If your association publishes a journal to provide information on general medicine* for DOMESTIC readers, please answer the following questions (*except periodicals on specific fields, e.g. immunology).

(The same questions that were in section 3 for journals aimed at global readers follow here for journals aimed at domestic readers.)