The National Medical Research Register - A Vital Link Between Current and Future Research

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SUMMARY

Registration of research proposal to a publicly accessible website with searchable function allows information sharing and ensures research transparency. The National Institutes of Health Malaysia, realising the importance of research registration, established the National Medical Research Register (NMRR) in 2007. The NMRR functions more than just a local register: it also links to ethics approval and MOH medical research grant application. It thus facilitates researchers in their application to the Ministry of Health Research and Ethics Committee (MREC) and for Ministry of Health research grant. In addition, MREC committee members can review research protocol on NMRR website, thus saving much time and resources. From May 2007 till December 2009, more than 3000 people have registered as NMRR public users and more than 1000 research proposals have been uploaded in NMRR. The number of registration of research proposals, clinical trials and industrial sponsored trials steadily increased from year 2007 to year 2009. The web-based NMRR is the first research register in the world that links research proposal registration to ethical review and research grant application. Its future plan is to be linked with publication. Therefore, it is indeed an innovation that Malaysians should be proud of.

KEY WORDS:
National Medical Research Register, Ethical review, Transparency, Malaysia

INTRODUCTION

The WHO's development of a common set of rules for registering clinical trials was done in response to calls for new standards and rules for the registration of studies involving human participants. Its goal is to increase transparency and accountability on the part of companies and institutions that do clinical research, and, in turn, boost public trust and confidence in that research[1]. Transparency in medical research also minimises publication bias as well as maintains ethical principles of scientific communication. In addition, the Food and Drug Administration Amendments Act of 2007 (FDAA) introduced a new international public law enforcing the increase of clinical trials information that is publicly available through the database[2].

In Malaysia, the National Medical Research Register (NMRR), which was designed to correspond with international guidelines that require medical research, particularly clinical research to be registered in publicly accessible research registers, was set up in accordance to the National Institutes of Health (NIH)'s guideline on the conduct of research in the Ministry of Health Malaysia (MOH)[3]. In addition to being a publicly accessible register, NMRR functions as a tool to assist online registration of research and online submission to appropriate authority for approval, review and subsequent publication. NMRR also aims to convey information to physicians and prospective volunteers who wish to participate in a particular research. With this register, NIH hopes to reduce review time and enable investigators to track the status of their research online. It also would enable the MOH management to document the level of research activity in its premises and to track the progress of the research that it approves and/or supported.

This paper reviews NMRR registration, the data it generates as well the register's role in current research practices and its future potential.

Research registration with the National Medical Research Register

Registration of research protocols in NMRR is done online through its website (www.nmrr.gov.my); and basic information such as name of investigator and name of their institution and study title may be viewed by the public. Researchers interested to find collaborators can also search according to therapeutic areas; and doctors and patients seeking for clinical trials can check to see whether a trial is ongoing based on its recruitment status. Pharmaceutical companies and Contract Research Organisations can also use the directory to identify potential Malaysian investigators, especially as NMRR now identifies researchers who are Good Clinical Practice (GCP) certified.

The current NMRR version has three main stages; 1) submission screening by NMRR secretariat; 2) submission forwarded to relevant authority for processing and 3) amendment after approval by relevant authority. The first stage i.e. screening, is when all registrations and submissions will be vetted and verified by the secretariat. During the first stage, an NMRR identification number will only be provided when submission is adequate. In the second stage, the proposal is submitted to the respective authorities for review and rating. Reviewers, as always, can assess the documents by specifying their comments and recommendations. Updates and amendments in research will also be reported to the NIH who will oversee all ongoing research and ensure compliance. This is definitely one of the benefits of having a computerised

system for research documents and information as the regimented process will enable proper research audit.

Comparing the National Medical Research Register to UK and US registers

The UK clinical trials register (http://www.controlled-trials.com), the Current Controlled Trials was launched in the late 90s as a response to the growing body of opinion in favour of prospective registration of controlled trials to increase the availability, and promote the exchange of information about ongoing randomised controlled trials worldwide. The US counterpart (http://www.clinicaltrials.gov) is also a web-based information portal which provides general information on clinical research, especially clinical trials. Although the NMRR provides a myriad of functions to assist researchers during the initial start-up of a research it does not have some of the features exhibited by the US and UK registers.

Compared with the Clinical Trials.gov, the NMRR does not categorise clinical trials according to condition, drug intervention, sponsor and location. Likewise, the UK also differentiates the studies according to ISRCTN (International Standard Randomised Controlled Trial Number Register) register, metaRegister (metaRegister of Controlled Trials-active registers) and UKCTG (UK Clinical Trials Gateway), which the Malaysian NMRR does not. Similarly, the World Health Organization's International Clinical Trials Registry Platform (ICTRP) also has a way to unambiguously identify a trial, even though it may have appeared on more than one registry database, by providing special trial identifiers that include the Universal Trial Number (UTN), criteria for WHO registries and linking related records on the ICTRP Search Portal (http://www.who.int/ictrp/en; Table I).

Table I: Comparing the National Medical Research Register with the WHO trial registration data set

	Item	Does NMRR collect this data? (yes /no)	Does NMRR publicly display this data? (yes /no)
1	Primary Registry and Trial Identifying Number	Yes	Yes (Research ID)
2	Date of Registration in Primary Registry	Yes	Yes
3	Secondary Identifying Numbers	Yes	No
4	Source(s) of Monetary or Material Support	Yes	No
5	Primary Sponsor	Yes	No
6	Secondary Sponsor(s)	No	No
7	Contact for Public Queries	Yes	No
8	Contact for Scientific Queries	Yes	No
9	Public Title	Yes	Yes
10	Scientific Title	Yes	No
11	Countries of Recruitment	Yes	No
12	Health Condition(s) or Problem(s) Studied	Yes	Yes
13	Intervention(s)	Yes	No
14	Key Inclusion and Exclusion Criteria	Yes	No
15	Study Type	Yes	Yes(only research types)
16	Date of First Enrollment	No	No
17	Target Sample Size	Yes	No
18	Recruitment Status	Yes	Yes
19	Primary Outcome(s)	Yes	No
20	Key Secondary Outcomes	Yes	No

Table II: Distribution of research protocols registered by states

	State	2007	%	2008	%	2009	%	2010	%
1.	Johor	12	2.4	54	3.0	70	3.9	6	1.7
2.	Kedah	3	0.6	26	1.5	27	1.5	13	3.2
3.	Kelantan	7	1.4	29	1.6	27	1.6	1	0.3
4.	Melaka	4	0.8	14	0.8	15	0.8	3	0.8
5.	Negeri Sembilan	16	3.3	92	5.2	86	4.8	16	4.3
6.	Pahang	2	0.4	72	4.1	63	3.5	8	2.1
7.	Perak	62	12.6	167	9.4	139	7.7	25	6.7
8.	Perlis	0	0	8	0.5	6	0.3	4	1.1
9.	Pulau Pinang	38	7.7	187	10.6	219	12.1	54	14.4
10.	Sabah	19	3.9	115	6.5	84	4.7	13	3.5
11.	Sarawak	146	29.7	177	9.9	139	7.7	32	8.5
12.	Selangor	61	12.4	306	17.3	288	15.9	62	16.5
13.	Terengganu	6	1.2	62	3.5	46	2.5	9	2.4
14.	Wilayah Persekutuan	114	23.2	386	21.8	475	26.3	101	26.9
15.	Putrajaya	2	0.4	76	4.3	121	6.7	28	7.6
	All	492	100	1771	100	1805	100	375	100

Figures as of 29 March 2010

*All students' research is excluded from this report. Total exceeds total number of research registered as one research may be conducted in more than one state.

Table III: New clinical trials registered in the National Medical Research Register (mainly involving Ministry of Health sites)

Year	2007 (May-Dec)	2008	2009
All types of clinical trials	20	103	71
Industry Sponsored Research (ISR) Clinical trial only	9	88	50
ISR: Number of sites	17	353	182
ISR: Enrolment target	251	5036	4804

*All students' research is excluded from this report

Table IV: Top Ten sponsored trials registered on the NMRR by therapeutic areas by years

	2008			2009		
#	Therapeutic area	No	%	Therapeutic area	No	%
1	Hepatology	20	12.6	Psychiatry	17	20.2
2	Cardiology	17	10.7	Cardiology	12	14.3
3	Oncology	17	10.7	Diabetes mellitus	12	14.3
4	Diabetes mellitus	14	8.8	Oncology	10	11.9
5	Psychiatry	14	8.8	Infectious Disease	7	8.3
6	Nephrology	11	6.9	Respiratology	7	8.3
7	Haematology	10	6.3	Rheumatology	6	7.1
8	Infectious disease	8	5.0	Endocrine/Metabolic	5	6.0
9	Gastroenterology	6	3.8	Anaesthesiology	4	4.8
10	Medicine	6	3.8	Haematology	4	4.8

*All students' research is excluded from this report.

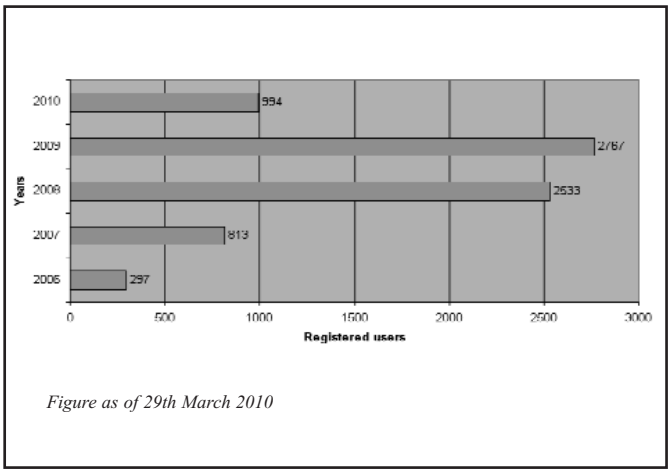

Fig. 1: Number of registered users in NMRR

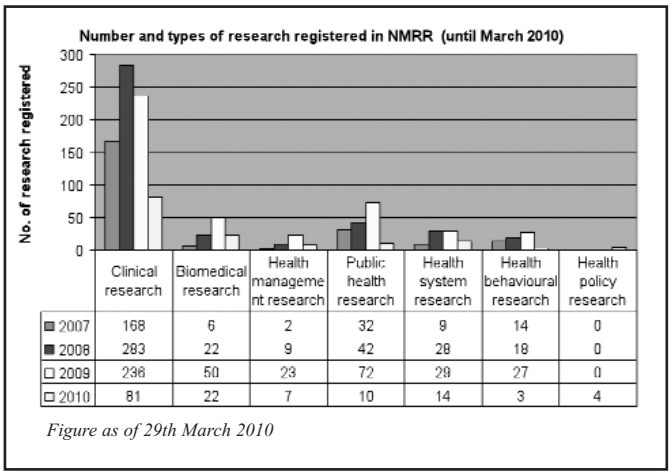

Fig. 2: Number and types of research registered in NMRR (2007–2009)

Key findings from the NMRR

From May 2007 till December 2009, more than 3000 people have registered as NMRR public users (Figure 1) and more than 1000 research proposals uploaded in NMRR (Table II). We see upward trends in all types of research registered in NMRR (Figure 2). Clinical research had the highest number of protocols submitted but despite this lead, there was a drop in the number of clinical trials in 2009 (n=71) compared to 2008 (103; Table III). As these trials were mostly industry sponsored ones, we can attribute the decrease to the global economic recession that caused pharmaceutical companies to cut back on the number of research projects in 2009. Another factor is stiff competition from other ASEAN countries such as Thailand, the Philippines and Singapore. Nevertheless as a whole, we see that research registration has slowly but surely caught on. For example, Putrajaya merely recorded two protocols in year 2007 but this grew to 76 in the following year and 121 in 2009 (Table II). This is in tandem with growing levels of appreciation and awareness for research registration among researchers across the globe[4]. In Table IV's list of top therapeutic areas for 2008 and 2009, we see a good range of clinical disciplines; with no single discipline dominating the rest. This indicates that we have equally good researchers in various fields.

The NMRR's uniqueness outshines its limitations

The system was originally set up to manage and coordinate research activities of various NIH Network (i.e. Clinical Research Centre, Institute for Medical Research, Institute for Public Health, Institute for Health Management, Institute for Health Systems Research and Institute for Health Behavioral Research) since 2007. This system is still in progress and is expected to bring some welcome relief to the long process of research proposal management which is costly and require a lot of manpower.

Finally, it is a research directory and investigator directory available in real-time, thus enabling prospective investigators to search for other potential investigators and also potential clinical trial sites. With an ever-updating record of research activities in Malaysia, prospective researchers are able to constantly make reference to the NMRR data in real time, in order to decide on what research they would embark on, how to proceed with application for approval by ethics committee and to seek for medical research grant from the MOH, as well as to seek potential investigators who are GCP-certified.

Despite it being the first research register in the world that links research proposal registration to ethical review and research grant application, the utility of NMRR may not be fully assimilated by all potential and actual users. This is mainly due to the lack of hands-on training experience to familiarise users with its functions. Apart from that, many potential investigators from the private sector may not use NMRR if there is no collaboration with the MOH. Therefore, the database does not reflect the actual number of research that is conducted in Malaysia.

The way forward

With the NMRR, researchers can save time, cost and energy. Security and confidentiality of document data are also more intact. As the development of NMRR continues, so will the avenues of providing a greater range of services to all registered users. The next phase would have NMRR generate post-trial reports, assist in safety reporting to regulatory authorities, act as a coordinating body with the review boards and get involved in keeping an archived set of publication of trial reports. All these additional services will require sufficient groundwork to be laid out before the actual implementation. As the NMRR gradually develops its functionality, a better and more representative depiction of Malaysia's clinical research performance will be generated.

ACKNOWLEDGEMENT

We wish to thank the Director-General of Health Malaysia for initiating and supporting the establishment of the National Medical Research Register as well as for granting the permission to publish this paper.

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