Audit Report

21/35

Funds for Information Support for Anti-Epidemic Activities

The audit was included in the audit plan of the Supreme Audit Office (hereinafter the "SAO") for 2021 under No. 21/35. The audit was managed and the Audit Report drawn up by SAO member Mr. Stanislav Koucký.

The aim of the audit was to examine the effectiveness and economy of the funds spent on information support for anti-epidemic activities.

Audited entities:
Ministry of Health (hereinafter the "MoH" or the "Ministry");
Institute of Health Information and Statistics of the Czech Republic, Prague (hereinafter "IHIS CR");
National Agency for Communication and Information Technologies, Prague (hereinafter "NACIT").

The audited period was 2017 to 2021 and, when the facts warranted so, the periods immediately before and after.

The audit was carried out on the audited entities in the period from April to October 2021.

At its 2nd session held on 31 January 2022, the *B o a r d   o f   t h e   S A O*

issued Resolution No. 12/II/2022 *a p p r o v i n g*

the *A u d i t   R e p o r t* worded as follows:

Information Support for Anti-Epidemic Activities
from January 2017 to June 2021

CZK 387 million + CZK 108 million = CZK 495 million

Funds spent on services for anti-epidemic activities

Funds spent on the acquisition of assets (HW and SW) used for anti-epidemic activities

Total amount of funds spent by the MoH and IHIS CR on information support for anti-epidemic activities

CZK 182 million CZK 20 million CZK 1.8 million

Funds spent through NACIT on the Smart Quarantine service system

Costs for the development and operation of the eRouška application

Funds spent on the Pandemic Information System that had not been activated by the time the audit was completed

902 pcs

Number of lacking end devices[1] for regional hygiene stations based on a survey conducted in 2017

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[1]   An end device is a workstation and a laptop.

I. Summary and Evaluation

1.1 The SAO carried out an audit aimed at examining the effectiveness and economy of the state funds spent on information support for anti-epidemic activities, in particular in the area of provision and setup of technical IT solutions for the occurrence of the COVID-19 disease and related services. The services selected for audit were the provision of the Smart Quarantine service system[2] and purchases of IT equipment including SW licences. In the period from 2017 to June 2021, the MoH and IHIS CR spent a total of CZK 495 million on information support, including related services.

1.2 The MoH did not prepare information support for dealing with epidemic situations. The regional hygiene stations (hereinafter the "regional stations") were not sufficiently equipped with computer technology (902 workstations and laptops lacking) and did not have a unified communication link until the second half of 2020. The consequence was the unpreparedness and inability of the regional stations to effectively manage the epidemic situation.

1.3 After the World Health Organization declared the COVID-19 disease to be a pandemic[3], the MoH did not proceed according to the approved Pandemic Plan of the Czech Republic and the procedures defined in it, nor did it use the IT support foreseen by that plan. New management structures that were not defined anywhere and that did not have clearly set competences and responsibilities were established. The chaotic activities related to the management of the COVID-19 epidemic, including information support, were the result of not using the procedures defined by the Pandemic Plan of the Czech Republic.

1.4 The MoH did not define the needs for ICT development in the health care sector. The MoH did not elaborate any information concept for the period of 2019-2024 to define ICT needs[4]. This led to improvisations in the creation of the new IT infrastructure, which caused a number of problems in its subsequent use. The Chief Hygienist of the Czech Republic did not coordinate work on the development of information systems[5] that would lead to preparedness in the field of anti-epidemic activities.

1.5 The MoH did not monitor and evaluate the effectiveness and economy of spending in its budget chapter. It did not evaluate the efficiency of some newly developed applications and the Smart Quarantine service system. Funds of at least CZK 14 million were spent in an ineffective and uneconomical manner. The fact that the MoH did not check what it was paying for had a major impact on the ineffective and uneconomical use of funds.

1.6 The MoH had been gradually introducing and using a newly developed information support for anti-epidemic activities known as the Smart Quarantine service system in connection with the COVID-19 disease since March 2020 on the basis of a Government

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[2] The Smart Quarantine service system is a complex system with overlap to the basic registers and to the sectoral information systems (IDIS, tools used for the performance of agendas of the regional stations, laboratory IS, etc.), which legally handle personal and sensitive data; in addition, it has also become a platform for the integration of the contact tracing communication tool.

[3] On 11 March 2020, the World Health Organization (WHO) declared the spread of COVID-19 a global pandemic.

[4] Act No. 365/2000 Coll., on public administration information systems and amending certain acts.

[5] Pursuant to Article 56 of Order of the Minister of Health No. 9/2021.

Resolution[6]. It was also issuing extraordinary measures[7] for the further use and development of the Smart Quarantine service system. The Ministry did not incorporate the newly created information support into the Pandemic Plan of the Czech Republic and the information concept of the MoH. The SAO sees a major risk in the lack of sustainability and continuity of the newly built information structure through the Smart Quarantine service system for future epidemics or pandemics of highly contagious diseases.

1.7 The overall assessment of the SAO is based on the following findings of the audit:

1.7.1 Unpreparedness of the information infrastructure

The MoH did not define the needs for ICT development in the health care sector. The Ministry did not have an information concept for the period of 2019-2024 (see paragraphs 4.1, 4.34).

The MoH had been implementing the *Integrated User System for Regional Hygiene Stations Project* (hereinafter the "Project") for almost four years. The Project was not completed before the onset of the COVID-19[8] epidemic. This prevented the regional stations from using a secure and unified technology platform for inter-ministerial communication (see paragraph 4.2).

The regional stations lacked IT equipment to manage and monitor the course of an infectious respiratory disease epidemic. The MoH had known about the lack of equipment for the regional stations since mid-2017. Subsequently, during the COVID-19 epidemic, IHIS CR procured laptops and workstations for the regional stations through a negotiated procedure without (prior) publication (see paragraph 4.3).

1.7.2 Failure to comply with the Pandemic Plan of the Czech Republic

The MoH did not manage the anti-epidemic activities according to the approved Pandemic Plan of the Czech Republic. During the COVID-19 epidemic, managing authorities that had not been foreseen in that plan were established. The MoH did not activate or otherwise use the Pandemic Information System (hereinafter the "Pandemic IS"), although the Pandemic Plan of the Czech Republic envisaged that information system at the level of the anti-epidemic activities of the regional stations (see paragraphs 4.4 to 4.6).

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[6] E.g., Resolution of the Government of the Czech Republic No. 551 of 18 May 2020, *on the information on the Smart Quarantine 1.0 Project*, Resolution of the Government of the Czech Republic No. 576 of 25 May 2020, *on the document entitled Smart Quarantine 2.0.*

[7] E.g., Extraordinary Measure of the Ministry of Health Ref. No. MZDR 12087/2020-1/MIN/KAN of 17 March 2020, Extraordinary Measure of the Ministry of Health of 3 November 2020 Ref. No. MZDR 47828/2020-2/MIN/KAN, Extraordinary Measure of the Ministry of Health of 1 March 2021 Ref. No. MZDR 1596/2021-2/MIN/KAN (the extraordinary measures are published on the website of the Ministry of Health).

[8] For the purposes of the Audit Report, the preferred term used is "epidemic", as the anti-epidemic measures correspond to the competence of the public health authorities as laid down in the legal order of the Czech Republic, i.e. they are primarily aimed at preventing an increase in incidence in the territory of the Czech Republic. Epidemic disease occurrence represents a larger than usual (endemic) accumulation of disease incidences in a temporal and local context. This could be several cases of an infectious disease in a particular locality, or, in the case of influenza, an increase in confirmed cases above 1,500 cases per 100,000 people. The term "pandemic" refers to large-scale epidemics affecting multiple continents over a certain period of time. The declaration of a pandemic falls under the powers of the Director-General of the World Health Organization.

1.7.3 Shortcomings in the management of the anti-epidemic information support built from 2020 onwards

The Smart Quarantine[9] service system was burdened with a high degree of improvisation and spontaneous development during its creation, which brought a number of problems in the performance of the tasks of public health authorities (see paragraphs 4.7 and 4.9).

Changes in the Smart Quarantine service system were not consistently and conceptually managed, mainly due to the lack of management by the MoH. The shortcomings in ICT management on the part of the MoH were to some extent compensated for by the extraordinary workload of the staff of IHIS CR, members of the Army of the Czech Republic (hereinafter the "Czech Army") and NACIT staff (see paragraphs 4.8 and 4.15).

From at least July 2020 to October 2020, not all technical and security measures of the appropriate scope and importance of the Smart Quarantine service system were fully implemented. External call centre staff were given access to personal and health data processed under the epidemiological and hygiene agendas (see paragraph 4.14).

The lack of a unified environment with tools to support contact tracing hindered effective tracing of risk contacts. The SAO found shortcomings in the newly created tools that had prevented their more efficient use (see paragraphs 4.10 to 4.13).

1.7.4 Uneconomical and ineffective measures

In the audited period, the MoH paid approximately CZK 23 million for modifications to the Daktela communication tool[10]. In case the MoH will deal with the implementation of a new tool due to the limited duration of the contract, additional resources will have to be spent on the customisation[11] of a similar product for the needs of epidemiological surveys (see paragraphs 4.16 to 4.19, 4.21 to 4.23, 4.24).

The MoH did not monitor and evaluate the effectiveness and economy of the funds spent on outgoing calls made within the established call centres. The cost per outgoing call was CZK 66 in March 2021 and exceeded CZK 435 in May 2021 (see paragraph 4.20).

The MoH paid CZK 20 million for the development and operation of the eRouška application[12] to warn people about risk contacts. It did not work with data on the number of identified contacts from the application. Only one in twenty newly positive cases reported their positivity through the eRouška application. Only half a million users were using the application actively as of September 2021 (see paragraphs 4.25 to 4.27).

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[9] In the document annexed to Government Resolution No. 576 of 25 May 2020, entitled *Smart Quarantine 2.0 – Health Threat Management System for Public Health Protection,* Smart Quarantine is defined as a project (Smart Quarantine 1.0) that was created during a state of emergency under extraordinary circumstances with the aim of creating a set of tools to assist the competent authorities responsible for public health protection both in the actual execution of contact tracing and in the planning of measures to prevent the spread of the COVID-19 disease. The Audit Report therefore refers to Smart Quarantine as a project but also as a service system.

[10] Daktela – software for contact centres enabling call recording and statistical data collection. This tool allows one to concentrate several communication channels in a single web application. It also includes HelpDesk support and entering development and change requests (ticketing system).

[11] Customisation means adapting the delivery (service, application, tool) to the needs of the end customer (user).

[12] As of 1 November 2021, the eRouška application, which had been a tool in the fight against COVID-19 and had been created as part of the Smart Quarantine service system, was discontinued.

IHIS CR spent over CZK 1.8 million on the Pandemic IS including flat-rate payments for its maintenance in working condition, although it was not used (see paragraphs 4.28 and 4.29).

Inappropriate setting of the evaluation criteria for the selection of the supplier of Microsoft 365 licences by IHIS CR led to the selection of a supplier whose bid was not the most economically advantageous (see paragraphs 4.30 to 4.33).

II. Information on the Audited Area

2.1 The purpose of information support is to collect, process and make available the data needed to manage and implement processes and activities so that the right information is available at the right time. Information support for anti-epidemic activities includes the use of ICT technologies (HW, SW, telecommunications and other infrastructure), ICT services, as well as methods and procedures that were or are intended to support processes under the responsibility of public health authorities.

2.2 Public health authorities and other bodies that perform certain tasks in the field of public health promotion according to Act No. 258/2000 Coll.[13] are the MoH and regional hygiene stations. The regional stations, among other things, check compliance with hygiene measures to prevent the emergence and spread of infectious diseases. The regional stations operate epidemiological information systems managed by the MoH concerning the incidence of infections.

2.3 Contracts worth CZK 1.4 billion were concluded by the audited entities for information support of anti-epidemic activities (see Annex 1 to the Audit Report – Dataset).

MINISTRY OF HEALTH

2.4 The MoH is an organisational unit of the state and, according to Act No. 2/1969 Coll.[14], the central state administration authority responsible for, among other things, health services, protection of public health, health service providers under direct management responsibility and the health information system and electronic health care.

2.5 According to the provisions of Section 80 of Act No. 258/2000 Coll., the MoH manages and controls the performance of state administration in the protection and promotion of public health, and manages and controls regional hygiene stations, which play a crucial role in the management of an epidemic. It coordinates activities and cooperation with other state and non-state bodies and organisations in areas related to the performance of state administration in the field of protection and promotion of public health. The MoH, through the Public Health Protection and Promotion Section, is to determine the concept of development of the system of public health protection and promotion, and the main tasks in that area.

2.6 The Chief Hygienist of the Czech Republic has the position of Deputy for the management of the Public Health Protection and Promotion Section of the MoH and is responsible for the professional level of that section. He/she is also the Deputy Chairman of the Central

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[13] Section 78(1)a) and b) of Act No. 258/2000 Coll., on protection of public health and on amendments to certain related acts.
[14] Czech National Council Act No. 2/1969 Coll., on the establishment of ministries and other bodies of central government of the Czech Republic.

Epidemiological Commission (hereinafter the "CEC"), of which the Minister of Health is the Chairman. The Chief Hygienist of the Czech Republic acts as an authority of the Ministry in matters of protection and promotion of public health. In the field of IT, he/she coordinates work on the development of information systems, i.e. registers in the field of health care for the protection of public health and the implementation of the Smart Quarantine service system in the structures of the MoH and its execution.

2.7 The MoH ensures and coordinates the preparation of the Pandemic Plan of the Czech Republic, which includes the verification of functionality and possible activation and use of the Pandemic IS. The Pandemic IS a system that was intended to be prepared for extraordinary situations where a disease uncontrollable by conventional means spreads rapidly and national security is threatened.

2.8 The MoH is the administrator of a number of information systems, tools and applications designed not only for anti-epidemic activities, including IDIS[15], Pandemic IS, ARI[16], eRouška and others. In the area of management of public administration information systems, it is governed, inter alia, by Act No. 365/2000 Coll. Expenditure on information support for anti-epidemic activities is spent from the state budget chapter 335 – *Ministry of Health*.

2.9 In the audited period, the MoH spent funds from its budget on information support for anti-epidemic activities and related services in the amount of CZK 388 million, of which CZK 53 million was expenditure on the acquisition of assets.

INSTITUTE OF HEALTH INFORMATION AND STATISTICS OF THE CZECH REPUBLIC

2.10 IHIS CR is an organisational unit of the state established by the Ministry to manage and coordinate the implementation of tasks in the field of the *National Health Information System* (hereinafter the "NHIS"), which is designed to collect, process and evaluate health information and statistics.

2.11 IHIS CR is the substantive and technical administrator and operator of the NHIS and the technical administrator and operator of health registers and information systems of public health authorities (Pandemic IS, ARI, IDIS). IHIS CR performs the tasks assigned by the MoH.

2.12 During the audited period, IHIS CR spent funds of CZK 107 million on the acquisition, operation, modification and development of information support for anti-epidemic activities. Of this, it paid CZK 55 million for the purchase of assets.

NATIONAL AGENCY FOR COMMUNICATION AND INFORMATION TECHNOLOGIES

2.13 NACIT is a state enterprise established under Act No. 77/1997 Coll.[17] It was established by a charter issued by the Ministry of the Interior on 21 January 2016. The revenues and expenditures of NACIT are part of the state budget chapter 314 – *Ministry of the Interior*. The subject of enterprise, activities and main tasks of NACIT are set out in its Statutes.

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[15] The Infectious Disease Information System (IDIS) is used to report, record and analyse the incidence of infectious diseases in the Czech Republic.

[16] The Acute Respiratory Infection Register (ARI) is used to monitor the incidence of acute respiratory infections in the population.

[17] Act No 77/1997 Coll., on state enterprises.

2.14 Since 7 April 2020, NACIT had been involved[18] in the IT support of anti-epidemic activities on the basis of a cooperation agreement between the MoH and NACIT. As of 18 May 2020[19], it became a Smart Quarantine service provider. The implementation of the Smart Quarantine service system was newly added to its Statutes as one of its main tasks on 10 March 2021.

2.15 NACIT provides information support to the MoH on the basis of a contract[19] for the implementation of the Smart Quarantine service system through subcontractors. On the basis of that contract, NACIT invoiced the amount of CZK 182 million to the MoH in the audited period.

III. Scope of the Audit

3.1 Within the audit, the audited entities were examined for the funds spent on the acquisition of tangible and intangible assets in the amount of CZK 108 million and funds spent on services related to IT support for the management of the COVID-19 epidemic in the amount of CZK 387 million.

3.2 A set of tools and services created within the Smart Quarantine service system were selected for audit. Furthermore, the hygiene registers that were to be used during the epidemic, i.e. the Pandemic IS, ARI and IDIS, were selected.

3.3 The SAO assessed the effectiveness and economy of spending and compliance with legal provisions in spending funds on selected tools and services.

3.4 At the MoH, expenditure on the purchase of supplies and services related to the information support for anti-epidemic activities on the basis of contracts, agreements and purchase orders was audited. This included expenditure on the purchase of IT equipment, provision of data visualisation of the COVID-19 epidemic, call centre and mobile services, the eRouška application, provision of professional services and contact tracing, totalling CZK 388 million.

3.5 The SAO audit of IHIS CR was focused on the funds spent on selected information systems developed before the declaration of the COVID-19 epidemic and the use of those information systems during the epidemic (the Pandemic IS, ARI, CDR[20] and IDIS).

3.6 The SAO audit of IHIS CR was also focused on the spending of funds in the period following the declaration of the COVID-19 epidemic. The audit also covered the tasks of IHIS CR related to the provision of the Smart Quarantine service system, modification and development of new components of the IDIS information system, taking over and ensuring the operation of tools and the Smart Quarantine service system developed outside IHIS CR (CFA and EPI Dashboard), ensuring the operation of the Rosomák central reservation system (registration part) including the service of sending text messages and email notifications, and ensuring the purchase of IT equipment including SW licences for the needs of the MoH and the regional stations. In the audited period, IHIS CR spent a total of CZK 55 million on the acquisition of

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[18] Cooperation Agreement No 2020/058 of 7 April 2020.
[19] Contract for the Provision of Software, Professional and Mobile Services – Smart Quarantine 2.0 No 1005/20 of 31 July 2020.
[20] IDIS uses a central data repository (CDR) to receive data from external sources. After its validation and identification against the underlying registers, the data is stored in the IDIS database.

tangible and intangible assets and CZK 52 million on services related to the IT support for anti-epidemic activities.

3.7 At NACIT, the audit focused on the performance of contracts concluded between NACIT and subcontractors of services related to the information support for anti-epidemic activities. Selected contracts were audited for performance and invoicing. The performance and invoicing under the contracts between NACIT and the MoH were also examined. From 7 April 2020 to 30 June 2021, out of 30 public contracts with a total estimated value of CZK 182 million, 10 public contracts with a total value of CZK 54 million were selected and audited. At the same time, the selection of subcontractors was audited on a sample basis. Four public contracts were awarded without a tender procedure pursuant to the exception under Section 29a) of Act No. 134/2016 Coll.[21] and six public contracts were awarded as small-scale contracts pursuant to Section 31 of Act No. 134/2016 Coll.

Note: The legal regulations indicated in this Audit Report are applied in their wording valid and effective for the audited period.

IV. Detailed Facts Ascertained by the Audit

A. Unprepared IT infrastructure

4.1   Pursuant to Section 5a(2) of Act No. 365/2000 Coll., public administration authorities, inter alia, create and issue an information concept of the public administration authority, apply it in practice and evaluate the compliance with it. In the information concept, public administration authorities set their long-term objectives in the area of management of public administration information systems and define the general principles of acquisition, technical improvement, creation, management, operation, use and development of public administration information systems. The MoH violated this provision of the law by failing to create and issue an information concept within the sphere of its competence for the period of 2019-2024. The MoH has not set long-term goals for the development of information systems, nor has it defined the needs for IT development within the health care sector to ensure functioning information support not only in the field of anti-epidemic activities.

4.2   Since 2018, the MoH has implemented the *Integrated User System for Regional Hygiene Stations Project* with the aim of building infrastructure, a user management system and end-user equipment. The aim of the Project was to create a new unified integrated system of user management and a secure technological platform for communication between the MoH and the individual regional stations. According to the original plan, the Project was supposed to be completed by the end of 2019, but its implementation was extended three times. A unified management of users of the regional stations will be ensured only when IHIS CR ensures full integration of the project outputs into the unified MoHNET network. The integration of users and end devices at the level of the regional stations into a single domain within the MoHNET network was planned to be completed by the end of 2021. Only then will the basic conditions for uniform and efficient management of users of the regional stations be ensured.

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[21]   Act No. 134/2016 Coll., on public procurement

4.3   The MoH was not prepared, in terms of information systems, to monitor the epidemic of respiratory disease caused by the SARS-CoV-2 virus. The regional stations lacked IT equipment to effectively manage and monitor the course of the epidemic. The MoH had been aware of the lack of computer equipment at the regional stations (in the number of 488 workstations and 414 laptops) since mid-2017. The MoH purchased only 100 workstations and 100 laptops during the implementation of the aforesaid Project. During the COVID-19 epidemic, IHIS CR procured a total of 160 workstations and 685 laptops for the regional stations through a negotiated procedure without (prior) publication only in the second half of 2020. As a consequence of the regional stations not being equipped with the appropriate IT equipment, problems were encountered in dealing with the epidemic situation[22].

B. Failure to follow the Pandemic Plan of the Czech Republic

4.4   The MoH did not manage the anti-epidemic activities according to the approved Pandemic Plan of the Czech Republic and was unable to justify why it did not follow it. During the COVID-19 epidemic, managing authorities[23] that were not listed in the plan were formed. The Pandemic Plan of the Czech Republic had not been updated by the end of the audit.

4.5   The Central Epidemiological Commission, chaired by the Minister of Health and by the Chief Hygienist of the Czech Republic as a deputy, had long failed to perform its tasks in the field of public health protection and had also failed to coordinate and control the activities of the Regional Epidemiological Commissions (hereinafter the "RECs"), which are part of the regional crisis staffs (if activated). The CEC did not carry out an evaluation of the epidemiological situation. The CEC did not contribute to the preparedness of the anti-epidemic system for the COVID-19 epidemic. Failure to fulfil the tasks and activities of the CEC led to ineffective coordination and failure to provide necessary information both at the national level and at the regional level within the RECs.

4.6   The MoH did not use the Pandemic IS[24] for monitoring the COVID-19 disease although the Pandemic Plan of the Czech Republic had envisaged that information system. The Pandemic IS was to be used by the regional hygiene stations to monitor the spread of the infectious disease in their respective regions. The regional hygiene stations did not work with the Pandemic IS, either. The MoH did not justify the failure to use the Pandemic IS.

C. The Ministry did not manage the creation of IT support

CHAOTIC MANAGEMENT OF ANTI-EPIDEMIC ACTIVITIES

4.7   In the context of COVID-19, a new structure of advisory and working bodies focused primarily on COVID-19 was established[25]. Although the MoH had established advisory and working bodies, other bodies were set up to replace the activities of the existing bodies. The creation of new organisational structures and bodies only duplicated the activities of the

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[22] Extraordinary Measure of the Ministry of Health Ref. No. MZDR 14629/2020-1/NH of 3 April 2020.
[23] Government Resolution No. 342 of 30 March 2020, *on the establishment of the COVID-19 Central Management Team*, Government Resolution No. 813 of 27 July 2020, *on the establishment of the Government Health Risk Council*.
[24] The Pandemic Information System was a separate system managed by the MoH even before the appearance of the COVID-19 disease. It was not connected to the Smart Quarantine service system.
[25] The COVID-19 Central Management Team, working groups (clinical group, national inpatient dispatch, epidemiology group, laboratory group), Steering Committee for the Operation and Development of Smart Quarantine, Executive Committee for the Operation and Development of Smart Quarantine, integrated Central Management Team, Government Health Risk Council.

existing advisory bodies, e.g., the newly created CMT, which carried out similar activities to those to be carried out by the CEC.

4.8   The MoH was unable to manage the development of information systems for the COVID-19 epidemic. In mid-2020, it created a department called the "Emergency Operations Centre" (hereinafter the "EOC"), which was to be responsible for, among other things, the use of the information tools and applications that were being developed within the Smart Quarantine service system. The EOC did not fulfil this role. Intensive activity in managing the development of the already built registers, information systems and newly created systems of Smart Quarantine services was carried out by the Czech Army and IHIS CR. The Czech Army was involved in the anti-epidemic activities on the basis of a Government Resolution[26]. It developed an application[27] for collecting data and information on COVID-19 from laboratories, test collection sites and hygiene stations, and an application[28] for displaying the current location of the mobile test collection teams of the Czech Army and for illustrating the current epidemic situation.

4.9   The members of the CEC did not present any requests for data, information or analyses at the meetings of the Commission that would be indicative of the current epidemic situation. The CEC did not address the emerging services of the Smart Quarantine system, which was used to manage the anti-epidemic activities. The CEC meetings were informative and dealt with the current development of the epidemic and the measures taken in relation to the COVID-19 epidemic.

4.10   Since February 2017, IHIS CR had been developing IDIS that was primarily intended for statistical purposes. Until February 2020, the IDIS functions were mainly oriented towards retrospective data entry and provided only basic process support to the staff of the regional stations. After a series of modifications[29] forced by the epidemic situation, IDIS became the backbone information system for the Smart Quarantine service system and for the database[30] on the COVID-19 disease evolution (see Figure 1). A major addition of new functionalities in IDIS was underway until the end of the autumn of 2020. IDIS newly addressed the acute information needs to support anti-epidemic measures, i.e. ensuring mandatory reporting, recording and analysis of the infectious disease, testing, vaccination and certification. IDIS contains laboratory results for COVID-19 from laboratories already linked to it. An enormous amount of changes had to be made to ensure that the information support fulfilled its elementary role.

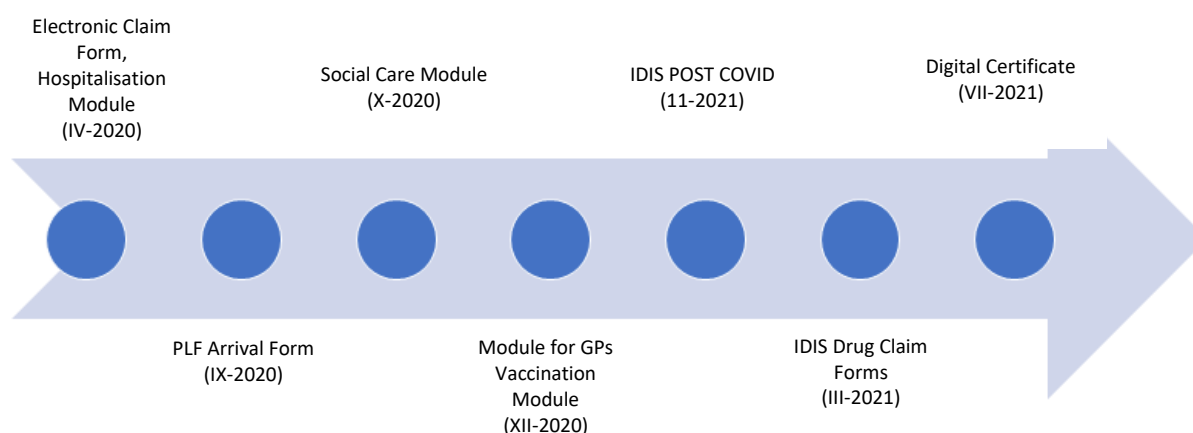[26]   Government Resolution No. 342 of 30 March 2020, *on the establishment of the COVID-19 Central Management Team*.
[27]   Covid Forms Application (CFA).
[28]   Location map of the CMT.
[29]   E.g., Extraordinary Measure of the Ministry of Health of 27 March 2020 Ref. No. MZDR 13714/2020-1/MIN/KAN, Extraordinary Measure of the Ministry of Health of 14 December 2020 Ref. No. MZDR 47828/2020-10/MIN/KAN, Extraordinary Measure of the Ministry of Health of 1 March 2021 Ref. No. MZDR 1596/2021-2/MIN/KAN.
[30]   All inpatient care providers and almost 90 % of general practitioners have an account in IDIS and thus have access to the COVID-19 testing results for the whole Czech Republic. The data is distributed from IDIS through integration into other systems, open datasets, internal analysis documents and reporting. The staff of the regional stations use the IDIS data to support contact tracing.

Figure 1: IDIS modules[31]

Electronic Claim Form, Hospitalisation Module (IV-2020)

Social Care Module (X-2020)

IDIS POST COVID (11-2021)

Digital Certificate (VII-2021)

PLF Arrival Form (IX-2020)

Module for GPs Vaccination Module (XII-2020)

IDIS Drug Claim Forms (III-2021)

Source: drawn up by the SAO.

4.11 The Arrival Form (hereinafter also the "PLF")[32], once completed, was intended to allow public health authorities to contact a person in those cases where it was determined that they may have been infected by another person during travel or the person may have been a source of infection to other travellers. This function of the form could not be fulfilled in all cases because it lacked the "car registration number" item. One of the pieces of information needed to trace persons who may have been exposed to the SARS-CoV-2 virus in contact with an infected passenger was thus missing. IDIS does not work with the data acquired in the PLF and the data processing, evaluation and control processes are not automated. The staff of the regional stations have to search for the necessary data themselves, which is associated with errors, time and labour consumption.
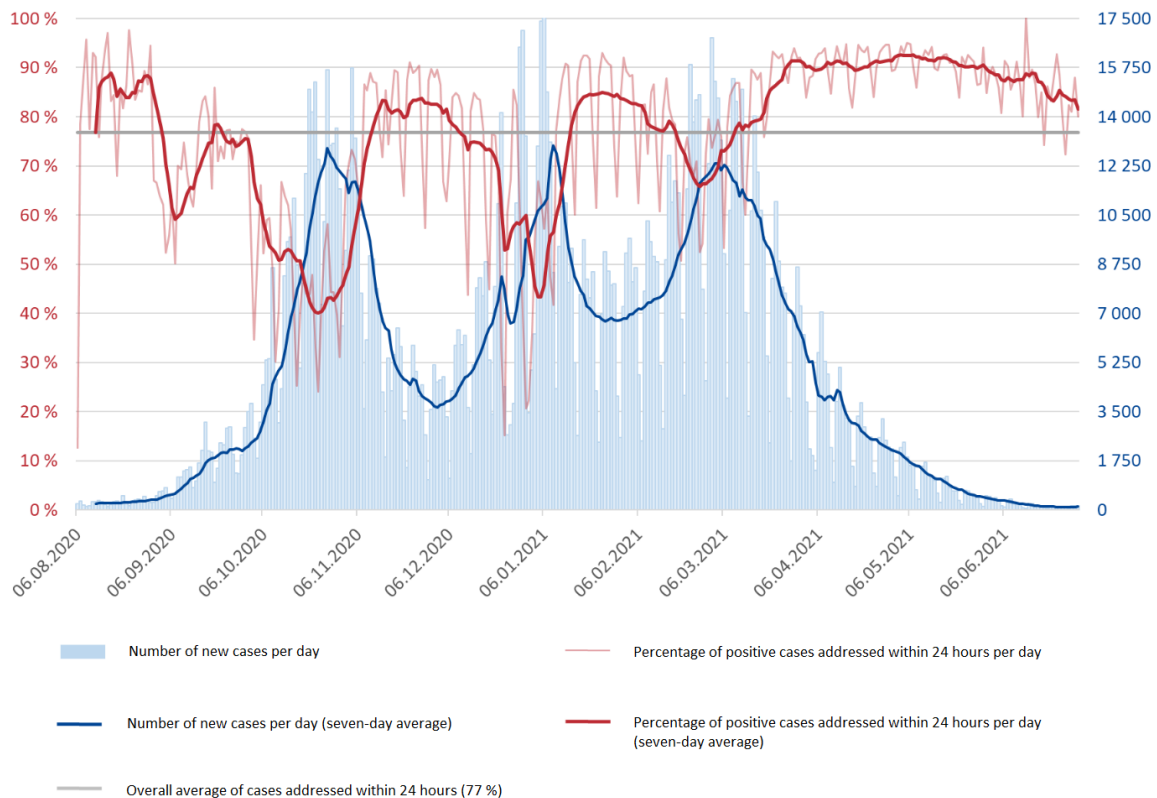
4.12 The PLF did not utilise commonly used methods of entering personal data, such as bank identity, Moje ID or NIA ID. In the case of the PLF, a citizen of the Czech Republic who uses one of the electronic identity means is forced to re-enter the data that the state already keeps about him/her in other registers. Identification of family members – children against ROB is not set in the PLF.

4.13 The MoH did not ensure capacity planning and provision of the activities of the regional stations, call centres, test collection sites and laboratories for new positive cases. As can be seen in Chart 1 of the Audit Report, the success rate of addressing positive cases within 24 hours repeatedly fell below the average over the long term. One of the main objectives of the Smart Quarantine service system, to trace the contacts of infected or potentially infected people, was not ensured.

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[31] The following modules were not subject to audit: Electronic Claim Form, Hospitalisation, Social Care, for GPs, IDIS POST COVID, IDIS Drug Claim Forms.

[32] Extraordinary Measure of the Ministry of Health of 24 August 2020 Ref. No. MZDR 20599/2020-25/MIN/KAN.

Chart 1: **Seven-day moving average of the number of new cases and seven-day moving average of the success rate of addressing positive cases within 24 hours**

Number of new cases per day

Number of new cases per day (seven-day average)

Overall average of cases addressed within 24 hours (77 %)

Percentage of positive cases addressed within 24 hours per day

Percentage of positive cases addressed within 24 hours per day (seven-day average)

Source: drawn up by the SAO using data from https://twitter.comRouskaE and https://stats.erouska.cz.

FAILURE TO COMPLY WITH SECURITY STANDARDS

4.14 In the individual applications/tools of the Smart Quarantine service system as a whole, there were risks related mainly to data management (sensitive personal and health information) and security risks (in the sense of cyber security). From at least July 2020 to October 2020, not all technical and security measures of the appropriate scope and importance of the individual tools and the Smart Quarantine service system as a whole and the comprehensive services provided by it were fully implemented. Until February 2021, when the amendment to Act No. 258/2000 Coll. implemented by Act No. 94/2021 Coll.[33] came into effect, there was no legal regulation on the possibility of access by the staff of external entities (e.g., call centres, Daktela communication tool staff) to sensitive personal and health data processed within the framework of epidemiological and hygiene agendas.

INSUFFICIENT TESTING AND VERIFICATION OF THE SOFTWARE SOLUTION

4.15   The management set up for the testing of individual tools or changes made to the Smart Quarantine service system within the life cycle of a change request or the development and deployment of a new tool prior to its release to the production environment in February 2021 was inadequate on the part of NACIT. The MoH did not consistently and conceptually manage

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[33]   Act No. 94/2021 Coll., on extraordinary measures during the COVID-19 disease epidemic and on amendments to certain related acts, which entered into effect on 27 February 2021.

changes to the Smart Quarantine service system. A fundamental change in the testing process occurred only after eight months of the operation of the Smart Quarantine service system, when the MoH started to commission NACIT to carry out tests in the form of expert work orders.

D. Funds spent in an uneconomical and ineffective manner

CALL CENTRE SERVICES

4.16   In particular, the Smart Quarantine service system included the *Daktela* communication tool[10], which was designed to streamline contact tracing and enable the capacity of call centre operators, hygienists and epidemiologists to be sized according to the evolution of the COVID-19 epidemic. The chosen solution is based on the delivery of services that are uniquely customised and therefore non-transferable. The costs associated with customisation are earmarked only for information support to manage the COVID-19 epidemic, and are not universal. In the event of a different type of epidemic or threat, as well as if the provider or the core system needs to be changed, further adjustments (customisation) will be necessary.

4.17   The MoH spent funds in violation of Section 45(2) of Act No. 218/2000 Coll.[34] and made an expenditure contrary to the material performance when it paid CZK 3,165,027.40 for professional services related to the changes to the Contact Centre[35], whereas according to the statement of work for October 2020 it should have paid only CZK 2,229,355.93.

4.18   On 25 March 2021, NACIT paid to the provider the maximum amount of CZK 2,420,000 agreed in the Framework Agreement on the Provision of Call Centre Services for the Smart Quarantine Project No. 2020/145 although this did not correspond to the actual performance carried out and reported. It approved and signed the acceptance report, which was not in accordance with the concluded Framework Agreement, as it did not contain all the required elements for acceptance. It is not clear from the acceptance report how many active operators were providing the performance and what the corresponding number of man-days was. The SAO found that NACIT had paid the provider an extra CZK 659,329 without any material performance, based on the conversion of the reported hours to man-days (11 hours). NACIT did not proceed to remedy the situation until 6 October 2021, when it signed a mutual settlement agreement. That agreement became effective upon publication on 12 October 2021.

4.19   The MoH did not use the bid of a tenderer whose prices for call centre services were more favourable than those of some selected tenderers with whom the MoH had concluded framework agreements. Thus, the MoH did not take advantage of a better bid without being able to explain why. The MoH acted in an uneconomical manner.
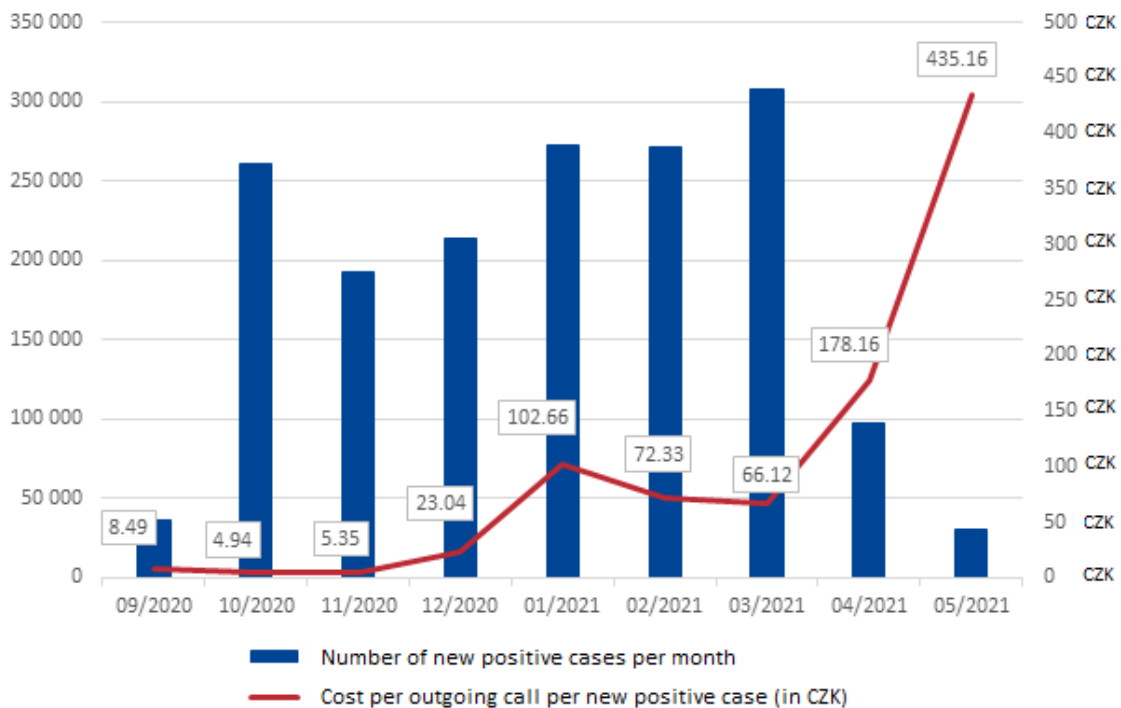
4.20   The SAO used the cost of outgoing calls per new positive case as an indicator to determine whether the MoH had managed contact tracing costs effectively. The unit price of an outgoing call evolved in three phases. Between September 2020 and mid-December 2020, outgoing calls were handled by individual regional stations and volunteers. During that period, most of the costs were borne by entities other than the MoH. Although the unit price was the

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[34]   Act No. 218/2000 Coll., on the budgetary rules and amending certain related acts (the Budgetary Rules).

[35]   The Contact Centre is a communication tool of the Smart Quarantine service system, which is built on a call centre platform, including an interface for the activities of the staff of the regional stations. It works closely with memory maps and data integration. It is also referred to as a unified system of registering positive patients to actively contact them and establish their contacts. This tool is also called Daktela.

lowest, it did not include all costs. From mid-December 2020, outgoing calls were handled by external professional call centres and the expenditure was covered by the MoH budget. Between January 2021 and March 2021, the monthly number of new positive cases was between 271 and 301 thousand, and the unit price per outgoing call ranged between CZK 66 and 103. In the months of April and May 2021, the number of new positive cases began to decline and the unit price rose sharply. The MoH did not react to this. The cost of outgoing calls per new positive case in October 2020 was CZK 4.94, in March 2021 it was CZK 66.12, and in May 2021 it reached CZK 435.16 (see Chart 2 for more details).

Chart 2: Number of new positive cases in each month and cost per outgoing call

Source: drawn up by the SAO.

4.21 The MoH spent funds on the purchase of licences to provide a "contact centre communication tool" without knowing how many licences it had purchased. By failing to carry out a preliminary management control after the commitment was made and by failing to apply the control procedures in an appropriate manner in the performance of financial control, the MoH did not comply with Section 6(2)a) of Act No. 320/2001 Coll.[36] and Section 14(1) and (2) of Decree No. 416/2004 Coll.[37]

4.22 The MoH did not monitor the economy and effectiveness of the funds spent in the amount of CZK 7,088,753.34 because the invoices for the period of January-June 2021 did not detail the mobile services provided[38].

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[36] Act No. 320/2001 Coll., on financial control in public administration and on amendment to certain acts (the Act on Financial Control).

[37] Decree No. 416/2004 Coll., implementing Act No 320/2001 Coll., on financial control in public administration and on amendment to certain acts (the Act on Financial Control), as amended by Act No. 309/2002 Coll., Act No. 320/2002 Coll. and Act No. 123/2003 Coll.

[38] Mobile services include call centre calls and call centre text messages.
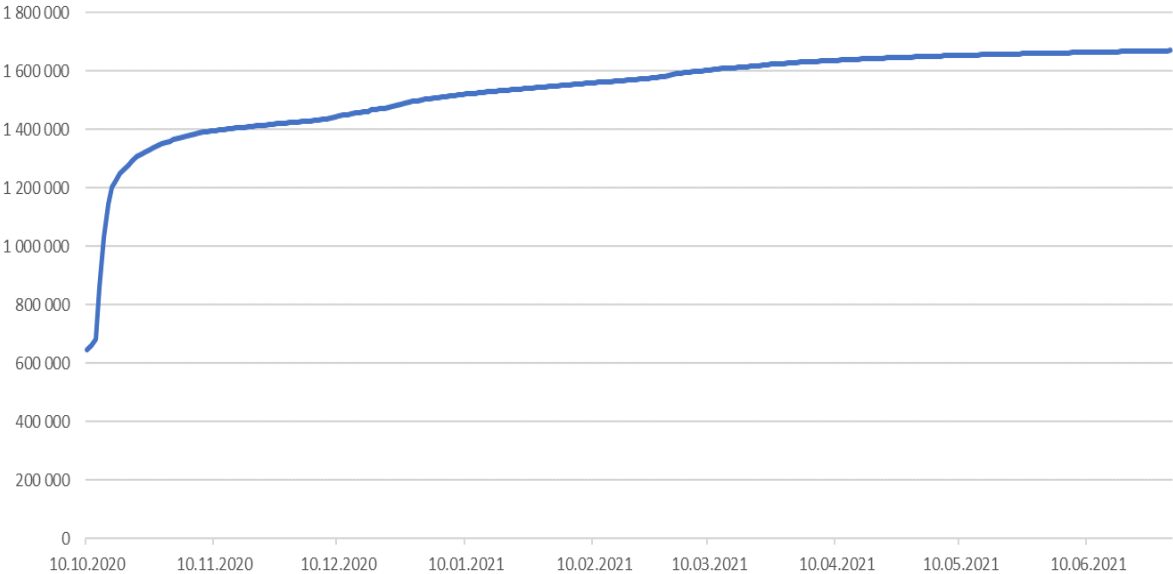
4.23 The MoH did not apply the approval procedures in the framework of the preliminary management control after the commitment was made in an appropriate manner when carrying out the financial control and thus did not proceed in accordance with Section 6(2)a) of Act No. 320/2001 Coll. and at the same time with Section 14(1) and (2) of Decree No. 416/2004 Coll. At the same time, NACIT did not comply with the terms of Contract No. 1005/20 as it did not provide the MoH with detailed statements for mobile services.

4.24 The MoH spent funds in violation of Section 45(2) of Act No. 218/2000 Coll. and made an expenditure contrary to the material performance when it paid CZK 447,786.06 for professional services related to the development of the EPI Dashboard, whereas according to the statement of work for October 2020 it should have paid only CZK 286,586.66.

eROUŠKA APPLICATION

4.25 There was little public interest in the eRouška application. The number of activations of the application is shown in Chart 3, with the maximum increase in the number of downloads occurring as a result of a request from the Chief Hygienist of the Czech Republic via mobile operators. The maximum number of the application downloads was 1.6 million, with only 0.5 million active applications as of September 2021.
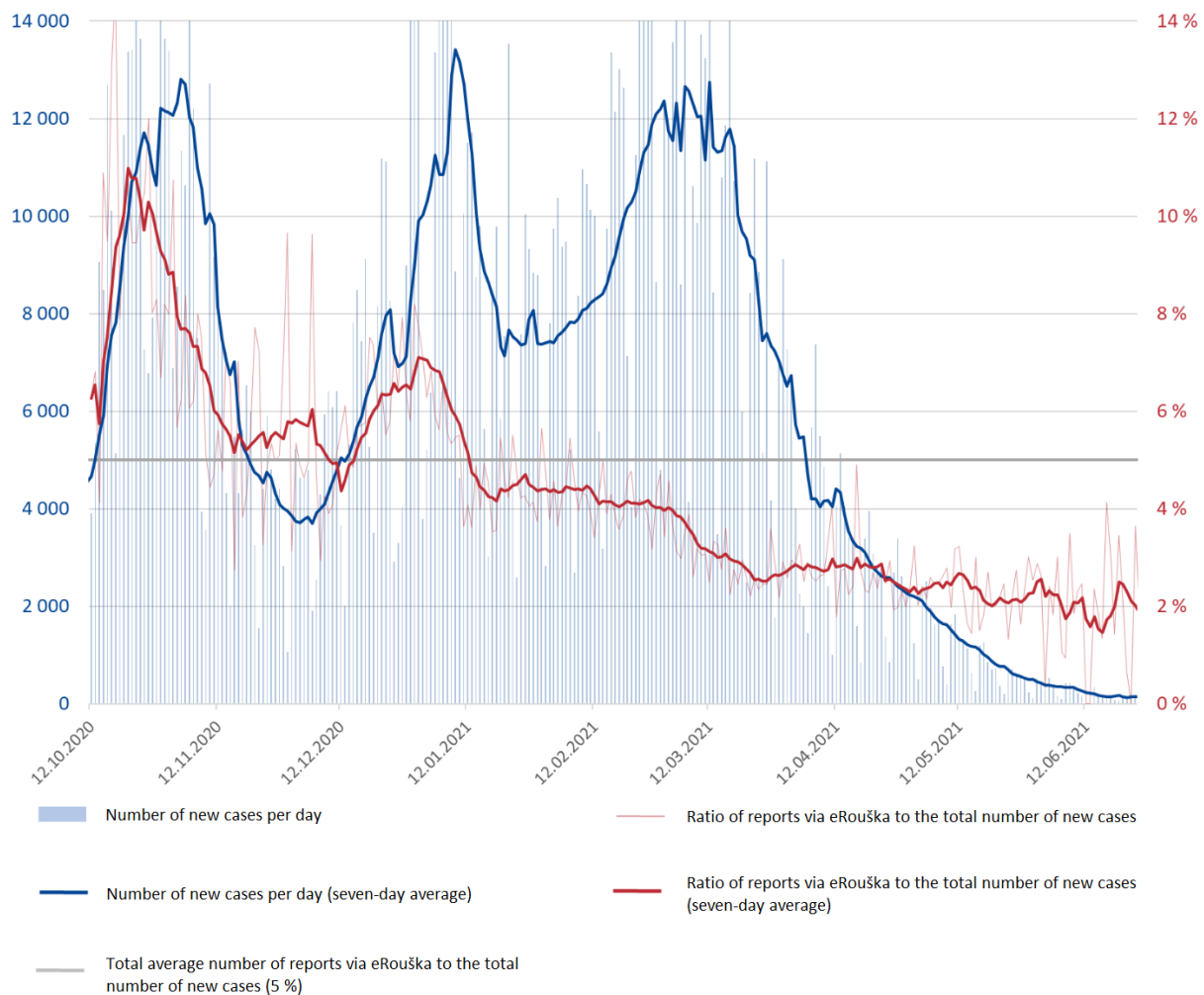
Chart 3: Cumulative number of eRouška activations

Source: drawn up by the SAO using data from https://twitter.com/RouskaE and https://stats.erouska.cz.

4.26 The MoH paid a total of CZK 20 million for the eRouška application for the audited period. The MoH did not work with data from the eRouška application and did not even have the data at its disposal. Between October 2020 and June 2021, 1.6 million new positive cases of COVID-19 were reported, but only 5 % of those positive cases were reported via eRouška (see Chart 4 for more details).

Chart 4:   Number of new cases and percentage of their reporting through the eRouška application

Legend:
- Number of new cases per day
- Ratio of reports via eRouška to the total number of new cases
- Number of new cases per day (seven-day average)
- Ratio of reports via eRouška to the total number of new cases (seven-day average)
- Total average number of reports via eRouška to the total number of new cases (5 %)

Source: drawn up by the SAO.

4.27 The MoH did not carry out an adequate management control after the commitment was made, as the authorising officer did not verify whether the reported activities were in accordance with the concluded Contract No. 1005/20. These were invoices that included statements of work for professional services performed in the previous period related to the eRouška application. In this way, the MoH did not proceed in accordance with Section 6(2)a) of Act No. 320/2001 Coll. and Section 14(1) and (2)b) of Decree No. 416/2004 Coll.

PANDEMIC INFORMATION SYSTEM

4.28 The MoH, as the administrator of the Pandemic IS, spent funds in the amount of CZK 1,825,300.80 on the operation and support of the Pandemic IS through IHIS CR from the state budget chapter in an ineffective manner, as it did not verify the functionality of the IS or activate it during the pandemic period, which did not fulfil the purpose for which the Pandemic IS is supposed to serve. The above amount was provided to IHIS CR as the system operator for the provision of flat-rate support services and ad hoc services, including the development of the Pandemic IS.

4.29 The MoH, as the administrator of the budget chapter 335, violated Section 39(3) of Act No. 218/2000 Coll. by not systematically monitoring and evaluating the economy, efficiency and effectiveness of spending on the operation and development of the Pandemic IS (operating expenditure).

PURCHASE OF M365 LICENCES

4.30 IHIS CR determined the weighting of the individual criteria for the "M365 Licence" public contract in a way that led to the selection of a tenderer that did not submit the most economically advantageous bid in aggregate. The weighting of the individual licensed products set by IHIS CR in the tender documentation did not correspond significantly to the share of those products in the estimated total value of the contract. IHIS CR thus violated Section 6(1) of Act No. 134/2016 Coll. It also failed to carry out its designated tasks in the most cost-effective manner, as it set the parameters for the evaluation of bids in a biased manner and the bid of the selected tenderer was not the most economically advantageous. IHIS CR thus violated the obligation set out in Section 45(2) of Act No. 218/2000 Coll.

4.31 IHIS CR concluded Framework Agreement S017/2019 with the winner of the public contract for the supply of Microsoft licences, and the Framework Agreement did not comply with the terms of the public contract and the bid of the selected tenderer. Compared to the original binding model agreement, the concluded agreement included a provision for a minimum purchase of 250 M365 licences and a commitment by IHIS CR to follow the Enterprise Microsoft Implementation Agreement. This was not in line with the terms of the tender procedure, which did not specify a minimum licence purchase or other obligations to the third party. IHIS CR thus violated Section 51(3) of Act No 134/2016 Coll.

4.32 IHIS CR violated Section 13(1) and (2) of Decree No. 416/2004 Coll., implementing Act No. 320/2001 Coll., by failing to verify the necessity and correctness of the operation under preparation (the "M365 Licence" public contract) and to substantiate it with factually correct and complete documents. As a result of an insufficient examination of documentation, where the operation was not suspended, IHIS CR also failed to proceed in accordance with Section 6(2)a) and b) of Act No. 320/2001 Coll.

4.33 In the period from 19 March 2019 to 15 June 2021, IHIS CR paid a total of CZK 44,701,720.95 to the selected tenderer on the basis of individual contracts No. 1 to No. 8 to Framework Agreement S017/2019. For the delivery of services according to the bid of the other tenderer, IHIS CR would have spent a total of CZK 43,428,133.72 for the same performance, which would have constituted a financial saving of CZK 1,273,587.23.

INFORMATION CONCEPT

4.34 The MoH spent funds in the amount of CZK 1,088,163.77 on the provision of an information concept by an external contractor in violation of the concluded contract[19]. In addition, the MoH has its own unit[39] in its organisational structure to carry out this activity. The SAO considers the expenditure of these funds to be uneconomical.

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[39] Department of IT and electronic health care.

List of terms and abbreviations

ARI	Acute Respiratory Disease Register
CDR	central data repository
CEC	Central Epidemiological Commission
CFA	Covid Forms Application
CMT	Central Management Team
Czech Army	Army of the Czech Republic
EOC	Emergency Operations Centre
HW	hardware
ICT	information and communication technology
IDIS	Infectious Disease Information System
IHIS CR	Institute of Health Information and Statistics of the Czech Republic
IS	information system
IT	information technology
MoH	Ministry of Health
MoHNET	Ministry of Health network – network environment of the MoH
NACIT	National Agency for Communication and Information Technologies
NHIS	National Health Information System
PLF	Arrival Form
REC	Regional Epidemiological Commission
Regional station	regional hygiene station
ROB	population register
SAO	Supreme Audit Office
SW	software

List of annexes

Annex 1: Dataset of Concluded Contracts – *only available online at* https://www.nku.cz/scripts/detail.php?id=12349.