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*Stephen E. Mawdsley. Selling Science:
Polio and the Promise of Gamma Globulin*

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Stephen E. Mawdsley. *Selling Science: Polio and the Promise of Gamma Globulin*. Rutgers, New Brunswick, New Jersey and London. Rutgers University Press, 2016. xiii, 210pp., illus. \$54.85.

The history of polio is deeply interwoven with the history of biomedicine in the twentieth century, from establishing the threatened child as a figure of medical philanthropy to underwriting the expansion of early molecular biology to defining the needs of clinical trials and inspiring debates over the nature of rehabilitation and disability. Numerous books have chronicled this influence, but more often than not they have emphasized the emergence of vaccination as the critical moment in the polio story. However, why were so many thousands of parents willing to submit their children to the first tests of the Salk vaccine?

In *Selling Science* Stephen Mawdsley approaches polio from a different angle, following the history of the purified blood fraction gamma globulin, an antibody. The immune-system boosting properties of gamma globulin were seen as providing a means of protection against infectious disease, and during the Second World War the American military expanded the production of gamma globulin. After the War, physicians familiar with the antibody suggested that it might also protect children at risk of summer polio outbreaks. However, the process of evaluating its efficacy proved contentious as well as difficult: a sizable population of parents, children, and doctors in the presence of a polio outbreak would need to be convinced to accept a treatment with no known effectiveness or safety and a number of risks.

The story of designing a clinical trial for gamma globulin—and their resolution—form the core of Mawdsley's book. While other studies of the development of randomized clinical trials have focused on the associations between medical experimentation and confined populations such as those in asylums or prisons, the personnel of the National Foundation, especially gamma globulin advocate William McDowell Hammon, decided that the only way to test the efficacy of gamma globulin was in a field trial of volunteers facing an incipient polio outbreak, a series of trials he aimed to carry out in 1951 and 1952.

In interweaving the medical and marketing dimensions of the gamma globulin trials, Mawdsley gives us a new appreciation of the social construction of the randomized clinical trial. This draws on his wide ranging use of interviews, archival materials, and scientific literature. This close study of practices places important emphasis on the importance of the communications and organizational preparations beneath the production of knowledge in clinical trials. Foundation officials systematically sought to recruit different local bodies using different channels of communication, reflecting an understanding of market segmentation that the Foundation's officers imported from advertising firms. This is a story, as Mawdsley writes, not only of the design of a clinical trial but of manufacturing consent on the part of the different constituencies involved.

Concerns for public reception also had a substantial impact on the siting of the trials. Conducting such a trial in a densely populated urban area with ready access to transportation and medical infrastructure was appealing, but the leadership of the Foundation was concerned that the novelty of this trial: recruiting a large population of healthy children for a trial, could backfire.

Consequently, they sought out more isolated rural towns as field sites, where the visibility of the trial would be diminished, along with any potential negative publicity. After considering a few sites, the Foundation was drawn to communities in Utah, Iowa, Texas, and Nebraska. Here, many parents were so desperate to obtain gamma globulin for their children that the controlled trials faced the persistent problem of double (or triple) enrollment of children at different injection clinics—parents hazarded that at least one injection must not be a placebo. The statistical controls of the study were further jeopardized by parents purchasing gamma globulin and administering it to their children.

Yet the publicity and marketing behind these trials also had more worrying consequences for how we understand the nature of consent. Mawdsley follows in the footsteps of those who have examined the practices of consent in the aftermath of the Nuremberg trials, finding that the parental consent forms drafted by Hammon and the Foundation—while honoring the notion of consent the forms made no mention of the possible side effects of the trial or the pain of the gluteal injections. Moreover, the Foundation timed its approach communities confronting an oncoming epidemic, creating serious questions as to the extent of informed consent that could be granted by parents fearing that their children were being used as “guinea-pigs.” The publicity for these trials produced by the Foundation, however, portrayed the children and their parents as fully informed participants.

From a therapeutic perspective, the investment in the gamma globulin trials was disappointing. The data from the trials offered weak support at best for the possibility of polio prevention and expense of providing doses on a national basis threatened to overwhelm the Foundation’s finances. Yet in conducting these trials, the Foundation showed that with astute marketing it was possible to enroll healthy children in the project of evaluating treatments for which the safety and efficacy was not yet established, a lesson that it carried forward into its testing of the Salk polio vaccine. In this larger sense, as Mawdsley compellingly shows, the gamma globulin field trials marked the opening of a new chapter in the social history of biomedicine, one in which the methods of persuasion joined the methods of medicine in the structuring of clinical trials.

Reviewed By:

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