THE VALUE OF REAL-WORLD STUDIES AND PUBLICATION FOR MEDICAL PRODUCT MANUFACTURERS

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EXECUTIVE SUMMARY

"It is the rare Society which does not wish to grow its membership, to add more value to those members, and to make a bigger impact in its chosen mission. A properly executed real-world study program can achieve each of these objectives in a substantial, sustained and self-supporting manner."

General

Medical societies, patient advocacy groups and other not-for-profits [1] can greatly enhance their impact and value to members by sponsoring "real-world" studies, and developing a related publication program.

This white paper reviews how Societies can get started with a low-cost pilot project, achieve some "early wins", and then build upon that pilot to exploit many significant adjacent opportunities.

Real-World Studies

The criticality of real-world evidence and data in modern healthcare is broadly recognized by regulators and in the literature. See here, here and here. Legislation such as the 21st Century Cures Act, and "Right-To-Try" laws have put a premium on the prompter release of real-world data.

There are many forms of studies based on real-world data; pragmatic and n of 1 trials are but two examples.

Societies in principle are in a strong position to harness the power of real-world data. Their practitioner members, and their members' patients, represent the

[1] We refer to all such organizations as "Societies" in this paper.

most important sources of such data. Many Societies also include researchers who can help establish the scientific mechanism of action underlying treatment protocols and clinical outcomes.

Impact and Publication

Every Society wishes to increase its impact. It does so – or should do so -- by disseminating the meaningful results of its activities to the right audiences, at the right time, and in a professional, compelling and sustained manner.

Unfortunately, it is often difficult for all but the largest Societies to achieve even a fraction of their potential due to time, budget and personnel constraints, as well as inexperience with modern communications platforms.

Clinician User Experience

Like for-profit organizations, Societies depend on funding to support their mission and everyday operations. However, their funding typically relies on membership dues, donations and, often, industry support. (This last source of funding can be an important but sensitive one, and is discussed further in this paper.)

A well-designed and executed program of real-world studies sponsorship and publication can substantially increase funding opportunities for a Society, as well as for its members.

KEY ELEMENTS OF A REAL WORLD STUDY

Society executives and members can be forgiven for worrying about the cost, complexity and length of clinical trials and studies. A double-blinded, randomized controlled trial ("RCT") intended for Premarket Approval can easily exceed $20 million and require five or more years before regulatory approval.

As a result, only the most well-capitalized pharmaceutical and medical device companies can afford RCT's.

However, as mentioned above, all major healthcare constituencies have recognized the importance of more efficient and less costly study formats which advance medicine in a safe and efficacious manner.

To achieve that efficiency without sacrificing their value, real-world studies will greatly benefit from the following components.

Electronic Data Capture

A robust turnkey and flexible EDC platform will include capabilities such as:

- Compliance with **HIPAA**, **GDPR** and other legal and institutional patient privacy and personal data requirements.
- Compatibility with **21 CFR Part 11, CDISC, FHIR HL7** and other requirements for electronic data submissions, audit trails, consent signatures, etc.
- Ability to use standard outcomes measures, or to design and implement custom ones.
- Equally efficient performance with small as well as large "n" study sizes.
- Flexibility in study design, report generation, investigator customization.
- 24/7/365 availability of aggregated datasets on any device.
- Ability to assign various "roles and permissions" sets to specific personnel categories involved in the study.
- Raw data export.
- Experienced technical team available for ongoing support, including EMR and other integrations.

- Multi-center support, including multi-lingual implementations, efficient collaboration among investigators wherever located.
- Seamless input and integration of third-party data sources (laboratories, call centers, team members).
- Ability easily to generate a variety of reports and correlations, including from various studies sharing common questions.

Product Manufacturer User Experience

Investigator User Experience

The most powerful real-world data is found in the busy clinic. Thus, each Society member is a potential study Investigator. (And each Investigator conducting a study in the Society's field is a potential Society member.)

However, today's busy clinicians have little time or incentive to collect real-world data in a structured and sustained manner. In addition to an EDC for the capabilities listed above, practitioners conducting a real-world study require the following.

- **Minimum Burden.** The average practitioner wants to be evidence-based, to conduct studies relevant to her specific practice. However, the realities of modern healthcare delivery are such that she has little time to do so.
- **Value.** In addition to the daily time demands of EMR, insurance and other administrative data entry, practitioners are deluged with surveys, registry participation and similar requests. They are

constantly asked to collect and provide data for others, but understandably fail to see the value it provides to them.

- **Support.** Executing a meaningful study requires support with design, patient enrollment, collaboration with co-investigators and team members, patient follow-up, development of correlations, dealing with IRB's or medical ethics committees, publication, obtaining industry honoraria or investigator fees, and other matters.

Patient User Experience

Much of the expense, duration and premature terminations of traditional RCT's can be ascribed to poor patient experience. A proper real-world study will educate, follow up with and otherwise engage with each patient in a personalized manner for the full duration of the study.

KEY ELEMENTS OF REAL-WORLD STUDY PUBLICATION

General

Traditionally, study methodology and results have been reported at conferences, in medical journals or included as part of regulatory submissions. Often, the study design, results and other elements are "embargoed" for many months if not years prior to such publication.

The 21st century publication environment has changed dramatically. There is a proliferation of medical societies, advocacy groups, foundations, digital journals, online medical education, journal clubs, clinical trial registries – all seeking and disseminating clinical/scientific content on a much more frequent basis than in the past.

Social Media

The majority of practitioners have social media accounts. Many product manufacturers do as well. Many of them use social media for medical education, and otherwise to keep current in their clinical/scientific field. Many also would like to position themselves as social media "influencers".

A well-designed, modern and sustained publication program enables Societies and their members to benefit in multiple ways from their real-world studies.

Bespoke Academies and Journal Clubs

Despite the power of social media channels – or indeed because of that power – many practitioners and healthcare institutions are wary of them. Much of the content posted by clinicians is often more "social" than medical. That content which purports to be medical or scientific is highly variable in its quality, relevance and verifiability. Confidentiality is always a concern. The sheer volume of postings makes it difficult to find clinically relevant information.

It is possible, however, to have the best of both worlds. Modern technology allows Societies to host proprietary digital properties with the utility of social media channels, but with highly curated content and membership. Such "academies" or digital journal clubs ideally offer the following features:

- The clinical/scientific theme of each academy can be as broad or narrow as desired by the Society or its members. (Many societies have memberships with different clinical interests. The end-points of real-world studies being carried out by members will vary.)
- The Society establishes the academy membership criteria. It could be only those involved in a particular real-world study or type of study. It could be all members. It could be by invitation only.
- The Society or its delegates could curate and add to all content posted within the academy. It could offer CME or other educational content.
- The academy could offer product manufacturers a digital space to communicate study sponsorship opportunities, product discounts and other item of potential interest to members.

- The academy can provide all of the typical utility of large social media channels -- multimedia presentations, private and public chats, threaded comments, etc.

"ETHICAL INTERMEDIATION"

Ethical collaboration between practitioners and industry is essential to advances in medicine. However, laws and ethical policies sharply circum-scribe the ways in which these two groups can interact.

Real-world studies represent an important medium through which such interaction can properly and effectively occur. As is the case with traditional RCT's, industry can support investigators who are conducting independent and properly designed studies through study fees, honoraria and product discounts.

Societies can serve as natural intermediators of these industry-practitioner interactions, for the benefit of both groups and medicine at large.

DEVELOPING A SUCCESSFUL REAL-WORLD PROGRAM

A Society can cost-effectively and conservatively develop a successful program of real-world studies and corresponding publication through sequencing three stages: discovery, a pilot project and scaling.

Discovery and Design

This stage involves the Executive Director and board agreeing on which of the Society's strategic objectives will most benefit from such a program. They will also establish the program's key performance metrics ("KPI's"). Finally, they will assess the budgetary and operational resources available to the Society to implement a program over time.

It will often be useful to involve experienced vendors or other third parties in this discovery phase.

A Pilot Project With "Early Wins"

The discovery phase will identify a narrowly defined "pilot project". This will reveal the operational capabilities of the Society, generate some early wins as defined by the chosen KPI's, and set the stage for a broader implementation of the program.

A sensible pilot project will comprise one or two relatively straightforward study designs, a principal and one or two co-investigators, and a modest but curated publication program. Depending on the Society's current website and other modalities used to communicate with members, these might also be improved in the context of the pilot project.

Scaling

It is the rare Society which does not wish to grow its membership, to add more value to those members, and to make a bigger impact in its chosen mission.

A properly executed real-world study program can achieve each of these objectives in a substantial, sustained and self-supporting manner. Each Society represents in theory a large amount of valuable real-world data generated daily among its members – if those data can be properly structured to support statistically-significant correlations.

Building upon and then scaling a well-designed pilot project is the key to unlocking that value.

The nature and timing of such scaling will vary according to a Society's objectives and resources. However, several avenues can be pursued, whether singly or in parallel:

- Offer members a library of study designs and procedure protocols,

and/or the support to develop new ones.

- Establish an IRB and/or medical ethics committee within the Society.
- Create and curate indication- and/or procedure-specific journal clubs.
- Establish a Society-branded platform for demonstrable, sustained and value-added collaboration among its members.
- Explore data-licensing, product incubation and similar Society revenue opportunities.
- Establish a specific program to develop the Society as an "influencer", and/or to develop Society members as influencers.
- Establish a program of ethical intermediation between industry and the Society to support the improvement and development of devices, diagnostics, biologics and protocols.
- Develop and standardize real-world outcomes scoring systems in the Society's field(s).
- Create and curate various indication- or procedure-specific registries in the Society's field.
- Utilize results from Society-sponsored real-world studies to develop productive engagement with relevant regulatory bodies.
- Support members in the context of legal/regulatory compliance., reimbursement, patient education and other barriers to the adoption of evidence-based procedures.
- Develop and disseminate educational and training modules.
- Expand the Society's impact and affiliations by collaborating with other clinicians and organizations.
- Expand the Society's geographic footprint.
- Support members in obtaining third-party research grants and/or industry study support.
- Exploit social media channels in a deeper manner to promote the work

and brand of the Society and its members.

ABOUT REGENMED

RegenMed is a product agnostic firm partnering with healthcare constituencies around the world to develop financial, professional and communications value inherent in everyday clinical cases.

The Company enables ethical intermediation between clinicians and industry, preserving the independence, while recognizing the business and professional realities, of each group.

The Company's platforms and processes are clinical grade, turnkey, scalable and highly cost-effective. They provide excellent user experiences for practitioners, scientists, study sponsors and patients.