Soviet pharmaceutical regulation (1918–1990)

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What counts as robust evidence for drug regulators is influenced by social, political and cultural factors. A dramatic example of culture and politics shaping regulatory science can be found in the history of pharmaceutical testing in the Union of Soviet Socialist Republics (USSR or Soviet Union) before 1990. Regulators in the USSR did not rely on the 4-phase clinical trial model introduced in the West in the 1960s. This model was not officially supported in the USSR, because it was considered wasteful and too remote from clinical realities. In fact, several core characteristics of Western regulatory science, such as randomization, double blinding and the use of placebos, were publicly rejected in the USSR as unethical and exploitative of research participants.[1] The Soviet drug testing system prioritized testing "in the real world" and thus represented an alternative to what ultimately became the global gold standard. With the collapse of communism and the postsocialist transition in the early 1990s, Russia embraced the Western model and completely abandoned the older Soviet system for testing drugs.[2] This article interprets Soviet drug regulation as an expression of prevailing political forces that shaped what counted as authoritative knowledge.

The Soviet Union was politically centralized with a socialized economy. It had a universal health care system, supported by basic and applied research. Starting in 1918, The People's Commissariat of Public Health of the Russian Soviet Federative Socialist Republic (also known by its abbreviated name, Narkomzdrav), oversaw all medical matters. Of importance, it took control of the pharmaceutical industry after the 1917 Revolution, which included pharmaceutical research.[3] Research on new drugs was a priority for the newly formed Soviet government, which sought to achieve independence from drugs manufactured in the "bourgeois West."

Archival documents indicate that as early as 1921, Soviet health care authorities requested that all new drugs introduced to medical practice be tested in clinical trials (mostly observational) and evaluated by the relevant department of the People's Commissariat of Public Health. For example, in September of 1921, the Venereological Section of the Narkomzdrav insisted that the pharmaceutical company Glavanil provide the results of clinical trials for novoarsenol (neosalvarsan) before it could be used in any health care facilities.[4] The section indicated that the Supreme Soviet of the People's Economy, the main regulatory board in the sphere of economic relations, supported such demands.

A photo of the building in downtown Moscow (14 Solianka Street) that housed the central Soviet drug regulator, the Pharmacological Committee.

In 1923, the Soviet government decided to establish the Pharmacopoeia Commission, which was tasked with controlling the quality of pharmaceuticals. The Commission, which controlled the import and production of new pharmaceuticals, required submission of all available research data to health care authorities.[5] This was further specified in a circular decree, "On Regulation of Finished Pharmaceutical Products," issued on May 25, 1926, by the People's Commissariat for Public Health. The decree postulated that "new drugs can only be approved after the pharmaceutical and clinical investigation of their value."[6] The instruction preceded the 1938 *Federal Food, Drug, and Cosmetic Act* in the United States.[7] It also resembled (and may have been a model for) Scandinavian drug regulation in the late 1920s and early 1930s.[8]

Through the 1930s, the Pharmacopoeia Commission was reorganized several times and given new responsibilities. Under the name of the Pharmacological Committee, it ultimately took charge of reviewing clinical reports, influenced the interpretation of clinical trials and issued statements recommending or denying drug registration. Except for a brief decentralization experiment in 1958–1963 under the leadership of Nikita Khrushchev, in which decisions were delegated to the 15 constituent republics of the Soviet Union, the central Pharmacological Committee made decisions for the entire USSR. The committee initially consisted of eminent physicians based at a Moscow research university; however, after 1970, these medical experts were increasingly supplemented by representatives of the Ministry of Health, which gave the organization a more bureaucratic outlook. At their meetings (usually biweekly or monthly), the committee reviewed applications for prospective drugs (both Soviet and foreign made). Three outcomes were possible after a review: register the drug right away based on existing evidence, organize clinical trials of the substance or deny it registration altogether. Outright approvals were uncommon.

The committee selected sites for clinical trials based on the perceived expertise of the organizations in specific medical fields. Trials were conducted mostly in Moscow and Leningrad, with some participation in cities in the European part of the USSR. The direct involvement of the Pharmacological Committee in selecting sites for clinical trials was presented as a sign of coherent regulatory policy, and the potential for cronyism arising from the tight relationship between the committee and clinicians at preferred sites received little if any attention.[1] The committee granted substantial latitude to individual clinics in designing and conducting trials. Although the results of some experiments or individual trials were published in Soviet and international medical journals, reports presented to the Pharmacological Committee were kept confidential and access to this documentation remains restricted to the public.

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Before 1970, most trials were observational. Placebos were generally discouraged on ethical grounds as potentially unfair to research participants, who could be denied an effective medication.[1] This approach to placebos reflects, in part, a willingness of the Soviet regulator to assume that drug development in the USSR was inherently safer than in the West, where the profit motive was seen to drive medical science, even at the expense of denying some trial participants effective treatment. Some exceptions to the no-placebo rule were made for vaccines, antiarrhythmic medications, plant-based medicines and oral contraception.[9] Vaccine research was seen as a special ethical case, because vaccines were for use in "healthy populations," and hence placebo did not deny treatment to a person who was sick.[1] On the other hand, antiarrhythmic trials were arguably influenced by the personal interests of lead investigators, who looked favourably on Western technology and its methods of assessment.[10]

Despite official resistance to placebo-controlled trials, in the early 1980s, some research institutions adopted the methods used for randomized controlled trials, describing it as "modern" or "progressive." There is no evidence that these institutions were punished for deviating from central policy. The last decade of the Soviet Union was marked by increased interest in Western models of administration, and toward the end of the 1980s, administrators (including the Chairman of the committee, Professor Vladimir K. Lepakhin) discussed reforming the Soviet system along the lines of American, British and French regulators. This set the stage for the creation in 1990 of the All-Union Scientific Center for Pharmaceutical Expertise, and the subsequent adoption of Western-style randomized clinical trials as the gold standard in Russian drug regulation.[11]

Although the history of Soviet drug regulation seems to end in 1990, recent events surrounding the limited acceptance of the Sputnik V vaccine for SARS-CoV-2 suggest it remains relevant.[12] Traces of Soviet politics are deeply embedded in Russian culture. Could it be that reports of self-experimentation by medical researchers and a lack of data transparency have rekindled memories of Soviet-era pharmaceutical regulation, and perhaps concerns that "modernization" has failed?[13] Even though Russian regulators shifted their policies in the early 1990s, what is perceived as authoritative medical knowledge cannot be reduced to experimental methods. Today, as in the past, what counts as trustworthy knowledge is inextricably bound to slowly changing social, political and cultural factors.

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