Do Poisonings in Schools Affect the Targeting of Rospotrebnadzor Inspections?

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- Abstract The study examines the targeting of scheduled and surprise inspections of school food services conducted by Rospotrebnadzor (Federal Service for the Oversight of Consumer Protection and Welfare). Using reports of cases of mass poisoning from open sources and official inspection data, we look at the association between inspections and mass poisoning incidents in Russian schools. We find that schools are the most audited organisations among all areas of economic activity. Schools bear a significant part of the regulatory burden, contrary to the popular belief that the business actors are the most audited. However, we do not find any changes in the organisation of inspections after food poisoning incidents. We also outline the limitations of the risk-based approach in educational institutions.
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Introduction The field of education stays in the focus of government agencies and often becomes part of the public agenda. This is particularly true for school education as an important element of social infrastructure. School incidents, such as food poisonings, tend to get a lot of media coverage and trigger a response from the appropriate authorities. The response to incidents can vary: inspections by control and supervision bodies and prosecutors, public statements by decision-makers, changes in mandatory requirements, etc. In the event of a major incident, a combination of all these measures is likely. In this paper we will focus on inspections that represent the direct and fastest method of state intervention in the activities of supervised organisations. From this standpoint, schools are the optimal object of study. On the whole, over the last years education has been one of the leaders among all sectors of economic activity in terms of the number of organisations inspected. Thus, in 2021 practically one in two organisations listed in the inspection plan of Rospotrebnadzor (Federal Service for the Oversight of Consumer Protection and Welfare) was involved in educational activities [Kuchakov, Skugarevskiy, 2021]. Nevertheless, mass poisonings regularly occur in Russian schools.¹

> In 2016, the control and supervision bodies (hereafter 'CSB') were given the strategic objective of halving the number of fatalities, illnesses and poisonings by the end of 2025.² The approved roadmap marked the outset of a major transformation of control and supervision activities (hereafter 'CSA') and the entire regulatory system. By 2022, the transition process has not yet been completed, but the main regulatory changes within the approved framework have already been implemented.³ For a comprehensive overview of developments as of the end of 2021, see [Plaksin et al., 2021]. One of the key elements of the reform was the introduction of a risk-based approach to the activities of the control and supervision bodies. The new approach identifies risk by assessing the likelihood of breaching mandatory requirements and the extent of potential consequences. The frequency of inspections must be consistent with the magnitude of the identified risk. In this case, the effec-

¹ For instance, according to data collected by the authors of the paper, poisoning occurred in 13 schools in Ekaterinburg between 2016 and 2021; in 2019, Chelyabinsk had the largest mass poisoning with food, with 156 schoolchildren affected; the same year, due to mass hospitalisation of school pupils in Krasnodar Krai, quarantine was announced in six general education institutions at a time, etc.

² The charter of the Priority Programme 'Reform of control and supervision activities' approved by the Presidium of the Presidential Council of the Russian Federation for strategic development and priority projects (Minutes of the meeting No 12 of 21 December 2016): http://government.ru/projects/selection/655/25930/

³ See Figure 1 for a history of the reform phases in [Kuchakov, Skugarevskiy, 2021].

tiveness and efficiency of CSB will be assessed in a 'baseline model', which involves targeting defined indicators (such as mortality, disease incidence, and property damage) that are representative of the values protected by law.⁴

The implementation of a risk management system can be seen as a paradigm shift in all CSB activities in Russia [Chaplinskiy, Plaksin, 2016]. This reflects, to a certain extent, the willingness to adopt world best practices in inspection, of which risk assessment is one [OECD,⁵ 2014]. A key feature of this approach is the focus on cost optimisation: taxpayers' money allocated to avoid potential risks should be used as efficiently as possible [Black, Baldwin, 2010]. This logic of cost minimisation is also supported by Russian lawmakers.⁶

In many countries quality standards and risk assessment models for food products are based on a system of international principles called Hazard Analysis and Critical Control Points (hereafter HACCP)⁷ [Pierson, 2012]. This is a recognised approach for setting up national quality control systems. However, a common set of principles does not imply common methods in their legal enforcement. This is why the literature does not provide an exhaustive list of factors to consider in risk assessment [Black, Baldwin, 2010]. In the European Union, HACCP principles are used as the basis for upgrading industry-specific risk assessment and control systems [Unnevehr, Jensen, 1999]. In Italy (Lombardy Region), for example, the recommended methodology for risk assessment focuses on specific areas of the production process: risk factors are grouped as those relevant to temperature management, industrial hygiene, waste management, etc. [Balzaretti et al., 2017]. By contrast, in Poland, risk factor roadmaps are created by the companies themselves according to the established principles, so they may differ significantly even

⁴ Government Executive Order No 934-r of 17 May 2016 'On approval of the Guidelines for the development and implementation of the efficiency and effectiveness evaluation system for control and supervision activities, and of the Implementation schedule for the pilot project for the development and implementation of the efficiency and effectiveness evaluation system for control and supervision activities'.

 $^{^{\}rm 5}\,$ OECD — Organisation for Economic Co-operation and Development.

⁶ A comprehensive argument for introducing a risk-based approach can be found in the provisions of Article 8.1, paragraph 1 of the Federal Law No 294-FZ of 26 December 2008 'On the protection of the rights of legal entities and individual entrepreneurs in the exercise of state supervision (oversight) and municipal supervision' (hereafter Law 294-FZ): 'In order to optimise the use of manpower, material and financial resources involved in the exercise of state supervision (oversight), to reduce the expenses of legal entities and individual entrepreneurs, and to improve the effectiveness of state supervision (oversight) activities, a risk-based approach can be applied to the organisation of certain types of state supervision (oversight)'.

⁷ HACCP provides a systematic approach to identifying, assessing and controlling food safety hazards, from introducing initial monitoring to corrective inspection practices.

within the national jurisdiction [Dzwolak, 2019]. Risk assessment models are not used only in Europe. For example, the Canadian Food Inspection Agency (CFIA) has since 2003 been applying a risk assessment model that takes into account the results of quantitative and qualitative studies of the industry [Zanabria et al., 2017]. Their approach follows the principles of HACCP and includes 155 risk factors, among which are the characteristics of the product itself (type, volume, preparation methods) as well as its production and distribution conditions. Regardless of jurisdictions, substantial analytical work is required to adapt a particular model of risk assessment, targeting and inspection specifics [Almond, Esbester, 2018]. Otherwise, inspections could turn into formal acts that incur additional costs and increase corruption risks [Dobrolyubova et al., 2017; Alekhnovich, Anuchin, 2021].

Notwithstanding the justified and recognised benefits of riskbased oversight models, the post-Soviet space has long been dominated by a strategy of cushioning all possible risks through universal coverage of organisations by inspections [Blanc, 2012]. The paradigm of universal control is particularly persistent in highly centralised states. This is very much the case in Russia, where some elements of this approach remain relevant despite the ongoing reform in CSA [Kudryavtsev et al., 2022]. The disadvantages of universal control include an economically unviable consumption of manpower, time and material resources. Conservative estimates suggest that the scheduled inspections alone cost the Russian economy 0.2% of the working time budget [Skugarevskiy et al., 2016]. An indirect recognition by the government of the high costs of inspections to business may be the moratorium on inspections introduced as one of the measures to support the worst affected sectors of the economy during the COVID-19 pandemic.⁸ High cost is not the only disadvantage of a universal coverage strategy; another significant disadvantage is the impossibility of allocating the limited resources of controllers optimally. This has the effect of reducing the effectiveness of inspections. Moreover, the frequency of inspections and their effectiveness are not clearly related: the increase in inspections is not always accompanied by an improvement in the supervised field [Blanc, 2018]. It is not only important to choose the right organisation to inspect, but also the way in which the inspection is carried out [Kudryavtsev, Kuchakov, 2019]. The abundance of powers in the hands of a steadily growing number of control-

⁸ Resolution of the Government No 1969 of 30 November 2020 'On the specifics of establishing annual plans for scheduled inspections of legal entities and individual entrepreneurs for 2021, of conducting inspections in 2021, and amending Paragraph 7 of the Rules for the elaboration of annual plans of scheduled inspections of legal entities and individual entrepreneurs by state supervision (oversight) bodies and municipal supervision bodies'.

lers [Knutov, Sinyatullina, 2018] does not always correlate with the effective prevention of negative events [Dobrolyubova, Yuzhakov, 2021]. At the same time, it is often measures of administrative response that can yield better results than, for example, civil actions by affected people [Starbird, 2000].

An alternative strategy for enforcing mandatory requirements is to delegate state oversight powers to private organisations or associations. Researchers identify several possible conceptual models, for example, 'enforced self-regulation', in which private organisations may themselves carry out quality control of the products they produce and sell in accordance with the rules established by oversight bodies [Kotsanopoulos, Arvanitoyannis, 2017]. Another alternative is the 'industry co-regulation' model: this approach involves reviewing the business integrity of parties and their products according to the rules and customs of a particular industry. For example, in the UK, under the simplified inspection procedure for marketed farm products, the responsibility for checking compliance with health and safety regulations rests more with the buying legal entity, which must verify that the products supplied are safe according to the guality standards of the industry [Martinez et al., 2013]. The practices of independent sanitary and epidemiological audits and voluntary certification certainly do not solve all problems of control, but they can improve compliance with quality and safety standards in the food supply chains and reduce the workload for the state [May et al., 2016].

School food services in Russia, on the one hand, share all the typical characteristics of the food sector, but on the other hand, exhibit certain differences from the typical producer-consumer relationship. Thus, in addition to the usual risks associated with public catering, the centralised preparation of school lunches is known to potentially increase the risk of foodborne diseases: school meals are often prepared long before being served and may pass through the hands of personnel who have no formal health training or legal clearance for work in hygiene-related and catering facilities [Richards et al., 1993]. Schools often fail to comply with food safety reguirements, as kitchen staff act on the basis of personal experience and informal routines rather than professional knowledge [Machado et al., 2014]. However, since this generally concerns the health of minors, supervisory authorities are paying closer attention to the organisation of catering. This specificity is also recognised by the legislator, which is why, in addition to the usual oversight mechanisms, a legal basis for the involvement of interested representatives of the parents' community has been created in the school catering sector. Involving public supervisors in schools is a relatively new practice for Russia, but, as the authorities themselves put it, 'legal representatives have the right to know what their children are being fed'.⁹ The parents' committee may include not only parents of pupils but also representatives of the school administration, caterers and independent experts.¹⁰

School catering and its management is one of the prominent issues of Russian social policy: 'It is necessary to organise free catering with healthy hot meals using funds from federal, regional and municipal sources. It is essential to create the proper infrastructure in schools, equip canteens and cafeterias, set up a supply system, which should be stocked, of course, with quality products'.¹¹ Recent legislative updates require that by 1 September 2023 at the latest, primary school pupils across the country must be provided with free, quality hot meals.¹² The proper provision of school meals is directly linked to the well-being of schoolchildren and their academic performance. A focus on school food services therefore entails the implementation of an effective control and supervision model and a relevant risk assessment approach to ensure the prevention of the occurrence of negative consequences.

Thus, the goal of this study is to test the effectiveness of targeting conducted by Rospotrebnadzor when conducting inspections in general education institutions. To this end, we defined three objectives: a) to compare the structure of inspections for schools where food poisoning incidents were reported with all other schools; b) to compare the averages in the risk categories of the two types of schools; c) to compare the structure of Rospotrebnadzor inspections in schools with food poisoning incident within a fixed period of one year before and after the incident. To do this, we collected and processed all mentions in the media about food poisonings in schools between 2016 and 2021. The resulting sample of critical cases was then compared with information from legal entities and Rospotrebnadzor inspections.

Inspections by Rospotrebnadzor

Rospotrebnadzor is a federal executive body that carries out multiple forms of state oversight. It exercises its powers by organising and conducting inspections. Until 1 January 2022, the law stipulated

⁹ Rospotrebnadzor prepared methodological recommendations MR 2.4.0180-20 'Parental control over the organisation of hot meals for children in general education institutions' (approved by the Federal Service for the Oversight of Consumer Protection and Welfare on 18 May 2020).

¹⁰ Parlamentskaya Gazeta. 'Parents will try out school meals for themselves': pnp.ru/social/roditeli-proveryat-shkolnoe-pitanie-na-sebe.html

¹¹ From the speech by the President of the Russian Federation V.V. Putin to the Federal Assembly on 15 January 2020: https://edu.gov.ru/activity/main_activities/general_edu/hot_meals

¹² The relevant amendments have been adopted under the Federal Law No 47-FZ of 1 March 2020 'On amendments to the Federal Law "On the quality and safety of food products" and Article 37 of the Federal Law "On Education in the Russian Federation".

two main types of inspection: off-site and on-site, as well as a combination of both.¹³ With the adoption of the new basic law on control and supervision activities,¹⁴ an exhaustive list was adopted comprising nine different types of control and supervision measures (hereafter CSM). The on-site and off-site inspections can be scheduled or unscheduled (surprise inspections). The risk-based approach is primarily aimed at improving the planning of agency activities. This approach assumes that the inspector assigns a certain risk category to production facilities and organisations within each form of oversight, which determines the frequency of scheduled inspections. Scheduled inspections are agreed upon with the Prosecutor's Office one year in advance.¹⁵

Rospotrebnadzor is leading in the number of inspections among all controllers. It accounts on average for at least 20% of inspections at the federal level. Figure 1 shows the progression in the number of Rospotrebnadzor inspections over the period 2010–2021, reflecting the general trend for many federal agencies [Kuchakov, 2020]: a steady decline in the number of control activities from 2010 to 2017, followed by a slight plateau and the first significant increase in a long time in 2019, followed by a sharp drop in the agency's activity during the pandemic. The government imposed a moratorium on inspections on a broad range of grounds from 2020 to 2023.¹⁶ The majority of Rospotrebnadzor inspections are unscheduled (about 70%) and on-site (at least 90–95%),¹⁷ which means that these inspections are mostly conducted without coordination and directly at production facilities. The prevalence of surprise inspections is not accidental and results from the specifics of the institutional struc-

¹³ Under the Federal Law No 294-FZ of 26 December 2008 (as amended on 8 March 2022) 'On the protection of the rights of legal entities and individual entrepreneurs in the exercise of state supervision (oversight) and municipal supervision'.

¹⁴ The Federal Law No 248-FZ of 31 July 2020 'On the state supervision (oversight) and municipal supervision in the Russian Federation'.

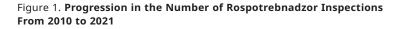
¹⁵ Under the Federal Law No 294-FZ of 26 December 2008 (as amended on 8 March 2022) 'On the protection of the rights of legal entities and individual entrepreneurs in the exercise of state supervision (oversight) and municipal supervision'.

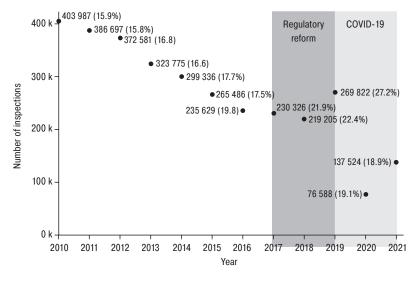
¹⁶ Resolutions of the Government: No 438 of 3 April 2020 'On the specifics of the exercise of state supervision...in 2020', No 1969 of 30 November 2020 'On the specifics of establishing annual plans for scheduled inspections...', No 1520 of 8 September 2021 'On the specifics of conducting scheduled inspection (oversight) activities in 2022', No 336 of 10 March 2022 'On the specifics of the organisation and exercise of state supervision (oversight) and municipal supervision'.

The breadth of coverage and results of the moratorium on the implementation of CSM are presented in [Kuchakov, Skugarevskiy, 2020; 2021].

¹⁷ State Automated Information System 'Management' — Monitoring of control and supervision activities — 1-Inspections. https://gasu.gov.ru/infopanel?id=11824

ture of control and supervision activities in Russia (for more details see [Kuchakov, 2022]).

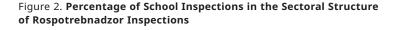




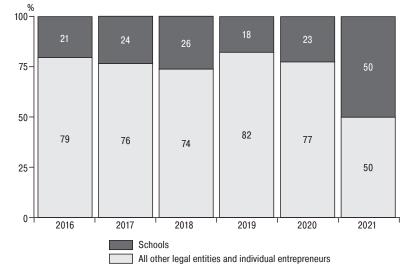
As a rule, social infrastructure facilities, including schools, are in the category of significant and high risk, since, from the point of view of the authorising bodies, possible non-observance of mandatory requirements on their premises can lead to severe negative consequences. Special attention to the organisation and quality of school meals by Rospotrebnadzor takes the form of regular inspections. Data for 2019 — the last year before the COVID-19 pandemic, that represents, in many ways, a special regime — show that of all organisations inspected at least once, 32.9% (for scheduled inspections) and 12.5% (for surprise inspections) respectively came from the education sector [Kuchakov et al., 2019]. The vast majority of inspected organisations in education are schools. Moreover, it can be stated that for many CSBs schools are a priority group for inspections. With regard to general education schools alone, between 2016 and 2021, Rospotrebnadzor conducted at least 23% (213,899) of all inspections carried out during this period (919,646). *That means* that, on average, one in four Rospotrebnadzor inspections is carried out in a school (the annual progression is shown in Figure 2). The doubling of the proportion of school inspections in 2021 was due to the effect of the moratorium on inspections, which mainly applied to small and medium-sized enterprises and practically did not affect social infrastructure organisations.

As noted in the literature [Kuchakov, Skugarevskiy, 2019; 2020; 2021], there has been a pronounced asymmetry over the years in

Note. Data is retrieved from the State Automated Information System 'Management', departmental reporting form '1-Inspections'. Figures in brackets show the proportion of inspections to the total number of inspections of federal executive authorities.



Note. Data on inspections is retrieved from the Unified Register of Inspections. Data on the sectoral affiliation of organisations (their OKVED codes) is retrieved from the Unified State Register of Legal Entities and the Unified State Register of Individual Entrepreneurs.

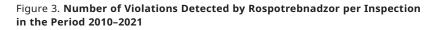


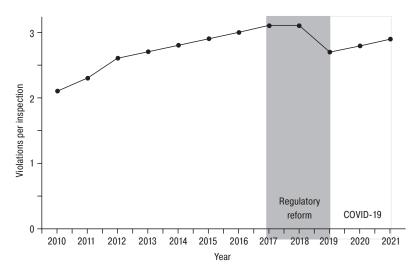
the distribution of departmental resources: social facilities, especially *schools, are inspected disproportionately frequently compared to all other sectors of the economy.* Thus, as of 1 January 2019, the share of general education schools among all registered legal entities, according to the Federal Tax Service, was less than 0.1%, while these organisations accounted for 18% of all Rospotrebnadzor inspections in 2019.

The data in Figures 1–2 shows that a significant proportion of Rospotrebnadzor's regulatory burden falls not on commercial organisations, as might be expected, but on 'budget-funded' educational establishments.

Detected Not only does Rospotrebnadzor carry out plenty of inspections, but Violations in the vast majority of cases it also finds violations. Figure 3 shows that on average there are 2.5–3 recorded violations per inspection. Moreover, this proportion has remained stable throughout the decade despite the start of the reform of the CSA, active implementation of its current phase, the 'regulatory guillotine' associated with the streamlining of mandatory requirements, and a long-term moratorium on CSMs during the pandemic.

> The microdata of the Unified Register of Inspections suggests that a significant proportion of the violations detected in schools are related to non-compliance with sanitary and epidemiological requirements. According to Rospotrebnadzor's departmental report on food control in educational organisations, in 2019 at least 7,000 catering production units in general education organisations were





Note. Data is retrieved from the State Automated Information System 'Management', departmental reporting form '1-Inspections'.

> inspected, with more than 15,000 violations of sanitary legislation in the field of catering identified and more than 6,500 officials and legal entities held administratively liable.¹⁸ The report also lists the most frequent types of violations: 'non-compliance with sanitary requirements for the quality and safety of food products and prepared meals, conditions of their storage, transportation and sale; non-compliance with standard requirements for the weight of portions of prepared meals, their chemical content and nutritional value, technological processes for their preparation; violation of the routine for washing dishes; lack of required medical examinations for the catering staff admitted to work'.¹⁹

Prosecutor's The agencies of the Prosecutor's Office supervise the observance of human and civil rights and freedoms and the implementation of existing legislation.²⁰ These agencies are responsible for carrying out prosecutorial inspections. The reason for an inspection shall be information about a violation of the law or of human and civil rights and freedoms that cannot be confirmed or rejected without an inspection. Such information may be obtained from applications by citizens, public officials, legal entities, and the media. While Rospotrebnadzor conducts inspections as part of 'special' supervision,

¹⁸ Official website of Rospotrebnadzor. 'On food control in educational organisations': https://rospotrebnadzor.ru/region/rss/rss.php?ELEMENT_ID=13084

¹⁹ Ibid.

²⁰ Art. 1 of the Federal Law No 2202-1 of 17 January 1992 'On the Prosecutor's Office in the Russian Federation'.

in our case sanitary and epidemiological supervision, the prosecutorial authorities are not restricted to any particular regulatory area.

Interaction Procedures Between the Prosecutor's Office and Rospotrebnadzor The interdepartmental collaboration between agencies takes place at the regional level on the basis of agreements concluded regarding interaction in the field of consumer protection and human well-being. If the Prosecutor's Office receives information about an incident in the public catering sector, a prosecutor's investigation is initiated to find violations of citizens' rights. Agencies of the Prosecutor's Office shall send a written mandate to the territorial offices of Rospotrebnadzor to inspect compliance with the legislation on the sanitary and epidemiological well-being of the population and the protection of consumer rights. On the basis of this mandate, Rospotrebnadzor will carry out a surprise inspection. Usually, such inspections account for no more than 0.5–1% of all inspections by the agency. If violations of sanitary legislation are found, depending on their severity, Rospotrebnadzor can take a wide range of measures against the organisation, including pre-trial administrative suspension of activities, and send materials to the regional prosecutor's office for prosecutorial response.

In summary, there are several enforcement strategies relating to potential breaches in the organisation of school catering: a scheduled or surprise inspection by Rospotrebnadzor, a surprise inspection by Rospotrebnadzor based on a mandate from the Prosecutor's Office, and an inspection by the Prosecutor's Office. For potential violators Rospotrebnadzor inspections can result in warnings, fines, warrants to eliminate violations, and, in exceptional cases, possible pre-trial suspension of activities. For their part, the Prosecutor's Office may, among other response measures, issue a reasoned order by the prosecutor to forward the materials to an investigative authority for a decision on criminal prosecution.²¹

Data Data on Organisations

The data on organisations were taken from the Unified State Register of Legal Entities (hereafter USRLE), which contains statutory information on all registered legal entities in Russia. The Register was used to retrieve taxpayer identification numbers (INN), names of legal entities, regions and dates of their incorporation, dates of liquidation and primary OKVED codes.²² The data are up to date as of 1 January 2022.

²¹ For example, after an inspection in Krasnoyarsk, a criminal case was opened: https://ria.ru/20211008/otravlenie-1753633826.html

²² OKVED — Russian Classification of Types of Economic Activity. The current version of the classifier is OKVED 2 (OK 029-2014 (NACE Rev. 2)). As a general rule, when registering a legal entity with the authorised state body, the Fed-

- School Selection The selection of educational organisations in USRLE was carried out in three stages. First, all organisations with one of the following primary OKVED codes were selected: 85.10 ('General education'), 85.12 ('Primary general education'). 85.13 ('Basic general education'), 85.14 ('Secondary general education'). The data from the Consolidated Register of Educational Licenses were then processed²³ and the INN numbers of general education organisations were extracted. In addition, regular expressions have been used²⁴ to search for schools by name of legal entities. As a result, 45,594 unique INN numbers were found for the period 2016–2021.
- Inspection Data Data on scheduled and surprise inspections were taken from the Unified Register of Inspections (hereafter URI).²⁵ Observations were compared on INN numbers. Information was extracted from the URI on the date and type of the inspection (CSM), oversight body involved, region of inspection, risk category and violations detected. Overall, a total of 919,646 completed Rospotrebnadzor inspections conducted under the Law No 294-FZ were found between 2016 and 2021, of which 213,899 were carried out in general education schools.

Finding Cases The Medialogia automated media monitoring and analysis sysof Poisoning tem was used to search for mentions of school poisonings using keywords: 'школьные отравления' (school poisonings) and 'отравления в школе' (poisonings at school).²⁶ The search was performed on news portals of all 85 regions covering the period from 1 January 2016 to 31 December 2021. We manually selected relevant cases from the automatic search results. The event was only included in the sample if the two conditions were met: 1) the event was reported in at least three news sources and 2) Rospotrebnadzor or the Prosecutor's Office confirmed the poisoning of schoolchildren.

> In total, food poisonings that occurred in 110 general education schools were identified and checked against data from orga-

- ²⁴ Regular expressions (RegExp) is a format of search queries to text data.
- ²⁵ Unified Register of Inspections (URI): https://proverki.gov.ru/portal

eral Tax Service, one primary OKVED code and an unlimited number of additional codes are indicated. Although it is actually mandatory to provide the primary code, often 'budget-funded' institutions do not have a code: this is all the more likely the older the organisation.

²³ Federal Service for Supervision in Education and Science — Open data — Consolidated Register of Educational Licenses: https://obrnadzor.gov.ru/otkrytoe-pravitelstvo/opendata

²⁶ The authors would like to thank the Higher School of Economics for providing access to Medialogia, an automated media monitoring and analysis system.

nisations and inspections. For these schools, 566 inspections were carried out between 2016 and 2021.

- Data Limitations Data on food poisoning in schools have a number of limitations. The search was only conducted for media that have a website. The country's coverage by online media is uneven. Thus, in only 56 regions was it possible to find at least one mention of food poisoning in schools. Moreover, we can rightly expect a high level of regional variation in media representation due to a broad range of circumstances. Likewise, an event that occurred close to the moment of data collection (2022) is more likely to be mentioned than an event close to the start of the time frame of interest (2016).
 - **Method** We perform three comparisons in the paper. In the first place, we compare the proportion of scheduled and surprise inspections carried out by Rospotrebnadzor on schools where poisonings had been recorded with the same proportion in all other schools. For schools where food poisoning occurred, only those inspections that had been carried out before the incident were taken into account. With this comparison, we test the accuracy of Rospotrebnadzor's targeting of organisations for scheduled inspections.

We expect the difference between these proportions to be significant, assuming that the agency is able to detect potentially hazardous schools, so it pays increased attention to them in advance in the form of scheduled inspections.

For the same purpose, we compare the mean values of the risk categories in the two types of general education schools, expecting, on average, a higher risk category for potentially hazardous schools.

For the third comparison, we use data from inspections of only those schools where poisonings took place. We compare the proportions of scheduled and surprise inspections during the year before and after the incident. We expect an increase in the proportion of surprise inspections after the event and a corresponding decrease in the proportion of scheduled inspections. This comparison is intended to reflect the agency's responsiveness to the incidents that took place.

Results We do not find any statistical significant difference between the proportions of inspections in the two groups: schools without incidents — 0.38 (CI 95%: 0.379; 0.384) and schools where poisoning occurred — 0.37 (CI 95%: 0.32; 0.42). Thus, it can be concluded that the proportion of scheduled inspections is not significantly different in the two groups.

However, a comparison of the averaged risk categories reveals a significant difference between the school groups: the average risk category for schools where no poisoning occurred is 3.55 (CI 95%: 3.549; 3.559), while for schools where food poisoning occurred it is 3.32 (CI 95%: 3.227; 3.413). Hence, the risk category for schools where poisoning has occurred is, on average, higher.²⁷

The proportion of scheduled inspections before the poisoning, that is 0.37 (CI 95%: 0.24; 0.49), is not statistically different from the proportion of scheduled inspections after the incident, 0.26 (CI 95%: 0.16; 0.36). This implies that we have insufficient evidence to support the assumption that the structure of inspections in schools is changing after the poisoning.

Conclusion Besides school catering, Rospotrebnadzor monitors compliance with a wide range of sanitary and epidemiological rules: from lighting in classrooms to the availability of soap and hot water in the toilet rooms of an educational organisation. In our paper we have shown that Rospotrebnadzor inspects schools more frequently than might be expected and that inspections are generally carried out on a massive scale and on a regular basis. Scheduled inspections in schools usually reveal a wide range of violations of varying degrees of social danger. Moreover, the agency reports an average of several violations during each scheduled inspection. Rospotrebnadzor then implements follow-up surprise inspections on previously issued warrants, which are aimed solely at verifying that the detected violations have been eliminated. This provides essentially continuous oversight of the schools. Despite the widely declared risk-based approach to the organisation of inspections, it should be emphasised that only scheduled inspections are directly addressed by the risk assessment. In this respect the possible effectiveness of targeting for inspections is inherently limited.

> The results demonstrate that there is no difference in the structure of inspections in relation to schools where risks eventually materialised and schools where no food poisoning was reported. On the one hand, this suggests that the agency's ability to detect potentially hazardous organisations is limited. On the other hand, schools with food poisoning, on average, have a higher risk category. One possible explanation for this discrepancy is that even if the agency adequately assesses the potential danger, this does not involve a visible change in the organisation of inspections. This conclusion is also supported by the lack of a significant difference in the structure of 'before'/'after' inspections in the affected schools. It can be

²⁷ The risk category is ranked from 1 to 6, where 1 is extremely high risk (Grade 1) and 6 is low risk (Grade 6).

deduced that if the agency does adjust its activities based on the results of its interventions, there is no explicit evidence of this in the inspection data.

We suggest that the actual frequency, comprehensiveness and regularity of inspections in general education schools create a departmental control of such density that the question of risk assessment and targeting as such is superfluous. The presented results raise a more general problem typical of the organisation of the whole system of control and supervision activities in Russia. A large part of the federal agency's resources is, in fact, 'reserved' for educational organisations due to extra-legal circumstances. This significantly narrows the window for effective targeting of potentially hazardous organisations, creates an excessive administrative burden on schools and limits the prevention of real threats.

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