

# Clinical Trial Progression in Indonesia: an Observational Study of Records from Clinical Trial Registries Databases

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## Abstract

This report presents an outline on the progress of clinical tests in land supported information assessment from clinical trial registries. Study records that were registered up to December twenty six, 2018, were extracted from 3 clinical test registries (ClinicalTrials.gov, ISRCTN written record, and EudraCT) and a clinical test register (WHO International Clinical Trials written record Platform (ICTRP)) with the keyword "Indonesia". a complete of 505 records comprised of 402 interventional studies and 103 experimental studies were found and analyzed. The top 5 noninfectious diseases (NCDs) studied were cancers, diabetes, internal organ diseases, cardiovascular disease, and channel diseases, whereas the highest 5 infectious diseases (IDs) were protozoal infection, infectious disease, vaccines for IDs, HIV, and dengue. Remarkably, the proportion of regional studies (within land only) was beyond that of multiregional studies (including areas outside of Indonesia) normally. This trend became most apparent once the issue of national laws on Material Transfer Agreements (MTA) and alternative rules. Upon nearer scrutiny, regional clinical trials and multiregional clinical trials (MRCTs) in land differed in terms of support, target population and size, interventions, and study phases.

**Keywords:** Indonesia; Clinical trials; Multiregional clinical trials; Clinical trial registries; Material Transfer Agreement

## Introduction

Since the first Nineties, Associate in nursing explosive growth of multiregional clinical trials (MRCTs) has continued to extend, with a marked variety of expansions to developing countries. The globalization of clinical trials through MRCTs has brought reciprocal edges to each sponsors and sites, that in most cases are described by the developed and developing countries, severally. From the sponsor's facet, cost-saving and accessibility of a sizeable, inexperienced patient pool were a number of the most reasons given for selecting developing countries as trial locations.<sup>3</sup> As for the sites in developing countries, involvement in MRCTs has provided opportunities for gaining information regarding the newest medical discoveries and for up website facilities and resources.<sup>4</sup> MRCTs have benefited the worldwide society by creating medical merchandise additional accessible to additional intensive and additional numerous populations thence reducing drug lag.<sup>5</sup> nonetheless, there's Associate in Nursing expression of doubts regarding the fairness of advantages being received by taking part of developing countries [1,3].

Indonesia is one in all the developing countries in Asia and therefore the fourth most inhabited country within the world, with 264.6 million individuals. Significantly, it's one in all the twenty five countries with rising economies. The country's pharmaceutical market, specifically, is that the largest among the Association of Southeast Asian Nations (ASEAN) countries with a complete price of around USD three.3 billion and a 10%–14% annual rate of growth.<sup>8</sup> within the last 20 years, the numbers of physicians, additionally as hospitals and first health care facilities, have all increased considerably.<sup>9</sup> land encompasses a high communicable disease (IDs) burden, as well as protozoal infection, infectious disease, and dengue.

The country's would like for medical advancement nonetheless remains apparent. in line with the MOH, this health problems within the country specialize in malnutrition/stunting, immunogenic development, and NCDs. immunogenic development has become one in all the foremost important health issues in land because of the spate

of outbreaks of vaccine-preventable diseases, specifically contagious disease, measles, and epidemic rosella in recent past years.<sup>14</sup> what is more, the increased prevalence of NCDs demands additional innovations in handling these chronic conditions. in addition, antimicrobial resistance (AMR) has surfaced as a big concern for analysis and development on AMR bar and containment within the national analysis agenda.<sup>15</sup> Conduct of clinical trials ought to facilitate to accelerate the supply of latest medical advancements to boost the country's health care whereas conducive to the worldwide health proof base.

This experimental study provides an outline of the progress of clinical trials in land supported information assessment of clinical studies records from clinical trials registries. Since 2004, all clinical trials ought to register in an exceedingly trial written record in line with the necessity of the International Committee of Medical Journal Editors. For this study, we have a tendency to retrieved records of clinical studies from the 3 most used clinical test registries, specifically the clinical test written record within the u. s. (ClinicalTrials.gov), the uk (ISRCTN registry), and therefore the European Community (EudraCT). Further, we have a tendency to enclosed records submitted by alternative clinical test registries to the clinical test register, like the United Nations agency International Clinical Trials written record Platform [4,5].

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## Discussion

This study extracted records from 3 clinical test registries (ClinicalTrials.gov, ISRCTN written record, and EudraCT) and a clinical test register, WHO ICTRP, of these registered till December twenty six, 2018, with the keyword "Indonesia". Whenever there have been doubts for records found in United Nations agency ICTRP, they were copied back to their original record in their individual clinical written record, to clarify the knowledge any. we have a tendency to categorized the studies into regional studies or multiregional studies. Herein, the definition of regional studies was as clinical studies, whether or not experimental or interventional, that concerned solely the Indonesian solid ground. In distinction, multiregional studies concerned land aboard the other geographic region outside the country. As well, we have a tendency to categorized sponsors supported the country of origin.

Clinical studies operative in additional than one province were found each in regional and multiregional clinical studies, albeit most overall were conducted in barely one province (69.3%). Some multiregional clinical studies did operate in additional than 5 provinces (5.8%). supported the quantity of native sites, regional clinical studies catered principally to a single-center (76.6%), whereas for multiregional clinical studies, 44.7% were multi-center and thirty six.9% single-center.

Particularly studies that were sponsored by national/local sponsors from the academia/hospital sector show positive growth. This trend is clear ranging from 2010 (a year once the issue of the MTA decree) till 2013. At the tip of 2013, the MOH issued a decree for a National Roadmap moving forward in 2013-2020 that for health care development summoned researchers in pharmaceutical and medical fields to rate the event of raw materials, Active Pharmaceutical Ingredients (API), and excipients. A decrease within the variety of regional clinical trials somehow ensued. The slim list of priority merchandise delineated within the roadmap may well be the explanation. fortuitously, a revision in early 2017 broadened the choices for prioritized merchandise to many biotechnology merchandise, vaccines, natural merchandise, and raw drug materials. The decree was tried effective, as shown by the massive leap within the variety of regional clinical trials sponsored by national/local sponsors from the academia/hospital sector throughout 2017.

The Indonesian government's intention to preserve the effective use of the country's resources through the issue of Associate in Nursing MTA decree could have appeared as less validating of the construct for centralized laboratory analysis of biological samples. A system usually suggested for multiregional studies,<sup>24</sup> since preference was for the analysis to be done within the country. land conjointly targeted on achieving such self-direction, notably for the essential pharmaceutical ingredients that junction rectifier to the issue of the National Roadmap by the MOH for the assembly of raw materials, APIs, and excipients, and any, import restrictions for those kinds of merchandise.<sup>8,23</sup> self-direction has been a very important goal for the country as a result of ninety fifth of genus Apes were still being foreign at the time. These policies, however, created it tougher for the worldwide trade to manufacture its merchandise within land because of problem in commerce the desired materials [6,7].

Moreover, by 2014, the govt. conjointly inspired the assembly of generic medicine by the native prescribed drugs, notably to support the implementation of Universal Health Coverage within the country. From the perspective of worldwide industries, it would be rather

discouraging, since these policies brought the native production of generic medicine competitive blessings in worth and distribution. Lastly, the concern that international merchandise square measure being tracked by native industries has conjointly blocked transnational initiatives. Further, as shown in Table two, the laws principally affected the motivations from the worldwide industries, that resulted within the major come by their sponsored variety of MRCTs throughout post-MTA (from a hundred and one to sixty studies). apparently, it appeared to not have an effect on the worldwide academia/hospital-sponsored MRCTs negatively. On the contrary, a rise to over double (from twenty four to fifty five studies) was noted. Supported the records, the latter principally concerned studies targeting IDs and NTDs, amongst that were infectious disease, malaria, filariasis, and others, and were supported by international funding. Thus, it will be inferred that from the worldwide academia/hospital perspective, despite the laws, land remains a sexy website for MRCTs. However, from the worldwide industries' perspective, such laws could also be seen as hindrances.

Despite these conditions, international industries look a good chance to expand their market in land. Meditative merchandise or medical devices with leading edge technologies could have a larger likelihood of being marketed in land due to very little competition at now. Alternative biological merchandise, like vaccines, should still have higher opportunities since the requirements square measure imperative. Another chance is that the govt. has issued a revised Negative Investment List (NIL) that currently lists additional business fields within the country that square measure opened for foreign investment, albeit with bound conditions. for instance, foreign investment for API production will currently go up to 100% if it's attached shares and a domestic production base. For the medicament trade, the new most is eighty fifth, and for the distribution of medical devices, a most of forty ninth is feasible with special permission from the MOH.

A major modification within the characteristics of the clinical studies tired land occurred within the periods before and once the issue of the MTA decree (pre-MTA and post-MTA). As mentioned earlier, the post-MTA amount has been notably suffering from the issue of additional laws that aimed to encourage and direct additional national/local initiatives. The quantity of multiregional studies in the main sponsored by international industries considerably attenuate post-MTA compared to pre-MTA. In distinction, a big increase within the variety of regional studies and therefore the variety of studies sponsored by national/local sponsors from the academia/hospital sector may well be determined post-MTA.

However, since most of the studies are initiated domestically and sponsored by national/local sponsors from academia/hospital sector restricted funding primarily has resulted tiny scales of those studies and so pursued through the private interest of the researchers. Such money limitation has been recognized mutually of the barriers to conducting clinical studies.

On the opposite hand, national/local sponsors from industries still contributed very little to the quantity of trials (Table 2). Most of the trials sponsored by these firms were bioequivalence studies. It's extremely doubtless that there have been additional bioequivalence studies than those found within the registries. It's been aforesaid that an absence of innovation prevails within the native pharmaceutical trade. However, it would even be because of the shortage of capital, since an oversized investment is needed to develop a brand new medical product. Some firms, withal, have strived to develop new meditative merchandise. for instance, the national immunogenic company has conducted much each section of development, as well as section one by national/local

sponsors. Any shut collaboration between the world and trade ought to facilitate foster additional support toward the event of latest medical merchandise [8-10].

## Conclusion

The increased trials that supported by national/local sponsors suggests a rise within the capability of the native researchers. During this regard, land has adopted sensible Clinical Practices (GCP) and needed all clinical researchers to be GCP-certified as regulated by the MOH and National Agency of Drug and Food management. What is more, most of the Land was solely some studies off from Vietnam, however so much behind the Philippines, Malaysia, and Kingdom of Thailand. GCP certification was needed by all countries, in compliance with the Association of Southeast Asian Nations Common Technical written record guideline for harmonization within the registration of pharmaceutical merchandise among the Association of Southeast Asian Nations countries. In terms of timeliness, restrictive review for clinical test approval is comparatively shorter in land compared to the Philippines, Thailand, and Vietnam. Conditional MTA, however, has solely been applied in land whereas for restrictive management regarding foreign investment for medical merchandise, additional conditions are applied in land. Asian nation and Vietnam, in distinction, give additional encouraging opportunities like investment tax allowance and incentives for foreign investment in bound medical merchandise.

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## Conflict of Interest

None

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