NEGLECTED TECHNICAL INFRASTRUCTURE OF SLOVAK HOSPITALS AND POTENTIAL SOURCES OF CAPITAL INVESTMENT IN HOSPITALS

CEE HPN WORKING PAPER I
MAY 2022

CEE Health Policy Network

CEE Health Policy Network

NEGLECTED TECHNICAL INFRASTRUCTURE OF SLOVAK HOSPITALS AND POTENTIAL SOURCES OF CAPITAL INVESTMENT IN HOSPITALS

WORKING PAPER WRITTEN BY
Ing. Ľubica Löffler, MSc.

WORKING PAPER SUPERVISED BY
doc. Ing. Peter Pažitný, MSc., PhD.

ACKNOWLEDGMENT
For valuable advice, comments and case study materials, we would like to thank:
Mongi Msolly
Santiago Delgado Izquierdo
Jozef Mathia
Marek Hvožďara
Martin Hrežo

CEE Health Policy Network

CEE Health Policy Network

CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF SCHEMES

CEE Health Policy Network

EXECUTIVE SUMMARY (ENGLISH VERSION)

In the five-page executive summary, we offer the most important findings of the document. All used sources of information are correctly cited in the study text itself.

Indebtedness of Slovak hospitals

A significant part of Slovak hospitals also reports overdue liabilities in their financial statements. **The most indebted ones are large state hospitals,** about which debt we also have a relatively good idea, as it is regularly calculated. As of 31 August 2021, the total liabilities of university and teaching hospitals reached 914 million EUR. The state regularly eliminates the debt from them, but it is a non-systemic solution with a short-term effect and negative side effects.

State hospitals operating in the form of commercial companies (joint-stock or ltd.) or smaller regional hospitals owned or operated by a private individual are significantly better off.

Bad infrastructure condition and investment gap

Lack of funding also results in poor maintenance of buildings and technologies and annually postponed capital investments into the hospital modernization are gradually accumulating, resulting in an extremely poor state of hospital infrastructure with a negative impact on both patients and staff of these medical facilities. Although the state does not have a detailed idea of the state of hospital infrastructure, according to the Ministry of Health of the Slovak Republic, the infrastructure of institutional facilities in Slovakia is **economically unsustainable** and with regard to its obsolescence and unsatisfactory arrangement of buildings, the possibilities of increasing hospital productivity only through reconstructions of existing buildings are considerably limited and almost exhausted. **Not hospital reconstructions, but new modern hospitals are missing in our system.**

The undercapitalization of the Slovak healthcare system is best seen in a direct confrontation with the Czech healthcare system. Over the last 25 years, gross fixed capital formation in the Slovak healthcare sector has reached a total of 4.8 billion EUR, in the Czech Republic healthcare sector it has been 15.1 billion EUR. Therefore, **the investment gap of Slovakia against the neighbouring Czech Republic is after recalculation 2.9 billion EUR what represents 115.1 billion EUR per year.**

Funding is needed to modernize hospitals. However, according to INEKO study, annual hospital reports revealed that only a smaller part of hospitals have at least 5% of their revenues available that could be used to modernize buildings and technology.

Question is now, what are the options for increasing capital investment in hospitals from a system-wide perspective? We analyse public, private but also mixed sources.

Public resources

We consider public resources as potential resources for the modernization of hospitals originating from the state or local self-governments (state budget, Ministry of Health of the Slovak Republic, higher territorial units, cities or municipalities,) or the EU (EU funds, Recovery and Resilience plan).

As of 31 December 2021, government debt exceeded 63% of GDP and, according to Eurostat, Slovakia has the second most unsustainable public finances in the EU27. Therefore, we consider **it unlikely** that the state will in the near future significantly **increase resources for healthcare and modernize hospitals at the expense of the state budget deficit**, when it did not do so even in the years before the pandemic.

However, it is very **likely** that in the future, the Ministry of Finance of the Slovak Republic **will increase the resources of health chapter at the expense of another budget chapter when compiling the state budget**. The main reason is **the aging of the Slovak population**, which will bring a greater demand for healthcare but at the same time lower contributions of the economically active population.

The state pours money into healthcare system through the state's payment for state-insured. In recent years, this payment has repeatedly fallen below the insurance rate of 4% of the average wage two years ago, resulting in underfunding of the sector as a whole. In order to maintain the functionality of the healthcare system, it will be necessary to significantly increase the payment for or state-insured in the future (after the change in the methodology in 2020, we are no longer talking about the insurance rate but about a specific fix amount the state put into the system).

Over the last 22 years, **the 6th round of hospital debt elimination** is currently underway, which **makes debt elimination almost relevant calculable hospital income** and a significant flow of funds to selected hospitals. Although any further debt elimination is more of a temporary solution of the problem with undesirable side effects (moral hazard of hospital management, worsened financial predictability of the environment), it is likely that the unresolved problems of state hospitals will continue to be covered by the next round of debt elimination.

Given its very low level in the past, the direct subsidy from the Ministry of Health of the Slovak Republic for capital expenditures cannot be considered as a significant source of financing. However, it can theoretically be considered in connection with the need to co-finance the already launched EU fund project of the hospital owned by the ministry.

Self-governing regions are interested in supporting the modernization of hospitals in their region. Moreover, in some cases they are still their owners and operators (Trenčín and Žilina region). In recent years, the impact of the pandemic has significantly reduced capital expenditures, but in the future, it can be expected that the importance of this resource will increase again.

In recent years (especially after 2011), **EU funds have been a major source of capital investment in hospitals. In the shortened programming period 2004 - 2006**, Slovakia received a total of **20.5 mil. EUR** through of a "Basic infrastructure" Operational Programme (measure 3.1.2 Construction and development of health infrastructure), the remaining costs were covered from the state budget and local government budgets.

The drawing of funds from the Operational Program Health in the programming period 2007-2013 brought 340 mil. EUR which was used for 81 projects in the inpatient and outpatient care. The nine largest projects of state teaching or university hospitals received a total of 170 mil. EUR.

The Integrated Regional Operational Program for the programming period 2014-2020 is still ongoing. After the end of the second call, the Ministry of Health of the Slovak Republic managed to **contractually commit 28 projects in the total amount of 186.8 mil. EUR.** As of 31 January 2021, only 2 projects were successfully completed which accurately captures the drawdown process in which we are still lagging behind.

Finally, it is necessary to mention the **Recovery and Resilience Plan of the Slovak Republic** that is **associated with high expectations but also concerns**. In the document, Slovakia has defined **a goal to build a new network of hospitals - construction, reconstruction, and equipment. Allocation of this goal is in total of 998 mil. EUR.**

With regards to the poor state of the infrastructure of Slovak hospitals, the allocation of almost EUR 1 billion for the construction, reconstruction and technical equipment of hospitals sounds like a jackpot. After all, if the allocated funds are successfully used up, we can reduce the huge investment gap that has arisen in hospitals in recent decades.

It is desirable that the Recovery and Resilience Plan of the Slovak Republic finances the modernization of hospitals, as set out in other plans of V4 countries (Poland or the Czech Republic), however, we also repeatedly draw attention to the possible risks associated with allocating as much as EUR 1 billion to hospitals. These should by no means be underestimated, as there is a risk that the funds will not be used effectively and at the end of the day, the Slovak healthcare system will not move forward. **Identified risks:**

1) **Disproportionality of the distribution of funds** - too much for concrete, too little for the outpatient care and digitization or building excellence

2) **Will it be possible to tie funds up to the already approved Optimalization of the hospital network?** The implementing regulations of the reform are delayed, which complicates the possibility to link the medical plan of the new hospital to this reform. There is also a lack of a more significant link between the reform and the process of projects evaluation.

3) **Will resources from the recovery plan be limited only for state hospitals?** - it is still not confirmed whether private hospitals should also acquire access

4) **Lack of time to build new hospitals** - by the end of 2025 (resp. 2Q 2026), Slovakia has committed itself to operating new hospitals with at least 870 beds at the full fitout level, to reconstruct hospitals with a capacity of 495 beds at the fully equipped level and also to have the rough construction of new hospitals completed ("shell & core") with another 1,035 beds. In particular, the construction of a state hospital in 4 years (including the procurement process!) seems difficult to implement.

Finally, in regard to state sources we can theoretically also consider the privatization of the state's financial assets outside the healthcare sector, but also the privatization in the healthcare sector itself.

Private sources

With private resources, we primarily focus on resources from private companies, but resources can also come from private individuals (donations), church or associations.

The entry of private resources into the hospital is possible, for example, by **purchasing its shares**. However, this option is **only open to hospitals that have the form of a joint stock company**, respectively would be transformed into one. **The joint-stock company may subsequently issue the shares and offer them for sale to a private bidder**. Alternatively, in the case of state hospitals, part of the state-owned shares may be sold to a private company.

As the transformation of hospitals into joint stock companies does not continue and specialized state institutes are in good financial condition (also with other possibilities of financing their modernization), we **do not expect the state to use this possibility to a greater extent.**

We would expect a greater inflow of private resources to hospitals through **investment loans from a commercial bank**. However, not all hospitals are able to access these resources, as the financial health of the hospital (especially indebtedness, solvency and balanced management), the value of the capital, its legal form and the possibilities of providing a guarantee will be decisive for the bank when approving the loan. If the hospital

is heavily indebted, the bank may reject the application for fear of default. Also, a legal form of hospital other than a commercial one may be a reason for rejection, due to lower accounting transparency as well as limitations in business activities. An example of a successful large project co-financed through a commercial investment loan worth 20 million euros was documented in the first case study of the National Institute of Cardiovascular Diseases a.s.

In the case of hospitals, **bonds can be considered as a possible source of financing in hospital construction projects**. Abroad, this method is used by states or municipalities that do not have enough funds for construction. In Slovakia, co-financing through bonds was used for the first time in the preparation of the New Generation Hospital Bory. This is a very unique project (II. case study), backed by the Penta investment group, which, thanks to its unique market position (investment group with experience in bond issues, real estate projects and hospital network management), could afford to optimize the capital structure of this project. by bond issues for Privatbanka's private banking clients

Mixed sources

General hospitals have an average of 30 buildings per hospital, some even own up to 81 buildings and are often spread over a large plot of land with low occupancy. Many of the buildings are not in use, which essentially reduces the value of the hospital itself. Conversely, in the case of a lease of an unused part of the state or a private individual, the funds obtained may be used to cover capital costs. This form of resource allocation is used in hospitals today (cafeterias, shops, private IB providers, laboratories, car parks, etc.), but its **potential is not sufficiently exploited** everywhere.

In general, Public-Private Partnerships (PPPs) in Slovakia are not significantly used as a funding option. After 2004, the model of partnership between the self-government (city or region) owning the hospital premises and a private investor renting and managing the hospital for a longer period of time (20-30 years) gradually expanded in Slovakia. Through the gradual creation of such partnerships, the Penta investment group managed to create a network of a total of 17 hospitals (SVET ZDRAVIA). The Agel Group has also established and is developing partnerships with local governments in several cities in Slovakia (PPP concerns 9 hospitals).

These public-private partnerships have contributed to an increase in health funding at two levels.

1) the original owner (local government) obtained funds from the lease, which could be further used to finance other hospitals within its scope

2) a private investor has invested additional (own) funds in the modernization of these hospitals

Public-private partnerships have a huge variability, individual partnerships differ from each other depending on the specific conditions set out in the contract.

Basic models of PPP projects in healthcare (PWC, 2015):

“DBOT” model (design, build, operate, transfer). The private partner is responsible for maintaining the infrastructure throughout the life of the contract. The private partner then transfers this responsibility back to the government upon expiration of the contract. The private partner is responsible for operating the hospital, including services such as laundry

and cafeteria. The government retains responsibility for the delivery of healthcare service throughout. In healthcare this model is called PFI model (the private finance initiative) model that has been used to build many hospitals in the United Kingdom.

"DBOD" model. Since the early 2000s, an increasing number of governments have been exploring more ambitious models such as public-private integrated partnerships (PPIPs), under which the private partner is additionally responsible for delivering all clinical services at one or more health facilities, often including an acute care hospital, as well as one or more primary care facilities. The private partner designs, builds and operates the facilities, and delivers clinical care, including recruitment and staffing of healthcare professionals.

A special form of this model is the so-called **concession model** where a concession contract is concluded with precisely defined key performance indicators. The obligation of the integrated care provider is to provide such a care that meets not only the current but also the future needs of the population in a certain geographical area.

Although there is currently no hospital in Slovakia that operates on a concession model, a few years ago such a project was intensively prepared and the team of experts who worked on it managed to prepare the project in relatively large details. Therefore, we believe that even such a model of public-private partnership could work in the Slovak healthcare system during the construction of a new hospital tailored to Slovak conditions. In the third case study, we describe the project of the new University Hospital Bratislava, which was brought into the competitive dialogue by Ribera Salud.

Public sources, private sources or PPP?

Public sources. In the medium term, it is possible to expect an increase in the healthcare chapter at the expense of another budget chapter in order to cover the increase in demand for healthcare due to the aging of the Slovak population. However, the hospitals themselves are unlikely to cover their capital expenses from this extra money. **For the next 5 years, the most important public sources will be EU funds and the Recovery and Resilience Plan**. If Slovakia managed to fully use the allocated funds for quality projects, there would certainly be noticeable progress in the sector, but we would still cover only about 1 billion EUR from the investment gap against the Czech Republic.

Private resources also have the potential to provide the necessary resources to modernize hospitals. **In the future, we would expect a greater inflow of private resources through investment loans from a commercial bank**, which should be used to co-finance reconstructions or smaller projects (extension). Leasing funding, in turn, can help hospitals provide medical equipment. The opening of the new Bory hospital in 2023 is an example of how private resources flowing to healthcare can finance the construction of a new hospital (a combination of own private funds and bonds). However, in our opinion, not many similar projects are to be expected soon.

Finally, there are also **mixed sources and especially various forms of PPP projects, which due to their high variability offer a variety of options**. As the Alzira concession model project shows us, it does not have to be just a model of partnership used in Slovakia we already know (between the municipality owning the hospital premises and a private investor renting and managing the hospital for a longer period of time).

EXECUTIVE SUMMARY (SLOVENSKÁ VERZIA)

V päťstranovom executive summary ponúkame najdôležitejšie zistenia dokumentu. Všetky použité zdroje informácií sú korektne citované v samotnom texte štúdie.

Zadlženosť slovenských nemocníc

Nemalá časť slovenských nemocníc vykazuje vo svojej účtovnej závierke aj záväzky po lehote splatnosti. **Najviac zadlžené bývajú spravidla veľké štátne nemocnice** o ktorých dlhu máme aj pomerne dobrú predstavu, nakoľko sa pravidelne vyčísľuje. K 31. 8. 2021 dosiahol celkový stav záväzkov univerzitných a fakultných nemocníc **914 miliónov eur**. Štát ich pravidelne oddlžuje, ale ide o nesystémové riešenie s krátkodobým efektom a negatívnymi vedľajšími efektami.

Výrazne lepšie sú na tom štátne nemocnice hospodáriace vo forme obchodných spoločností (akciové a s.r.o.) či menšie regionálne nemocnice, ktoré vlastní alebo prevádzkuje súkromník.

Zlý stav infraštruktúry a investičná medzera

Nedostatok financií má za následok slabú údržbu budov a technológií a každoročne odkladané kapitálové investície do modernizácie nemocníc sa postupne kumulujú, **čoho výsledkom je mimoriadne zlý stav infraštruktúry nemocníc** s negatívnym dopadom tak na pacientov, ako aj zamestnancov týchto zdravotníckych zariadení. Hoci detailnú predstavu o stave nemocničnej infraštruktúry štát nemá, **podľa MZ SR je infraštruktúra ústavných zariadení u nás ekonomicky neudržateľná** a s ohľadom na jej zastaranosť a nevyhovujúce usporiadanie budov sú aj možnosti zvyšovania produktivity nemocníc len prostredníctvom rekonštrukcií existujúcich budov značne limitované a už takmer vyčerpané. Nie rekonštrukcie, ale hlavne nové moderné nemocnice nášmu systému veľmi chýbajú.

Podkapitalizovanosť slovenského zdravotníctva je najlepšie viditeľná v priamej konfrontácií s českým zdravotníctvom. Za posledných 25 rokov dosiahla tvorba hrubého fixného kapitálu v slovenskom zdravotníctve celkovo 4,8 mld. eur, v českom 15,1 mld. eur. **Investičná medzera Slovenska voči susednej ČR teda po prepočte vychádza na 2,9 mld. eur**, **čo predstavuje 115,1 mil. eur ročne**.

Na modernizáciu nemocníc sú potrebné finančné prostriedky. Podľa INEKO však výročné správy nemocníc odhaľujú, že len menšia časť nemocníc má z objemu svojich tržieb k dispozícii aspoň 5%, ktoré by bolo možné použiť na modernizáciu budov a technológie.

Aké sú teda možnosti zvýšenia kapitálových investícií do nemocníc z pohľadu celého systému? Analyzujeme verejné, súkromné a zmiešané zdroje.

Verejné zdroje

O verejných zdrojoch uvažujeme ako o potencionálnych zdrojoch na modernizáciu nemocníc pochádzajúcich od štátu resp. samospráv (štátny rozpočet, MZ SR, VÚC, mestá a obce) alebo EÚ (eurofondy, Plán obnovy a odolnosti SR).

K 31.12.2021 prekročil štátny dlh 63% HDP a podľa Eurostat má Slovensko druhé najneudržateľnejšie verejné financie v EÚ27. Považujeme preto za **málo pravdepodobné**, že štát v najbližšom období pristúpi k výraznému **navyšovaniu zdrojov na modernizáciu nemocníc na úkor deficitu štátneho rozpočtu**, keď tak neurobil ani v rokoch pred pandémiou.

Veľmi **pravdepodobné** však je, že v budúcnosti bude MF SR pri zostavovaní štátneho rozpočtu **navyšovať prostriedky kapitoly zdravotníctva na úkor inej rozpočtovej kapitoly**. Hlavným dôvodom je **starnutie slovenského obyvateľstva**, ktoré so sebou prinesie väčší dopyt po zdravotnej starostlivosti (ZS), no zároveň nižšie odvody ekonomicky aktívneho obyvateľstva. Koľko pôjde na samotnú modernizáciu nemocníc je otázne.

Štát nalieva do zdravotníctva peniaze cez platbu štátu za svojich poistencov. V posledných rokoch sa opakovane stávalo, že táto platba klesla pod úroveň poistnej sadzby 4% z priemernej mzdy spred dvoch rokov, čo malo za následok podfinancovanie celého sektoru. Pre zachovanie funkčnosti systému zdravotníctva bude v budúcnosti potrebné platbu za poistencov štátu výrazne navýšiť (po zmene metodiky v 2020 už nehovoríme o výške poistnej sadzby ale o konkrétnej sume).

Za obdobie posledných 22 rokov momentálne prebieha už **6. kolo oddlženia nemocníc**, čo **z oddlženia robí takmer relevantný, kalkulovateľný príjem nemocníc** a nezanedbateľný tok financií do vybraných nemocníc. Hoci každé ďalšie oddlženie je skôr dočasným plátaním problému s nežiadúcimi vedľajšími efektami (morálny hazard manažmentu nemocnice, zhoršená finančná predvídateľnosť prostredia) je pravdepodobné, že nevyriešené finančné problémy štátnych nemocníc sa aj naďalej budú plátať práve ďalším kolom ich oddlženia.

O priamej dotácii z MZ SR na kapitálové výdavky sa s ohľadom na jej veľmi nízku úroveň v minulosti nedá uvažovať ako o významnom zdroji financovania. Možno však o nej teoreticky uvažovať v spojitosti s potrebou dofinancovať už rozbehnutý eurofondový projekt nemocnice vo vlastníctve ministerstva**.**

Samosprávne kraje majú záujem podporiť modernizáciu nemocníc v ich kraji, navyše sú v niektorých prípadoch stále ich vlastníkmi a prevádzkovateľmi (Trenčiansky a Žilinský kraj). V ostatných rokoch sa vplyvom pandémie výrazne šetrilo na kapitálových výdavkoch, v budúcnosti však možno počítať s opätovným nárastom významu tohto zdroja.

V posledných rokoch (obzvlášť po roku 2011) **patria eurofondy k významným zdrojom kapitálových investícií do nemocníc**. **V skrátenom programovom období 2004 – 2006** Slovensko cez Operačný program Základná infraštruktúra (opatrenie 3.1.2 Budovanie a rozvoj zdravotníckej infraštruktúry) dostalo celkovo z ERDF **20,5 mil. eur**, zvyšné náklady boli pokryté zo štátneho rozpočtu a rozpočtu samospráv.

Čerpanie prostriedkov z Operačného programu Zdravotníctvo v programovom období 2007 – 2013 prinieslo 340 mil. eur, ktoré sa využili na 81 projektov v nemocničnej ale aj ambulantnej sfére. Deväť najväčších projektov štátnych fakultných alebo univerzitných nemocníc získalo dokopy 170 mil. eur.

Integrovaný regionálny operačný program na programové obdobie 2014 – 2020 je aj v 2022 stále aktuálny. Po ukončení druhej výzvy sa podarilo MZ SR **zmluvne zaviazať celkovo 28 projektov v celkovej hodnote 186,8 mil. eur**. K 31.1.2021 boli úspešne ukončené len 2 projekty, čo presne ilustruje pomalé čerpanie eurofondov.

V neposlednom rade je pri verejných zdrojoch potrebné spomenúť aj **Plán obnovy a odolnosti SR, s ktorým sú spojené veľké očakávania, ale aj obavy**. V dokumente z roku 2021 si Slovensko zadefinovalo **cieľ vybudovať novú sieť nemocníc - výstavba, rekonštrukcia a vybavenie. Na tento cieľ má byť celkovo alokovaných 998 mil. eur**.

S ohľadom na zlý stav infraštruktúry slovenských nemocníc je na prvý pohľad vyhradenie takmer 1 miliardy eur na výstavbu, rekonštrukciu a vybavenie nemocníc pre Slovensko dobrou správou. V prípade úspešného vyčerpania alokovaných prostriedkov môžeme znížiť obrovskú investičnú medzeru, ktorá tu za posledné desaťročia vznikala.

Považujeme za žiadúce, aby sa z Plánu obnovy a odolnosti SR financovala modernizácia nemocníc, tak ako si to v svojich plánoch stanovili aj iné krajiny V4 (Poľsko či ČR), avšak opakovane upozorňujeme aj na možné riziká, ktoré sa s alokovaním celej 1 miliardy eur na nemocnice spájajú. Tieto by sa nemali v žiadnom prípade podceňovať, lebo hrozí, že prostriedky (vratné!) nebudú efektívne využité a na konci dňa sa slovenské zdravotníctvo neposunie vpred.

Identifikované riziká v súvislosti s Plánom obnovy a odolnosti SR

1) **Neproporčnosť rozdelenia prostriedkov** – priveľa na stavbu nemocníc, málo na ambulantnú sféru a digitalizáciu či budovanie excelentnosti
2) **Podarí sa naviazať prostriedky na optimalizáciu siete nemocníc**? vykonávacie prepisy reformy meškajú, čo komplikuje možnosť napojiť medicínsky plán novej nemocnice na túto reformu. Chýba tiež výraznejšie prepojenie reformy na proces hodnotenia pripravených projektov
3) **Budú prostriedky z plánu obnovy obmedzené len pre štátne nemocnice?** – stále nie je potvrdené, či aj súkromné nemocnice majú získať prístup k týmto zdrojom
4) **Nedostatok času na stavbu nových nemocníc** - Slovensko sa zaviazalo do konca roka 2025 (resp. 2Q 2026) sprevádzkovať nové nemocnice s minimálne 870 posteľami na úrovni plne vybavená („full fitout“), zrekonštruovať nemocnice s kapacitou 495 postelí na úrovni plne vybavená a taktiež mať hotovú hrubú stavbu nových nemocníc („shell & core“) s ďalšími 1 035 posteľami. Najmä výstavba štátnej nemocnice za 4 roky (vrátane procesu obstarávania!) sa javí ako veľmi ťažko realizovateľná.

Teoreticky môžeme v súvislosti s verejnými zdrojmi uvažovať ešte aj o privatizácií finančných aktív štátu mimo sektoru zdravotníctva ale aj privatizácií v samotnom sektore zdravotníctva.

Súkromné zdroje

Pri súkromných zdrojoch sa primárne zameriavame na zdroje pochádzajúce od súkromných spoločnosti, zdroje však môžu pochádzať aj od súkromných osôb (dary), cirkvi či združení.

Vstup súkromných zdrojov do nemocnice je možný napríklad kúpou jej akcií. Táto možnosť je však otvorená **len pre nemocnice, ktoré majú formu akciovej spoločnosti.** resp. sa transformujú na a.s. Akciová spoločnosť môže akcie dodatočne vydať a ponúknuť na predaj súkromnému záujemcovi. Alternatívne, v prípade štátnych nemocníc sa časť štátom vlastnených akcií môže predať súkromnej firme. Nakoľko transformácia nemocníc na a.s. ďalej nepokračuje a špecializované štátne ústavy sú v dobrej finančnej kondícií a aj s inými možnosťami financovania ich modernizácie, nepredpokladáme, že by štát túto možnosť využil vo výraznejšej miere.

Väčší prílev súkromných zdrojov do nemocníc by sme očakávali prostredníctvom investičných úverov z komerčnej banky. Nie všetky nemocnice sa však k týmto zdrojom vedia dostať nakoľko pre banku bude **pri schvaľovaní úveru rozhodujúce finančné zdravie nemocnice** (najmä zadlženosť, platobná schopnosť a vyrovnané hospodárenie), ďalej **hodnota imania**, jej **právna forma** a možnosti poskytnutia **záruky**. Pri veľkej zadlženosti nemocnice môže banka z dôvodu obavy nesplácania žiadosť odmietnuť. Taktiež iná právna forma nemocnice ako obchodná spoločnosť môže byť dôvodom zamietnutia a to kvôli nižšej transparentnosti účtovníctva ako aj limitáciám pri obchodnej činnosti. Príklad úspešného veľkého projektu spolufinancovaného prostredníctvom čerpania komerčného investičného úveru v hodnote 20 miliónov euro sme zdokumentovali v prvej prípadovej štúdii Národného ústavu srdcových a cievnych chorôb a.s.

O dlhopisoch ako o možnom zdroji financovania **sa v prípade nemocníc primárne dá uvažovať pri projektoch výstavby nemocnice**. V zahraničí tento spôsob využívajú štáty resp. samosprávy, ktoré nemajú na výstavbu dostatok finančných prostriedkov. Na Slovensku sa spolufinancovanie pomocou dlhopisov po prvý krát použilo pri projekte Nemocnice novej generácie Bory. Ide o veľmi unikátny projekt (druhá prípadová štúdia), za ktorým stojí investičná skupina Penta, ktorá si vďaka svojmu jedinečnému postaveniu na trhu (investičná skupina so skúsenosťami s emisiami dlhopisov, Real Estate projektami a manažovaním siete nemocníc) mohla dovoliť optimalizovať kapitálovú štruktúru tohto projektu emisiami dlhopisov pre klientov privátneho bankovníctva Privatbanky. Bežné využívanie dlhopisov na spolufinancovanie výstavby nemocníc neočakávame.

Zmiešané zdroje

Všeobecné nemocnice majú v priemere 30 budov na nemocnicu, niektoré majú v svojom vlastníctve dokonca až 81 budov a často sa rozprestierajú na veľkom pozemku s nízkou zastavanosťou. Mnohé z budov sa pritom nevyužívajú, čo v podstate znižuje hodnotu samotnej nemocnice. Naopak, **v prípade prenájmu niektorej nevyužívanej časti budovy či pozemku inému subjektu (štát, súkromná firma, združenie atď.), môžu byť získané prostriedky použité na krytie kapitálových výdavkov.** Táto forma alokácie prostriedkov sa dnes v nemocniciach používa (bufet, obchodík, súkromný poskytovatelia ZS, laboratóriá, parkoviská atď.), jej **potenciál** však **nie je všade dostatočne využitý**.

Vo všeobecnosti nie sú **verejno-súkromné partnerstvá (**anglicky Public-Private Partnership, PPP) na Slovensku výrazne využívané ako možnosť financovania. Pritom **PPP poskytujú vládam alternatívne metódy financovania, rozvoja infraštruktúry a poskytovania služieb**. Pôvodne PPP **vznikli v USA**, teda v krajine so silnou vierou v trhové sily, ktorá **dáva veľký priestor súkromným firmám s presvedčením, že budú fungovať efektívnejšie ako štát**. Neskôr sa rozšírili aj do iných EÚ krajín. V oblasti zdravotnej starostlivosti sa začala táto forma výstavby nových nemocníc presadzovať s cieľom využiť finančné zdroje súkromných firiem ako aj a ich odborné znalosti v oblasti rozvoja infraštruktúry a poskytovania služieb na zlepšenie služieb verejného zdravotníctva.

Po roku 2004 sa postupne rozšíril na Slovensku model partnerstva medzi samosprávou (mesto či kraj) **vlastniacou priestory nemocnice a súkromným investorom prenajímajúcim a manažujúcim nemocnicu na dlhšie časové obdobie** (20-30 rokov). Postupným vytváraním takýchto partnerstiev sa investičnej skupine Penta podarilo vytvoriť sieť celkovo 17 nemocníc Svet zdravia. Rovnako skupina Agel vytvorila a rozvíja partnerstvo s miestnou samosprávou vo viacerých mestách Slovenska.

Tieto verejno-súkromné partnerstvá prispeli k navýšeniu finančných prostriedkov v zdravotníctve v dvoch rovinách.

1) pôvodný majiteľ (samospráva) získal z prenájmu finančné prostriedky, ktoré sa mohli ďalej využiť na financovanie iných nemocníc v jeho pôsobnosti
2) súkromný investor investoval ďalšie (vlastné) prostriedky do modernizácie týchto nemocníc

Verejno-súkromné partnerstvá majú obrovskú variabilitu, jednotlivé partnerstvá sa od seba odlišujú v závislosti na konkrétnych podmienkach stanovených v zmluve/kontrakte.

Základné modely PPP projektov (a v zdravotníctve) podľa PWC (2016) sú nasledovné:

DBOT model (design, build, operate, transfer) v rámci ktorého je súkromný partner zodpovedný za naprojektovanie, stavbu a údržbu infraštruktúry počas trvania zmluvy (viac ako 15 rokov) a po vypršaní zmluvy prenesie túto zodpovednosť späť na vládu. Súkromný partner je zodpovedný aj za prevádzku nemocnice vrátane služieb ako napr. práčovňa

a bufet, neposkytuje však ZS. Túto povinnosť si ponecháva verejný sektor (v celom rozsahu). Najbežnejšou formou tohto modelu v zdravotníctve je model súkromnej finančnej iniciatívy (**PFI**), ktorý sa vo veľkom používal na výstavbu nemocníc v Spojenom kráľovstve.

DBOD model (design, build, operation, delivery)**.** Od začiatku 21. storočia, stále väčší počet vlád skúma ambicióznejšie modely v zdravotníctve, ako sú verejno-súkromné integrované partnerstvá (**PPIP**), v rámci ktorých je súkromný partner dodatočne zodpovedný za poskytovanie všetkých klinických služieb v jednom alebo viacerých zdravotníckych zariadeniach, často vrátane nemocnice akútnej starostlivosti, ako aj zariadení primárnej starostlivosti. Súkromný partner teda navrhuje, stavia a prevádzkuje zariadenia a zároveň poskytuje klinickú starostlivosť vrátane náboru a obsadenia zdravotníckych pracovníkov a to všetko počas trvania kontraktu. **Osobitou formou tohto PPIP modelu je tzv. koncesný model** kde sa uzatvára koncesná zmluva s presne stanovenými kľúčovými ukazovateľmi výkonnosti. Záväzkom PZS je poskytovanie takej ZS, ktorá zodpovedá nielen súčasným, ale aj budúcim potrebám obyvateľov v určitej geografickej oblasti.

Hoci aktuálne neexistuje na Slovensku nemocnica, ktorá by fungovala postavená na koncesnom modeli, pred pár rokmi sa takýto projekt intenzívne pripravoval a tímu odborníkov, ktorý na ňom pracoval sa podarilo projekt pripraviť do pomerne veľkých detailov (adaptovaný na slovenské podmienky). V tretej prípadovej štúdii prinášame opis projektu novej UNB, ktorý do súťažného dialógu priniesla spoločnosť Ribera Salud.

Verejné, súkromné či PPP?

Z verejných zdrojov je možné v strednodobom horizonte očakávať navyšovanie prostriedkov kapitoly zdravotníctva na úkor inej rozpočtovej kapitoly a to najmä na vykrytie nárastu dopytu po ZS v dôsledku starnutia slovenského obyvateľstva. Nemocnice samotné z tohto navýšenia však pravdepodobne modernizáciu nepokryjú. **S výhľadom do roku 2026 preto jedným z najvýznamnejších verejných zdrojov ostanú eurofondy a primárne Plán Obnovy a Odolnosti**. Ak by sa Slovensku podarilo alokované prostriedky včas plne vyčerpať na kvalitné projekty určite by bol badateľný pokrok v sektore, avšak z investičnej medzery voči ČR by sme stále pokryli len približne 1 miliardu.

Súkromné zdroje majú potenciál tiež poskytnúť potrebné zdroje na modernizáciu nemocníc. Do budúcnosti by sme očakávali **väčší prílev súkromných zdrojov prostredníctvom investičných úverov z komerčnej banky**, ktoré by sa mali využívať na spolufinancovanie rekonštrukcií, či menších dostavieb. **Financovanie na lízing** môže zase nemocniciam pomôcť so **zabezpečením zdravotníckej techniky**.

Otvorenie nemocnice novej generácie Bory v roku 2023 je príkladom toho, ako môžu súkromné zdroje plynúce do zdravotníctva zafinancovať výstavbu novej nemocnice (kombinácia vlastných súkromných prostriedkov a dlhopisov). Netreba však podľa nášho názoru počítať s masívnym nárastom podobných projektov.

Na záver sú tu aj **zmiešané zdroje a predovšetkým rôzne formy PPP projektov**, ktoré vzhľadom na svoju vysokú variabilitu ponúkajú rozličné spektrum možnosti. Ako ukazuje projekt koncesného modelu Alzira nemusí ísť len o u nás využívaný model partnerstva medzi samosprávou (mesto či kraj) vlastniacou priestory nemocnice a súkromným investorom prenajímajúcim a manažujúcim nemocnicu na dlhšie časové obdobie.

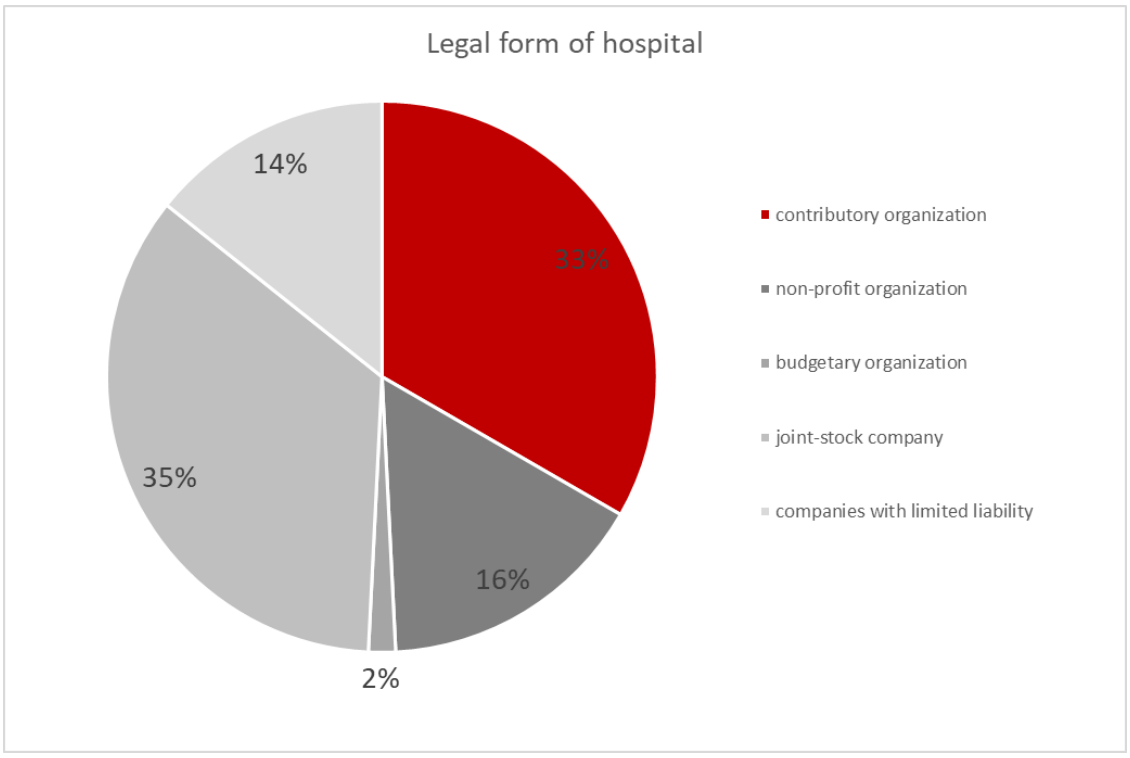
1. NEGLECTED TECHNICAL INFRASTRUCTURE OF SLOVAK HOSPITALS

The chapter provides a brief overview of the organization of Slovak hospitals and their indebtedness, expanded by an estimate of the investment gap compared to the Czech Republic, which was calculated in the "Green Book" in 2021 by the authors Peter Pažitný and Rudolf Zajac.

1.1 ORGANIZATION OF HOSPITALS AND THEIR INDEBTEDNESS

Slovak hospitals can be divided based on various criteria. They are often divided into general and specialized, large university or faculty and smaller regional hospitals, further according to the form of ownership (state, private, mixed or other ownership) or legal form (contributory/non-profit/budgetary organizations, joint-stock companies and companies with limited liability) (graph no. 1). The mentioned characteristics are sometimes a limiting factor for a healthcare facility's access to capital (e.g., limited business activity of non-profit or contributory organizations, loan approval conditions, debt relief of state hospitals) and therefore we explicitly state them wherever it is relevant.

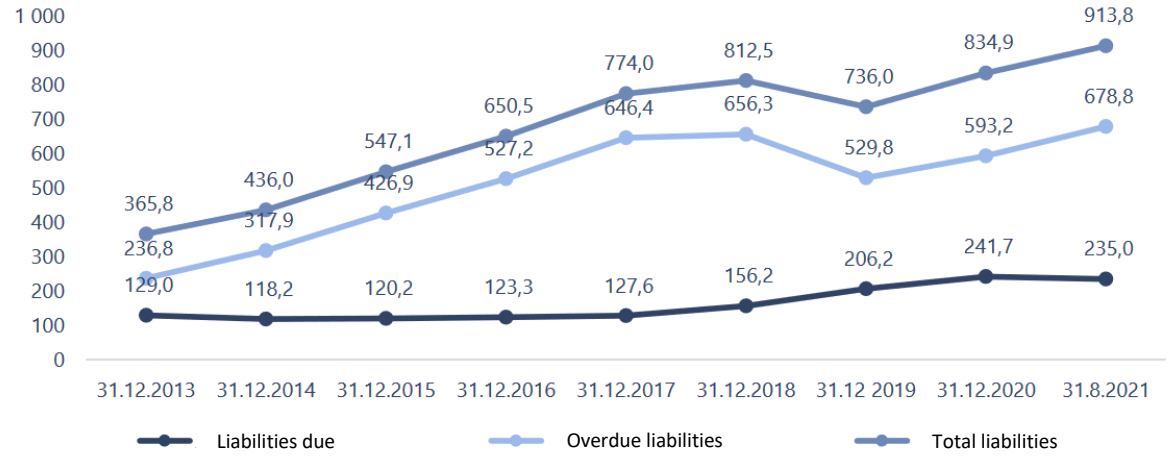
Figure 1: General hospitals according to legal form



Source: CEE HPN

When looking at the annual report of one of the state hospitals, it is no exception to reveal a large volume of overdue liabilities. **As a rule, large state hospitals** (faculty or university) **are the most indebted**, and we have a fairly good idea of their debt, as it is regularly calculated. According to the report of the Supreme Audit Office: "As of August 31, 2021, the total state of liabilities of Slovak university and faculty hospitals reached **EUR 914 million** and has increased by EUR 79 million since the beginning of 2021." (Supreme Audit Office, 2021). This is a long-term phenomenon, and the situation cannot be expected to improve without fundamental changes.

Figure 2: Development of the state of liabilities of university and faculty hospitals since 2013 (in millions of EUR)



Source: Supreme Audit Office, 2021. page 25 according to data from the Ministry of Health of the Slovak Republic

Hospitals managed in the form of commercial companies (joint-stock companies and companies with limited liability) are significantly better off. This fact was also confirmed by the Supreme Audit Office, which in the past focused on the management of hospitals. According to the words of its chairman, Karol Mitrík, *"We found that hospitals that are commercial companies, regardless of whether they are state, self-governing or private, simply work, while those that were dependent on contributions as contributory organizations do not work."* (Mitrík, 2019).

Even medium-sized or smaller regional hospitals that are owned or operated by private individuals are doing better than faculty and university hospitals. According to the results of the INEKO Hospital of the Year 2021 project, these general hospitals in most cases achieved in the management category a score above 70 points (on a scale of 0-100) (INEKO, 2021).

There are several reasons for the indebtedness of state hospitals (they will not be the subject of this analysis). Several solutions are offered, but there is no simple one. Heavily criticized by experts, **the debt relief of state hospitals** that comes every few years **is not a systematic solution and even has several negative impacts**. Every further debt relief is rather a temporary paying of a problem with an undesirable side effect (moral hazard of the hospital management), while it is almost exclusively linked to state-owned hospitals (the issue of disadvantaging of other hospital owners). Constant additional financing of the sector also significantly worsens the predictability of the environment, which in practice means that individual stakeholders are not even able to set their own financial plan, which they would know how to follow (Zachar for Pravda.sk, 2022).

Unfortunately, hospital indebtedness is not the only problem related to the condition of institutional facilities. **The lack of funds also results in poor maintenance of buildings and technologies, and the capital investment in hospital modernization that is postponed every year gradually accumulates, resulting in an extremely poor state of hospital infrastructure** with a negative impact on both patients and employees of these health facilities. The Student Council of Universities (2019), which initiated the Mold Book project, focused on building maintenance. Students and patients collected photos and videos capturing inadequate conditions in hospitals and thus helped to identify several critical points of hospital infrastructure.

The basement of hospitals is in an alarming state, in which there are transition corridors used to transfer patients between individual buildings, as well as student changing rooms and sterilization rooms. The area of the waiting rooms and especially the hygiene facilities is also often unsatisfactory.

Other problems were also pointed out in the INEKO survey (2015) by hospital managers, who identified as the most acute deficiencies the lack of funds for building insulation, restoration of thermal management of buildings, reconstruction of operating theatres or replacement of distribution systems. Another group of identified unmet needs were investments in devices (INEKO survey from 2014, the results of which are described in a 2015 publication).

The annual reports of hospitals reveal that only a small part of hospitals have at least 5% of their revenues available, which could be used for the modernization of buildings and technology (INEKO, 2015). **Hospitals are thus de facto unable to finance their modernization, they do not work with capital** and, according to INESS analyst Martin Vlachynský, they are essentially "economically unjustified - any investment must be made by the state for them" (Vlachynský, 2022) with the addition that this usually does not apply to private hospitals.

In the public administration budget, there is a section dedicated to health facilities and their income and expenses. The expenditure section also includes data on capital expenditures (Table 1). Although in the last years before the pandemic, capital expenditure increased to 8.5-10% of total expenditure, since 2021 it has been followed again by a decrease to the level of 3.5%. Foreseen until 2024, 2% is expected to be spent on capital expenditures.

Table 1: Expenditures of medical facilities

YEAR	Current expenditures (million EUR)	Capital expenditures (million EUR)	Capital expenditures (%)	Expenditures from transactions with financial assets and liabilities (million EUR)	Expenditures in total (million EUR)
2018 (R)	1 644	154	8,50	14	1 812
2019 (R)	1 812	211	10,37	11	2 034
2020 (R)	1 987	197	8,98	11	2 194
2021 (ER)	2 211	81	3,47	39	2 331
2022 (P)	2 119	74	3,36	9	2 203
2023 (P)	2 203	45	1,99	9	2 256
2024 (P)	2 271	45	1,93	9	2 326

Source: years 2019-2023 are according to the Ministry of Finance of the Slovak Republic - Public administration budget for years 2022-2024, page 31
year 2018 according to the Ministry of Finance of the Slovak Republic – Public administration budget for years 2021-2023, page 31
Note: R=reality, ER=expected reality, P=proposal

The poor state of hospitals is also confirmed in materials by the Ministry of Health itself, which directly owns several hospitals. In a report from 2013, its authors state that **the infrastructure of institutional facilities is economically unsustainable in our country**,

and with regard to its obsolescence and the inadequate building arrangement, the possibilities of increasing the productivity of hospitals only through the reconstruction of existing buildings are significantly limited and already almost exhausted. The inflexibility of buildings is also reflected in resistance to planned changes and new processes in patient care management.

We consider it crucial to emphasize that even the experts of the Ministry of Health were already aware at that time of the need not to reconstruct, but to gradually start building new modern hospitals, which should replace the inadequate ones, where higher efficiency in the provision of healthcare is difficult to achieve (the Ministry of Health of the Slovak Republic, 2013). The sad fact remains that in almost 10 years since the report was publicised, the situation with the construction of new hospitals has hardly moved (except for 2 private hospitals).

Building new hospitals is a really difficult task in itself. Starting with the compilation of a good business plan linked to the medical need in the given location, through bureaucracy, public procurement (in the case of state hospitals), designing the hospital building, carrying out construction work and installing of the technologies, searching for personnel (healthcare workers, managers and also technical workers) to contracting the provided healthcare by the health insurance companies themselves.

Since also the project of a new hospital requires a condition of return, there is a need to contract provided care in advance for a period longer than 1-2 years and, in the optimal case, to base financing not on the quantitative provision of healthcare but on financing based on the measurement and evaluation of qualitative results (INEKO, 2015).

The situation of the last decades indicates that the state is not able to fulfil these tasks properly, which results in several unsuccessful projects that either remained only at the level of plans (or construction competitions) or construction started, but the project was not completed (Rászochy). New state hospitals are not being built, and therefore we often try to save the catastrophic situation by renovating of existing hospitals.

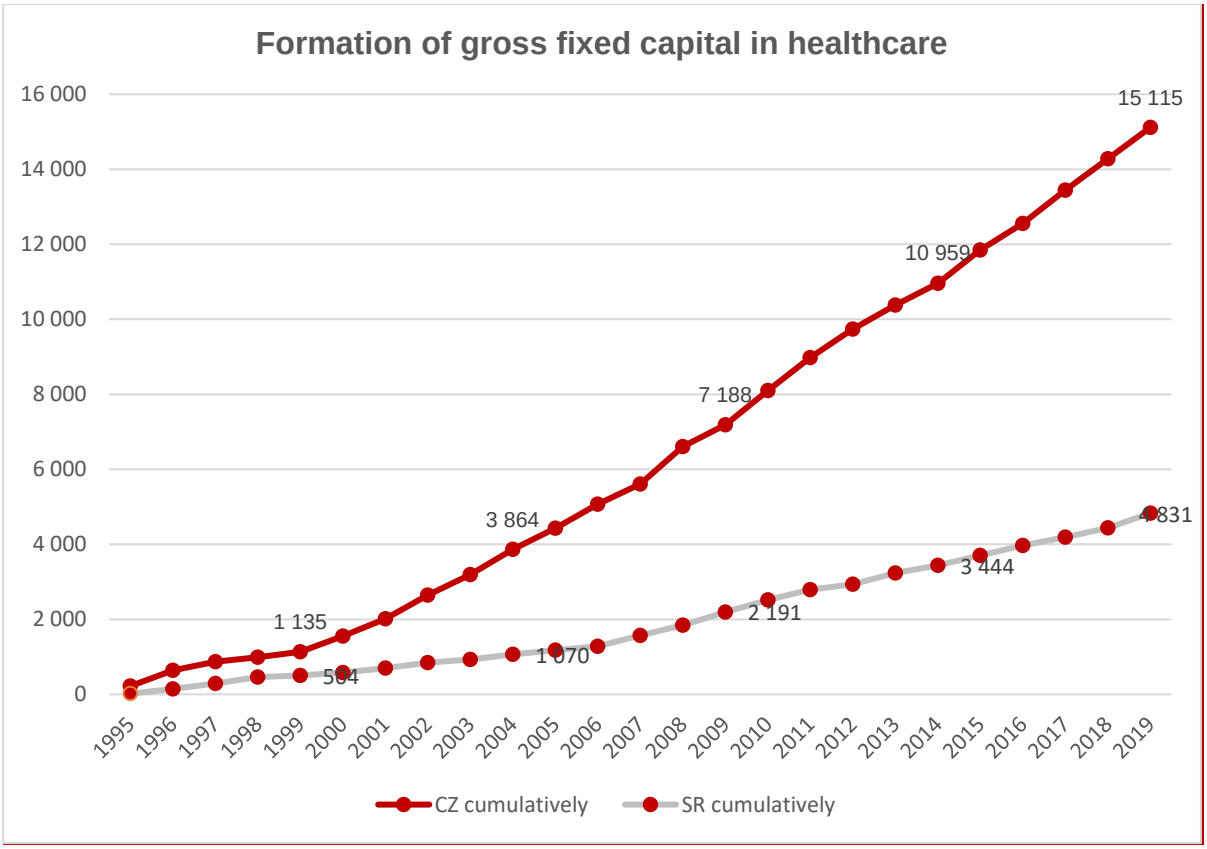
In conclusion, we can add that inadequate premises are also a problem in connection with hospital equipment. In this area, Slovak hospitals are not that far behind Western EU countries, in recent years hospitals have managed to acquire several expensive modern devices, but the problem is that they are often placed in inadequate premises that do not allow their effective use (the Ministry of Finance of the Slovak Republic, 2021).

1.2 INVESTMENT GAP

We know about the existence of the investment gap, but its calculation is much more complicated and the published figures are more at the level of estimates. After the publication of the Health Policy Institute author collective Pažitný et al. (2014), also others attempted to calculate the figures. Firstly, the Ministry of Health of the Slovak Republic (Feasibility study of the project of the new University Hospital in Bratislava), secondly, the Ministry of Finance of the Slovak Republic (when creating the Recovery and Resilience Plan of the Slovak Republic it was based on the HPI publication) and in 2021 the authors Peter Pažitný and Rudolf Zajac (Slovak Health post-covid era 2020, 2025, 2030), who estimated the investment gap towards the Czech Republic. The following subsection is taken verbatim from this publication.

The undercapitalization of the Slovak healthcare system is best seen in a direct confrontation with the Czech healthcare system. Over the past 25 years (graph 3, years 1995-2019), the formation of gross fixed capital (FGFC) in the Slovak healthcare sector reached a total of EUR 4.8 billion. In the Czech Republic for the same period, it was up to EUR 15.1 billion. Slovakia thus cumulatively reached only 32% of the level of the Czech Republic. Taking into account the size of the population (SR: CZ = 51%), **Slovakia's investment gap is EUR 2.9 billion**, which represents EUR 115.1 million per year. This finding fully corresponds to the model prepared by HPI in 2014 (Pažitný et al., 2014). At the time, HPI estimated that the investment gap towards the Czech Republic was EUR 110.9 - 136.5 million per year.

Figure 3: Formation of gross fixed capital in the health sector of the Slovak Republic and the Czech Republic (EUR million)



Source: Eurostat, 2021

However, it is important to draw attention to the fact that the lagging behind Czech Republic is not only in the healthcare sector, but also in capital formation in the entire economy. Over the last 25 years, the cumulative share of formation of gross fixed capital to the Czech Republic has been at the level of 36%, so the low level of investments in healthcare is largely a "function" of the entire economy.

Table 2: Public and private sector investments in healthcare

	GDP SR in total	Healthcare SR in total	Public sector COFOG I	Private sector	Share of private sector investments in total investments
2017	84 532	222.2	121.0	101.2	46%
2018	89 506	241.4	198.0	43.4	18%
2019	93 865	396.9	223.0	173.9	44%

Source: EUROSTAT, the Recovery Plan, calculations of the authors of the Green Book

In 2019, the share of the private sector (EUR 173.9 million) in total investments (EUR 396.9 million) was 44%. Not only the total amount of investments, but also their structure plays an important role. In principle, investments can flow into (1) 'buildings', (2) 'machinery and equipment' or (3) intellectual assets (OECD, System of Health Accounts, 2011). In this regard, detailed data for the health sector are not available, but Karol Morvay (2017) prepared an analysis of the structure of Formation of gross fixed capital at the economic level. According to his findings, there is an extremely high proportion of machinery and equipment in our economy, while investments in intellectual assets lag significantly behind. With a certain degree of generalization and based on experience and observations, we can transfer these findings to the health sector as well. Even in the healthcare sector, we can observe obsolete buildings, but mostly equipped with modern machinery and equipment with a low level of intellectual assets (software, databases, patents...).

The fact that the existing infrastructure of state hospitals is outdated was confirmed by both the Recovery and Resilience Plan of the Slovak Republic (MF SR, 2021) and the document Structural Challenges (NBS, 2021). At the same time, none of these documents provides new evidence about the state of the hospital infrastructure. The first one, as a key document for drawing resources from the RRF, relies on the HPI document (p. 388 and p. 795) in the evaluation of hospital infrastructure and provides only very limited information about the year of construction of state hospitals. It means that the state, as the owner of state hospitals, does not have an overview of the capital infrastructure of its own hospitals and relies on the data of the independent think tank HPI.

This is very important knowledge, because the government in 2021 basically does not know the capital situation and the equipment of its hospitals. According to the aforementioned HPI document, a typical general hospital in 2014 was more than 40 years old, had a large plot of land and about 30 buildings scattered across it.

Table 3: Condition of the infrastructure of large state hospitals

Hospital	Condition of the infrastructure	Number of beds
Faculty hospital with polyclinic of F.D. Roosevelt BB	Year of construction: old campus 1960, new 1981, 2 monoblocs (UZS) with polyclinic, oncology, admin. building, in the centre psychiatry and infectious diseases unit, 1-bed. 53, 2–bed. 118, 3–bed. 171, 4–bed. 17, 5–bed. 3, DOS 3-bed.	910
Faculty hospital with polyclinic of J. A. Reiman Prešov	Buildings from years 1947, 1963 and 1967, surgical pavilion from year 1989, internal from year 2013	1 233
Hospital Poprad	Year of construction: 1970	581
Faculty hospital with polyclinic Žilina	Year of construction: 1930, 1960, 1970	779
Faculty hospital Trnava	Year of construction: the youngest pavilion 2008, gynaecology, neurology from year 1940, other pavilions 80 – and perennial	641
University hospital	Year of construction: 1888 a 1940, total number of objects: 65. In the years 2005–2015 there was betterment of 5 objects, 9 of 65 objects are insulated, : 2, 4b, 6 – finished, 7, 7a, 10, 16, 31, 34. 19 rooms, 5 beds. , 26 rooms 4 beds., 88 rooms 3 beds. ,77 rooms 2 beds., 43 rooms 1 bed	838
UHB Bratislava	Year of construction: Old town 1860–1936, Kramáre 1967, Ružinov 1986, Antolská 1997	2 505
Faculty hospital Trenčín	Year of construction: 1848, 1910	808
University hospital of L. Pasteur, Košice	2 locations: Rastislavova – almost all pavilions are monument protected, 80– to 100–years old, urgent reception and traumatology – 7–years old, SNP 45–years old building	1 356
Faculty hospital Nitra	Year of construction: 1890, 1947, 1972, 1991, 1997	722

Source: Recovery and Resilience Plan of the Slovak Republic, MF SR, 2021

WE BUILD STANDARD, NOT EXCELLENCE

Regarding equipment, according to the document Structural Challenges (NBS, 2021), CT and MRI equipment does not reach the average level of the OECD, but their more intensive use compensates for this situation. However, some facilities have limited access to CT and

MR services (Gavurová et al., 2017). At the same time, it is important to divide the equipment into so-called standard, such as today's perfusion CT or 3T MRI. In these indicators, we can maintain parity with the Czech Republic. However, when it comes to building excellence, we are significantly behind the Czech Republic. While there are 12 DaVinci devices (robotic surgery) in the Czech Republic today, there are only 2 in Slovakia (both in FN FDR BB).

While there are 2 CyberKnife devices in the Czech Republic, there are currently none in the Slovak Republic (one is planned in the Bory hospital). Similarly, IKEM, the Proton Center or innovative companies such as PrimeCell. While we try to keep up with "standard" instrument technology, we are significantly behind the Czech Republic in building excellence.

There is not available information on how much individual hospitals invest. The biggest investment projects in the last 25 years can be considered:

- East Slovak Institute of Cardiovascular Diseases in Košice, new building 2003 – 2009 + Diagnostic, preventive and research centre (2019) – investment EUR 14.8 million. Brown investment in Central Slovak Institute of Heart and Vascular Diseases in Banská Bystrica + Construction of a preventive-ambulatory and diagnostic centre (2019 – 2020)
- Hospital of St. Michala, built in 2009, investment of EUR 60 million included VAT (EUR 50 million without VAT = 28 million construction works, 22 million special equipment)
- Penta, Michalovce, 2017, EUR 34 million
- National Institute of Heart and Vascular Diseases: New building with heliport + children cardio centre (part of NÚSCH), opened in 2021, EUR 44,8 million construction works
- Penta, Bory hospital, opening in 2023, investment EUR 240 million

In addition to the fact that new hospitals are built very sporadically, there is no elimination of redundant beds, departments, or entire hospitals. According to the OECD (2019), although the number of beds in Slovakia is decreasing (6.0 per 1,000 inhabitants), it is still significantly above the EU average (5.0). According to Kališ (2019) and his DEA model, the number of beds should be reduced by 68 to 113 per hospital (!). In absolute terms, this means a reduction from 24,944 to 20,729 (BCC model) even to 17,828 (CCR model) beds.

Table 4: Distribution of individual reduction of beds in relative terms

Effective reduction	Frequency CCR	Cumulative % CCR	Frequency BBC	Cumulative % BBC
0	1	1.61	1	1.61
10	13	22.58	22	37.10
20	4	29.03	7	48.39
29	14	51.61	7	59.68
39	12	70.97	17	87.10
49	11	88.71	5	95.16
59	4	95.16	2	98.39
more	3	100.0	1	100.0

Source: Kališ, 2019

2. POTENTIAL SOURCES OF CAPITAL INVESTMENTS IN HOSPITALS

In this chapter, we present a wide range of financing options for hospital modernization. We are gradually analysing funding sources used at the present as well as potential funding sources at the level of the entire healthcare system.

Publication of the Health Policy Institute (Pažitný et al., 2014) used this systematic approach as well and stated from where and what resources for hospital capital expenditures is possible to obtained and what their potential is. When updating this scheme, we would suggest adding a few more options, the listed options are still valid and therefore we will proceed from the same scheme.

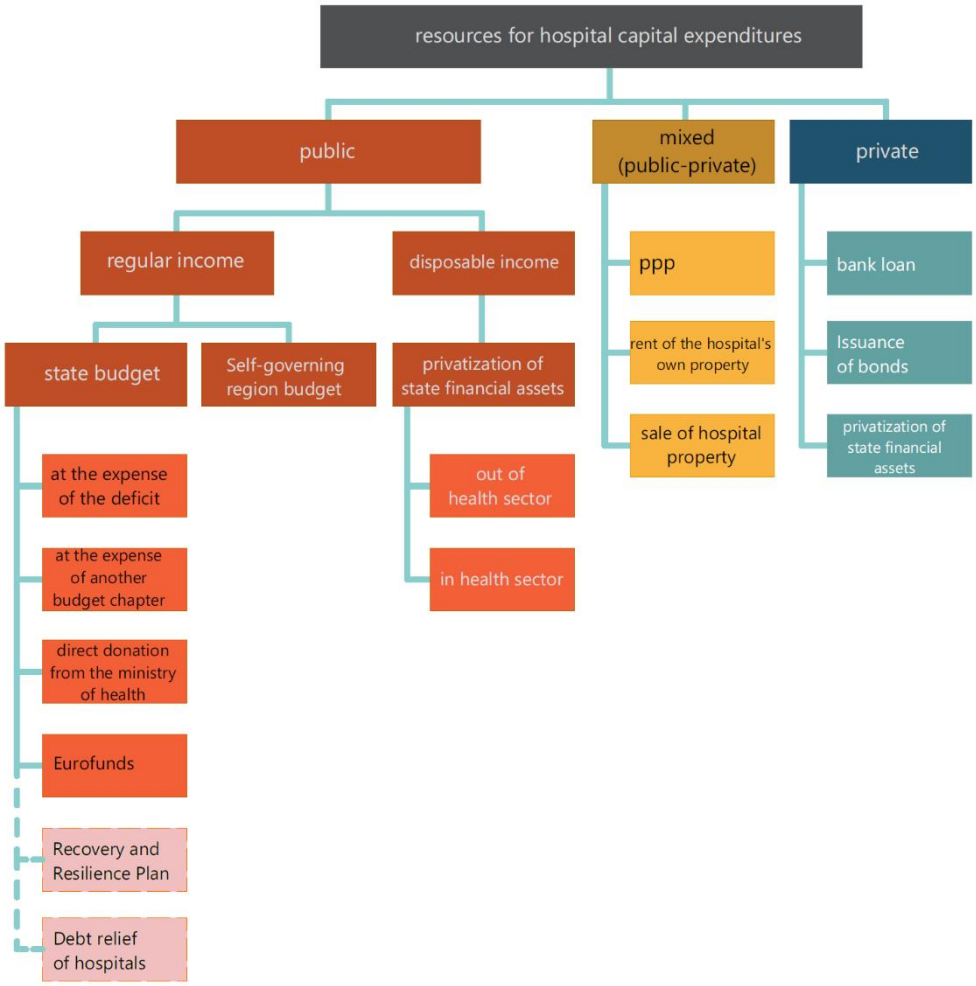
Predictions of the potential of individual options (long-term were for the period 2014-2034) made by the authors in some cases partially came out (issuance of bonds, bank loans, lease of the hospitals' own property), other predictions turned out to be incorrect (issuance of additional shares in state-owned joint-stock hospitals did not take place, on the contrary, the European funds still continue and therefore they must be counted on at least in the medium term).

Pažitný et al. (2014) divided these sourcing options into:

- public (regular income and one-off)
- mixed (public-private)
- private

Additional options are marked in pink.

Scheme 1: Possibilities of obtaining resources for the modernization of hospitals



Source: scheme according to Pažitný et al. 2014, page 78, edited

2.1 PUBLIC RESOURCES

We think of public resources as used/potential resources for hospital modernization coming from the state and local governments (state budget, the Ministry of Health of the Slovak Republic, higher territorial units or cities or municipalities, privatization) or the EU (European funds, the Recovery Plan).

STATE BUDGET AT THE EXPENSE OF THE DEFICIT

As of 31 December 2021, the national debt exceeded 63% of GDP (Statistical Office of the SR, 2022) and according to Eurostat, Slovakia has the second most unsustainable public finances in the EU27 (Slovak National Bank, 2021). Due to the irresponsible policy of the previous governments, which did not keep an eye the state's expenditure during the period of good economic times, Slovakia did not ensure a sufficient decrease of the state debt (to the level of at least 40-45% of GDP). After the outbreak of the global COVID-19 pandemic, when it was necessary to compensate for the economic shutdown related to the pandemic, the national debt immediately climbed from 48.1% to 59.7% of GDP at the end of 2020. The rapid increase in debt also affected other Eurozone countries and thus the rules of the Growth and Stability Pact stopped (Council for Budgetary Responsibility, 2022).

Even though Slovakia is not currently bound by the aforementioned rules, the probability that the state in this situation will significantly increase the deficit at the expense of obtaining funds for the modernization of hospitals, when it did not do so even in the years before the pandemic, is at least in the short term, highly improbable.

CHAPTER OF THE MINISTRY OF FINANCE OF THE SLOVAK REPUBLIC AT THE EXPENSE OF ANOTHER BUDGET CHAPTER

The development in the health sector in the previous years before the pandemic show that significantly more money for the health sector was not found in the budget until the outbreak of the COVID-19 pandemic in 2020 (Table 5). The state pours money into the healthcare system through payment to the state for its insured people. The development of recent years shows a constant decrease of this payment below the level of 4%, which is reflected in the continuously decreasing share of this income group in the total income of health insurance companies. While in 2009, payments for state insured people accounted for 35% of the resources of insurance companies, in 2020 it was only 22% (Pažitný and Zajac, 2021).

The increase in the volume of funds from the state budget in 2020-2021 (Table 6) is mainly the response to the COVID 19 pandemic (e.g., public health authorities alone received EUR 66 million more) (INESS, 2021).

Table 5: Amount of funds for the Ministry of Health of the Slovak Republic from the state budget

YEAR	MH from the state budget (EUR) (approved)	Increase towards to the previous year
2015	1 406 million EUR	+7.9%
2016	1 491 million EUR	+6.0%
2017	1 371 million EUR	- 8.0%
2018	1 396 million EUR	+1.8%
2019	1 232 million EUR	-11.8%
2020	1 335 million EUR	+8.0%
2021	1 707 million EUR	+28.0%

Source: INESS, The Universe of Public Expenditures 2015-2021

Surprisingly, in October 2021, the Ministry of Finance of the Slovak Republic proposed to cut the payment for state insured people by EUR 232 million (Pažitný, 2021), which was met with strong criticism from almost all stakeholders of the health system. The Supreme Audit Office also mentioned this step in its report, where it stated that "this step brought uncertainty to the provision of stable and predictable financing of healthcare in the Slovak Republic", which is in contrary to the Program Statement of the Government of the Slovak Republic (Supreme Audit Office, 2021 p. 24). Already in March 2022, the Minister of Finance announced additional financing of public health insurance. In 2022, the payment for the insured people of the state will increase by an additional EUR 100 million compared to the planned budget (at least), which, however, will not be able to fully cover the growing expenses of hospitals (legal salary increase, increase in energy prices and inflation) (AOPP, 2022).

In the future, it can be expected that with regard to the aging of the population (greater demand for healthcare but at the same time lower contributions of the economically active population), it will be necessary for the Ministry of Finance to allocate more funds to the health sector, and the weight of the Ministry of Health of the Slovak Republic chapter will grow precisely through the increase in state payments for state insured people. In order to maintain the functionality of the healthcare system, it will be necessary to significantly increase this payment in the future (4-5%).

DEBT RELIEF OF HOSPITALS

Politicians repeatedly try to solve the problem of hospital indebtedness by relieving debts of hospitals. Over the past 22 years, the 6th round is currently underway, which makes debt relief an almost relevant calculable income for hospitals (Vlachynský, 2021). Its increasing importance from the point of view of the affected hospitals and the entire system makes it one of the non-negligible flows of funds to selected hospitals, although this does not mean that the modernization of hospitals is directly financed from these funds.

Table 6: Debt relief of hospitals

Year	Total amount for debt relief (EUR)	Debt relieved subjects and the manner of debt relief
2000-2002	544 million	- state bed facilities, but also health insurance companies - the debt relief was paid off directly by using the privatization revenues of Slovak Telecommunications, and also by providing repayable financial assistance
2005	885 million	- state hospitals, including hospitals in the hands of higher territorial units and municipalities, medical schools, health insurance companies - using the state joint-stock company Creditor
2009	157 million	- only state hospitals - in the form of repayable financial assistance provided in 2009 by the Ministry of Finance of the Slovak Republic individual recovery action plans
2011	344 million	- EUR 350 million was originally approved, in the end about EUR 300 million was used (in 2011 prices) - the original condition of providing non-refundable state financial assistance was not implemented (change to a joint-stock company) also due to the fall of Radičova's government, it was reclassified as a loan
2018-2019	628 million	- 9/2077 EUR 585 million (in 2018 prices) - 3 rounds (Electronic auction or fixed discount), state hospitals - nothing was fulfilled of the government's concept of debt relief for medical facilities, hospital recovery plans remained secret, the declared sanctioning mechanism was not applied
2021-2022	575 million	- already approved in 2020 - the state did not start signing mandate contracts with medical facilities until March 2022

Source: authors according to Vlachynský, 2021

DIRECT DONATION FROM THE MINISTRY OF HEALTH

In the past, the direct donation of capital expenditures from the Ministry of Health of the Slovak Republic was at a very low level of around EUR 4-6 million, in 2016 even only EUR 1.4 million.

Table 7: Capital expenditures in the chapter of the Ministry of Health of the Slovak Republic

	2010r	2011r	2012r	2013r	2014r	2015r	2016r
Capital expenditures (million EUR)	5,7	4,5	5,4	6,7	6,3	5,2	1,4

Source: the Ministry of Finance of the Slovak Republic, Public administration budget for each year (r=reality)

As the Ministry calculates that European fund (IROP) and resources from the Recovery and Resilience Plan of the Slovak Republic (MF SR, 2022) will be used for capital expenditures, large donations are not likely. A direct donation from the Ministry of Health of the Slovak Republic can be considered rather in connection with the need for e.g. to finance an already started project owned by the Ministry financed by European funds.

BUDGET OF HIGHER TERRITORIAL UNITS

Self-governing regions are interested in supporting the modernization of hospitals, and in some cases, they are still their owners and operators. Understandably, their budgets are also limited, and therefore considering their contribution to the capital expenditures of hospitals is only possible if the regions are not too much in debt.

The financial health of self-governing regions is monitored annually by INEKO as part of the project Economy of municipalities, regions and organizations. According to the available data, the overall financial health of the regions is evaluated on a scale of 0-6 points as excellent (Trenčín HTU and Nitra HTU) or good (other regions). The development since 2009 shows either stagnation or even improvement of the situation in the monitored indicators. So, the potential to increase capital expenditure is present there.

Table 8: Financial health of higher territorial units in 2020

Region	Total financial health (0-6)	Total debt	Debt service	Current account balance	Overdue liabilities to income	Liabilities at least 60 days past due
Trenčín	5,1	4,6	5,7	4,9	6,0	5,1
Nitra	5,1	5,5	5,8	3,5	6,0	6,0
Trnava	4,9	3,7	5,5	4,8	6,0	6,0
Banská Bystrica	4,8	4,7	5,5	5,0	6,0	3,0
Prešov	4,8	4,3	5,7	5,3	6,0	3,0
Bratislava	4,7	4,2	5,6	3,8	6,0	6,0
Košice	4,7	4,5	5,7	4,8	6,0	2,8
Žilina	4,5	4,2	5,4	3,6	6,0	4,8

Source: INEKO, project of Management of municipalities, regions and organizations, 2021

Note: overall financial health is calculated as a weighted average of the scores achieved by each of its five components - Total Debt, Debt Service, Current Account Balance, Liabilities Overdue and Liabilities at least 60 days past due. These components have gradually a weight of 30%, 10%, 30%, 15% and 15% respectively.

Currently, only the Trenčín and Žilina self-governing regions own hospitals. At first glance, this fact can also be seen in the structure of their expenditures.

Table 9: Expenditures of higher territorial units to healthcare

Region	Regional expenditure on healthcare (not elsewhere classified) in 2020	Share of total expenditures
Žilina HTU	95 943 570 €	22 %
Trenčín HTU	78 975 975 €	23%
Nitra HTU	3 583 808 €	1%
Bratislava HTU	3 248 915 €	2 %
Trnava HTU	790 889 €	0 %
Prešov HTU	600 132 €	0 %
Banská Bystrica HTU	111 382 €	0 %
Košice HTU	included under social assistance	n.a.

Source: INEKO, project of Management of municipalities, regions and organizations, 2022

The budgets of these regions also show the planned capital expenditures for investing in hospitals within the scope of the region. However, it is not always possible to state with

certainty whether these are capital expenditures paid directly by the self-governing region or whether capital transfers (e.g., European funds) are also included in the column. In recent years, due to the impact of the pandemic, significant savings were made on capital expenditures (2020-2022), but in the future, we can count on a renewed increase in the importance of this resource.

Table 10: Capital expenditures – HTU budget

Region	Capital expenditures 2017 R (million EUR)	Capital expenditures 2018 R (million EUR)	Capital expenditures 2019 R (million EUR)	Capital expenditures 2020 R (million EUR)	Capital expenditures 2021 ER (million EUR)	Capital expenditures 2022 P (million EUR)
Žilina region	**6,87**	**11,34**	**7,21**	**3,07**	**1,36**	**1,75**
Kysuce's hospital with polyclinic Čadca	1,38	2,42	2,56	0,67	0,12	0,50
Liptov's hospital with polyclinic of MUDr. Ivana Stodolu	2,39	3,55	1,36	0,53	1,05	0,25
Hornoorava's hospital with polyclinic Trstená	0,98	2,12	1,56	1,01	0,12	0,25
Dolnoorava's hospital with polyclinic of MUDr. L. N. Jégeho Dolný Kubín	1,29	2,13	1,31	0,69	0,07	0,25
Orava's polyclinic Námestovo	0,83	1,16	0,42	0,17	0	0,50
Trenčín region*	**9,61**	**1,31**	**0,22**	**0,03**	**0,21**	**0**
Hospital with polyclinic Prievidza with the headquarters in Bojnice	9,18	1,02	0,11	0	008	0
Hospital with polyclinic Považská Bystrica with the headquarters in Považská Bystrica	0,26	0,18	0,05	0,03	0,08	0
Hospital with polyclinic Myjava with the headquarters in Myjava	0,17	0,11	0,06	0	0,05	0

Source: authors according to data from the budget of Žilina self-governing region, Trenčín self-governing region, R=reality, ER=expected reality, P=proposal,
Note: *financed directly by Trenčín HTU, in addition, funds from Trenčín HTU also flowed to hospitals through a capital transfer intended for Capital expenditures. The total amount was EUR 6.878 million (2017), EUR 9.86 million (2018), EUR 10.457 million (2019), EUR 10.271 million (2020), EUR 12.89 million (2021). In 2022, after the 1st budget change, the sum of EUR 7.095 million is counted.

EUROFUNDS

In recent years (especially after 2011), European funds have been one of the most important capital sources of investment in hospitals (contracted projects are worth approx. EUR 546 million, completed EUR 367 million), but they are associated with specific problems related to bureaucracy.

In the shortened program period 2004-2006, the health sector fell under the **Operational Program Basic Infrastructure**, which was financed from the European Regional Development Fund. For measure 3.1.2 Construction and development of health infrastructure, Slovakia received a total of **EUR 20.5 million** from the ERDF, the remaining costs (EUR 5 million) were covered from the state budget and the budget of local governments. The interest in using European funds was enormous, 29/126 requests for a non-refundable financial contribution were supported (the Ministry of Health of the Slovak Republic, 2007).

More significant impact on hospitals (from the point of view of the volume of funds) was the drawing of funds from the **Operational Program Health** in the program period 2007-2013 (the funds were to be used up by 31.12.2015). In the end, the total amount allocated from the European Regional Development Fund for the health sector exceeded EUR 340 million and was divided into two priority axes (hospitals and ambulatory sphere) (the Ministry of Health of the Slovak Republic, 2017).

Hospitals fell under priority axis 1: "Modernization of the healthcare system of hospitals" which, according to the creators of the concept, should focus on such projects as:

- construction of new hospitals and elimination of obsolete capacities
- reconstruction, modernization of buildings
- purchase of medical technology (diagnostics, operating equipment)
- investment into IT sector and other instrumentation

The target set value was to support a total of 30 projects aimed at the restoration and modernization of selected general and specialized hospitals primarily focused on the treatment of "group 5" diseases, to modernize 1,250 beds and to reduce the average length of hospitalization from 9.5 days to 7.1 days (the Ministry of Health of Slovak Republic, 2007).

As a result, during the entire period, the Ministry of Health of the Slovak Republic managed to announce up to 15 calls (!) for submitting applications for a non-refundable financial contribution, while 1 call was also for the preparation of a national project. The amount allocated for both priority axes exceeded **EUR 340 million** and a total of 90 applications were approved. Out of these requests, **81 projects** were actually contracted and completed, the others were exceptionally terminated. Of the 81 projects, approximately 50 were focused on the ambulatory sphere (health centers, polyclinics, ambulances), 30 projects were actually focused on the modernization of hospitals. Investments in private facilities are also among them, but they are dominated by state facilities, or owned by municipalities.

The largest projects (NFP greater than EUR 10 million) were the following:

- Faculty hospital with polyclinic F. D. Roosevelt, Banská Bystrica - Complex reconstruction of operating rooms, emergency room and central sterilization (EUR 26.4 million)
- Faculty hospital with polyclinic Prešov – Internist block (EUR 26.4 million)
- University hospital of L. Pasteur Košice - Emergency room (EUR 26.4 million)
- Faculty hospital Nitra - New construction of the medical pavilion (EUR 22.5 million)
- University hospital Martin - Completion of the surgical pavilion 04 (EUR 14.9 million)

- Hospital Poprad - Extension, reconstruction, technological modernization of operating rooms, central sterilization, radiology department and department of acute and intensive medicine (EUR 13.9 million)
- Children's faculty hospital Košice - Reconstruction, superstructure and extension (EUR 13.6 million)
- Faculty hospital with polyclinic Žilina – Complex solution of emergency room and oncologic healthcare (EUR 13.2 million)
- Faculty hospital with polyclinic Skalica, Inc. – Reconstruction and modernization of infrastructure (EUR 12.3 million)

A problem with the adherence to the time frame of the program period was already evident in the Operational program named Health. Several projects were actually completed only in 2016 (the Ministry of Health of Slovak Republic, 2017).

This was followed by the **Integrated Regional Operational Program** for the program period 2014-2020 from European Union resources, which must be used up by January 31, 2023. Hospitals can be supported through a specific target

- 2.1.3. Modernization of the infrastructure of institutional facilities providing acute health care in order to increase their productivity and efficiency
- 2.1.4 Strengthening of the capacities in the health system and protecting of the public health (EU response to the COVID-19 pandemic) (MIRI, 2022).

The first call of the Ministry of Health of the Slovak Republic to target 2.1.3 was only announced on May 24, 2017 (EUR 70 million), the second call on January 15, 2018 (in the amount of EUR 83.3 million), while the allocation was increased as part of the update of the second call. In summary, 33 requests for a non-refundable financial contribution in the total amount of EUR 227.3 million were received for both calls and managed to contract **28 projects with a total value of EUR 186.8 million** (the Ministry of Health of the Slovak Republic, Annual Report 2018). As of January 31, 2021, only 2 projects were successfully completed (Modernization of the infrastructure of Hornoorava's hospital with polyclinic Trstená and Modernization of the General Hospital RS to increase the productivity and efficiency of the provision of acute health care) (MIRI, 2022).

Funds are significantly better allocated to hospitals within the framework of specific target 2.1.4. where 51 projects have already been contracted. In this case, however, it is primarily about ensuring the material and technical equipment of medical and laboratory facilities (MIRI, 2022).

Last but not least, we should also mention the Recovery and Resilience Plan of the Slovak Republic in which Slovakia defined its goal: New network of hospitals - construction, reconstruction and equipment. A total of EUR 998 million should be allocated to this goal. We cover this topic in more detail in the next chapter (the Recovery and Resilience Plan, 2021).

PRIVATIZATION OF STATE FINANCIAL ASSETS EXCEPT HEALTHCARE

For a long time, the ruling SMER party presented itself in public against the idea of privatization of state property. Despite this, several hidden privatizations took place during SMER reign. The one that is definitely worth mentioning, is privatization of Slovak Telecom. In 2015, the state sold a 49% stake in Slovak Telekom company (EUR 900 million) (HN online).

The connection between the use of these funds for healthcare, or directly for the modernization of hospitals we did not discover (the first debt relief of hospitals was financed

from the privatization of Slovak Telecommunications), nevertheless it is possible that in the long term it may also be one of the sources of funds, in the short term it is unlikely.

PRIVATIZATION IN HEALTHCARE SECTOR

Since many hospitals are still in the hands of the state or local government, there is still room for privatization. However, we assume that in the short term it will be mostly smaller regional hospitals, or the usual model of partnership with local governments (AGEL hospitals, SVET ZDRAVIA or Medirex Group) will be applied more.

In connection with privatization, there was also talk in the past about the privatization of General Health insurance Company (56% of the market), which has had great financial difficulties in recent years and which, despite recovery plans, must be rescued by its owner - the state, with the help of an increase in the share capital (October 2020 increase of EUR 100 million, December 2020 additional EUR 98 million and EUR 120 million were agreed in March 2022) (Andelová, 2022).

Despite the current financial difficulties, the future value of its stock (as of January 1, 2022, a total of 2,896,138 insured people, or 56% of the market, ÚDZS, 2022) may be interesting for private investors who would like buy the whole HIC or buy a part of it (Pažitný et al., 2014).

2.2 PRIVATE RESOURCES

With private resources, we primarily focus on resources coming from private companies, but resources can also come from private individuals (donations), churches or associations.

ISSUE OF ADDITIONAL SHARES

Entry of private funds into the hospital is possible by purchasing its shares. However, this option is open **only to hospitals that have the form of a joint-stock company**. respectively are transformed into Inc. A joint-stock company can additionally issue shares and offer them for sale to a private bidder. Alternatively, in the case of state-owned hospitals, part of the state-owned shares can be sold to a private company.

The state currently owns and operates only a few hospitals with the legal form of a joint stock company. In addition to two general hospitals (University Hospital - Saint Michael's Hospital, Inc. and Poprad Hospital, Inc.), several specialized hospitals were in the past also transformed (National Institute of Heart and Vascular Diseases, Central Slovak Institute of Heart and Vascular Diseases, East Slovak Institute of Heart and Vascular Diseases, East Slovak Institute of Heart and Vascular Diseases, oncology institute). Since the transformation of hospitals into joint-stock company does not continue anymore and the specialized state institutes are in good financial condition and also with other possibilities of financing their modernization, **we do not assume that the state would use this possibility to a significant extent.**

This possibility of obtaining capital investments could be used, for example, by Faculty hospital AGEL Skalica Inc., which is in mixed ownership of a private company (AGEL owns a total of 69.1% as of December 2020) and municipalities (Trnava self-governing region 22.1%, the city of Skalica 8.7%, and the cities Senica, Holíč and Gbely have less than 1%) (Faculty Hospital AGEL Skalica Inc., 2021).

BANK LOAN

Investment loans from a commercial bank can be used to finance investment needs, acquisition of tangible and intangible assets, reconstruction or modernization of assets. The

loan can be applied for either by the hospital itself or by its founder or owner (ministry, region, city, municipality).

In case that the hospital itself plans to take the loan, its financial health (in particular indebtedness, solvency and balanced management), the value of the property, its legal form and the possibility of providing a guarantee will be decisive. If the hospital is heavily indebted, the bank may reject the application due to fear of non-paying off. Also, a different legal form of a hospital than a commercial company can be a reason for rejection due to lower accounting transparency as well as limitations in business activity (Pažitný et al., 2014). It is usually necessary to provide a guarantee for a loan, e.g., property of the hospital, which is also problematic in some cases. Theoretically, the state can also guarantee its hospitals through a state guarantee.

If a self-government applies for a loan for its hospital, financing by banks is limited by Act No. 583/2004, which states in “§ 17

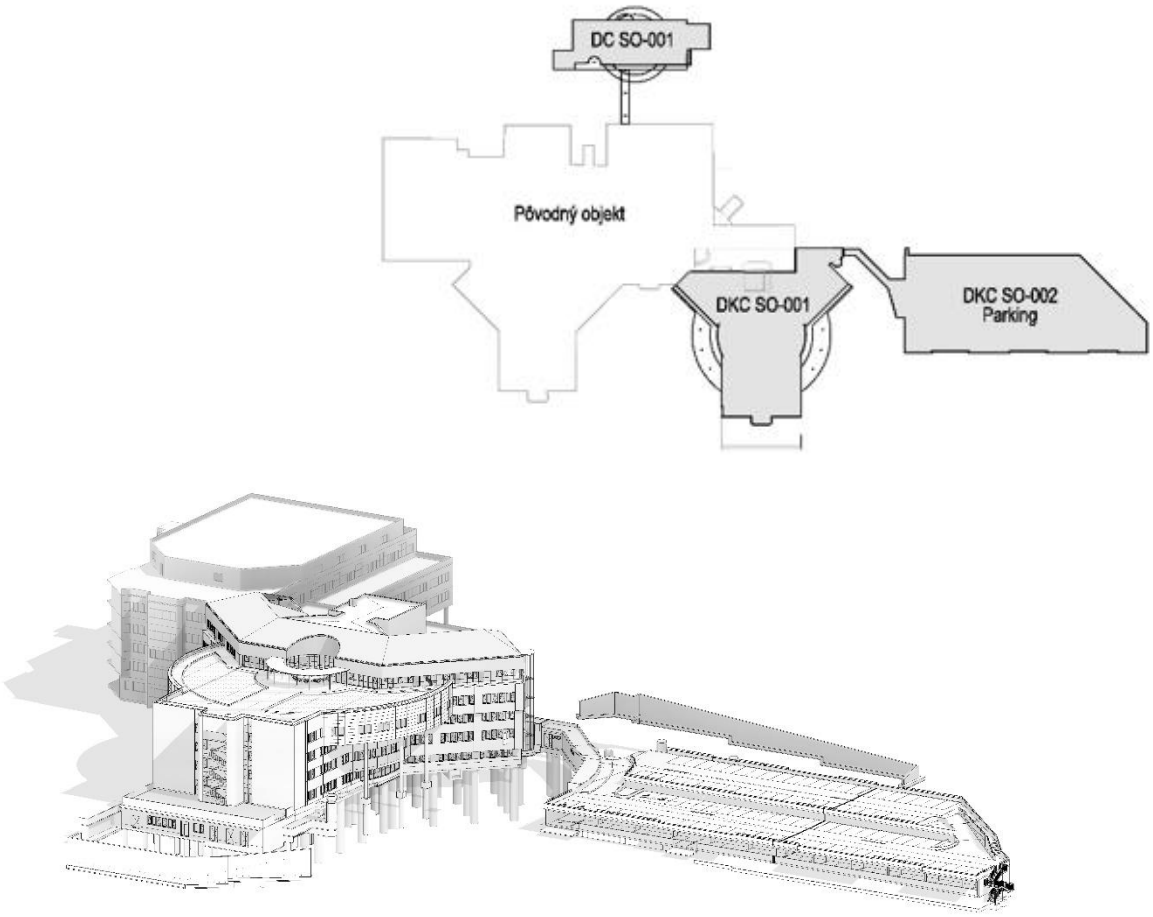
- Point 6a: the total amount of debt of the municipality or higher territorial unit does not exceed 60% of the actual current income of the previous budget year
- Point 6b: the amount of instalments of repayable sources of financing, including the payment of revenues and the amount of instalments of obligations from investment supplier loans, in the relevant budget year, will not exceed 25% of the actual current income of the previous budget year".

The indicators defined in this paragraph have an impact on the amount of the drawn amount, but also on the maturity of the loan, which must be extended in such a way that the conditions according to the law remain fulfilled. In times of cheap loans with low interest rates, this may not be a big obstacle. Municipal investment loans are mostly taken for a period of 10-30 years, and the bank requires security in the form of a Bianco promissory note (Birčáková et al. 2021).

There are few examples of investment loans used for the construction or extension or reconstruction of a hospital on a larger scale in Slovak hospitals (the Central Slovak Institute of Heart and Vascular Diseases or the National Institute of Heart and Vascular Diseases), much more often a bank loan is used for co-financing or financing of smaller projects or reconstructions in connection with the purchase of expensive medical equipment.

We documented an example of a successful large project co-financed through the use of a commercial investment loan worth EUR 20 million in the case study of the National Institute of Heart and Vascular Diseases (NIHVD).

CASE STUDY I – NIHVD



Source: NIHVD

Source: NIHVD

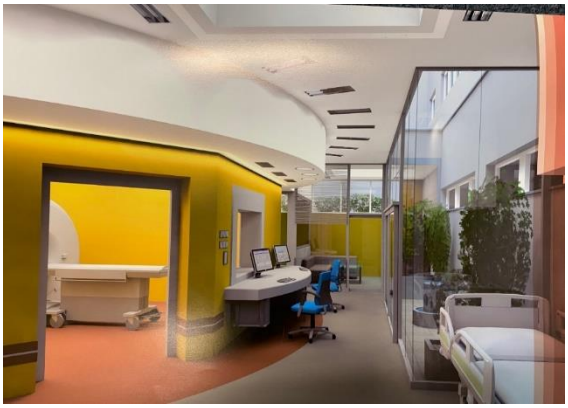
ABOUT PROJECT

Modernization of the National Institute of Heart and Vascular Diseases in Bratislava city district Kramáre continued in recent years with a large-scale project that dealt with the expansion and completion of buildings in the campus. The expansion of the institute consisted of an extension to the building of the children's cardio center, the addition of a diagnostic center and a parking garage.

Opened in February 2021, the New Children's Cardio Center (CHCC) immediately became one of the most progressive facilities of its kind in Europe. The biggest advantage of the new premises is the location of individual departments according to the logical flow of the healthcare. In close proximity there are highly specialized workplaces such as the operating room, the hybrid room and the intensive care unit and departments of acute and intensive medicine. Their interconnection is implemented in such a way that there is no crossing of clean and dirty communication routes. CHCC also includes hotel accommodation for parents of children with a capacity of 18 beds and a training center with a lecture hall for 45 people (NIHVD, 2022).

The second part of the project was the completion of the 7-floor Diagnostic Center connected to the rest of the institute by means of a communication bridge. In this new diagnostic center, there is a specialized outpatient section for the diagnosis and treatment of cardiac arrhythmias, as well as for heart failure and heart transplants, an arrhythmia and cardiac stimulation department with 19 beds, a heart failure and transplant department with a capacity of up to 19 beds, and also 3 interventional arrhythmology departments. It also includes a rehabilitation center for employees and a new information center. The top floor is equipped with a heliport (NIHVD, 2022).

The third construction part of the project was the expansion of parking capacities in the form of underground garages, which serve patients, their visitors and staff.



Source: NIHVD

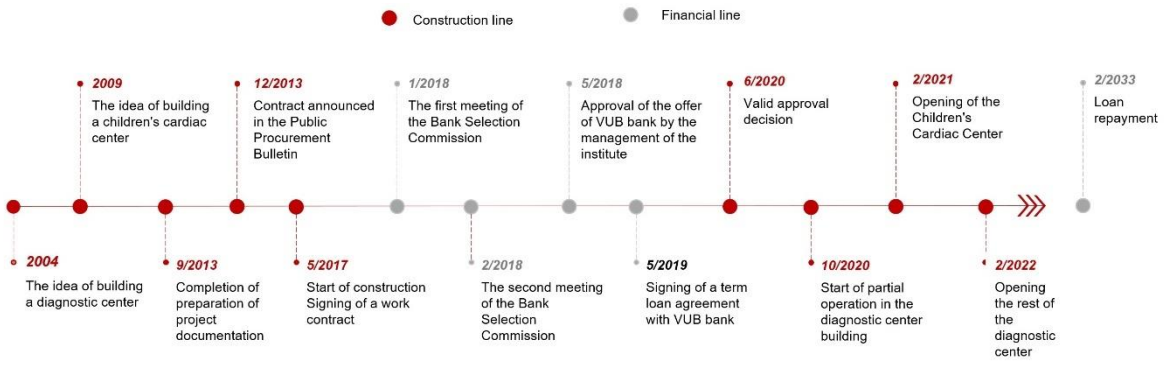
Obermeyer Helika s.r.o. became the general designer of the project and documentation, the main contractor was the Czech-Slovak consortium Ingsteel & Vces.

Table 1: NIHVD – project

BUILDING OF PEDIATRIC CARDIOLOGY CENTER	
Floors	5
Usable area	10 800 m2
Number of operating and intervention rooms	3
Number of beds	45 plus 10 (intensive care unit) and 10 (departement of acute and intensive medicine)
Accommodation capacity for parents	18
DIAGNOSTIC CENTER BUILDING	
Floors	7 plus heliport
Usable area	5 940 m2
Number of intervention arrhythmological rooms	3
Number of beds	38
PARKING HOUSE (2-floors)	
Usable area	5 450 m2
Number of parking spaces	279
COSTS	
Real estate construction and built-in technological equipment (construction part)	EUR 44 791 119
Building equipment, project work, interest and overhead work of NIHVD	EUR 3 803 763
TOTAL COSTS as of 31.12.2020	EUR 48 594 882

Source: NIHVD

Scheme 1: Project timeline NIHVD



Source: NIHVD, 2022

FINANCING

The institute's own funds (58.84%) and a bank investment loan (41.16%) were used to finance the project (NNIHVD, 2022).

Table 2: NIHVD – conditions of the investment loan

CONDITIONS OF THE INVESTMENT LOAN	
Bank	Všeobecná úverová banka, a.s.
Credit line (fully drawn amount)	EUR 20 000 000
Effective from	22.05.2019
Last instalment	20.02.2033
Purpose of the loan	Financing of costs associated with the construction of the pediatric cardiology center, the extension of the diagnostic center and the construction of the parking lot
Fixed interest rate (full term)	1,38% p.a.
Installments	Monthly, even
Monthly principal payment in the form of an annuity	EUR 123 456
Loan interest costs for 2021	EUR 242 059

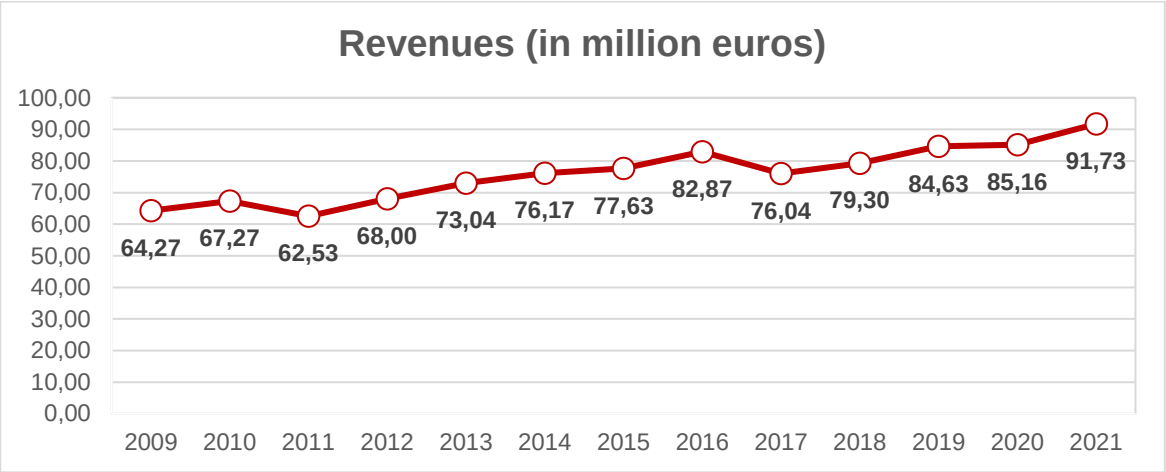
Source: NIHVD, 2022

Application for a loan in the total amount of EUR 20 million was evaluated positively by the VÚB Bank. The following indicators were considered to be especially important

- positive economic results during previous years
- excellent solvency
- low total indebtedness or no overdue liabilities
- hight equity capital
- co-financing of the project - own resources
- submitted economic model of the project (NIHVD, 2022)

The long-term trend of the growing volume of social services provided is also reflected in the growing revenues of the institute. Due to the aging of the population, a further increase in revenues is expected in the future.

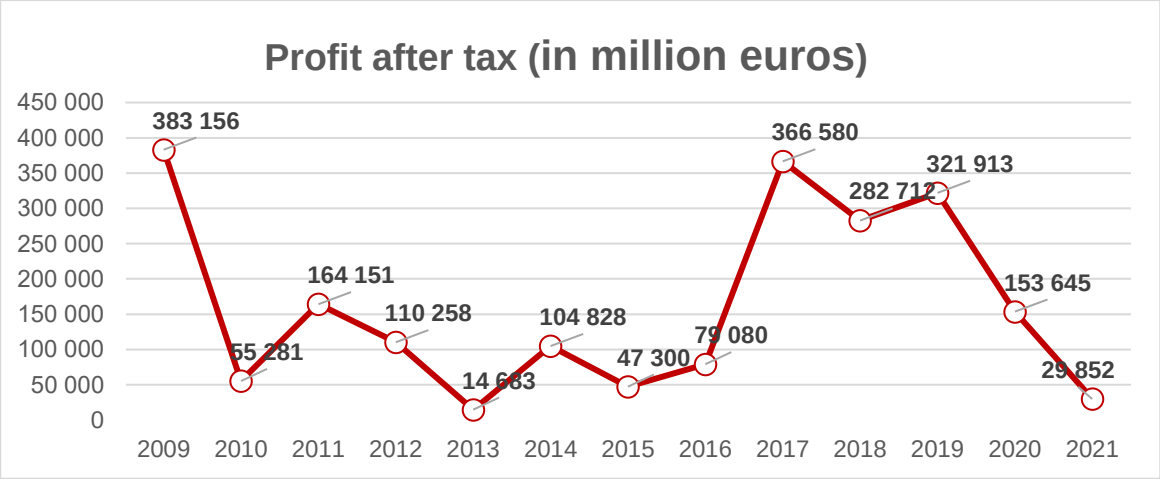
Figure 4: Revenues NIHVD, 2009-2021



Sources: Finstat.sk financial statements NIHVD, 2009-2021

For a long time, the NIHVD has been successful in achieving its economic goal - a balanced budget or in optimal case, a profit. Thanks to good economic results, the NIHVD managed to accumulate its own financial resources during the previous years, which were largely used to co-finance the project. The management of NIHVD considers the key prerequisites for achieving this goal "adequate contracts with health insurance companies, stable and correct relations with suppliers of medical equipment based on the principles of competition with regard to quality and prices and control of operating costs" (NIHVD,2021).

Figure 5: Profit after tax NIHVD, 2009-2021



Source: Finstat.sk financial statements NIHVD, 2009-2021

Before taking bank loan, NIHVD had no other obligations regarding the financing of assets and/or operations and there was no lien on its property. Even after the loan was drawn in 2019, NIHVD's total indebtedness did not grow enormously.

Table 3: Total indebtedness NIHVD

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total indebtedness (%)	17,1	14,0	13,9	15,8	14,5	11,9	12,0	11,7	13,1	17,0	28,3	26,7	27,9

Source: Finstat.sk financial statements NIHVD, 2009-2021

The loan is secured by a lien against the financed real estate, which was insured for this purpose. NIHVD does not have a state or any other guarantee for the loan (there is no condition for concluding a contract with health insurance companies). In the event of late payments, a penalty interest of 5% p.a. is agreed in the contract (defined in the general terms and conditions).

According to the management of the NIHVD, the advantages of financing the modernization of the institute with the help of a loan are (NIHVD, 2022)

- relatively quick acquisition of funds (without the need for a large bureaucracy as is the case with Eurofunds)
- loan approval was not tied to the fulfilment of specific conditions
- low fixed interest rate of 1.38% p.a. and the terms of the loan are very advantageous from the point of view of today's reality

The disadvantage is the company's credit burden, payment of interests (compared to the situation if only own resources were used), lien on the real estate (restriction of transferability), possible change in loan conditions and problems with keeping up with them (NIHVD, 2022).

BONDS

In the case of hospitals, bonds as a possible source of financing are primarily considered for hospital construction projects. Abroad, this method is used by states or municipalities that do not have enough funds for construction.

The construction of a hospital is a long-term project and it requires a large initial capital. It is usually necessary to wait a long period of time for its return, as the entire economic logic of the hospital is based on contracts with health insurance companies that pay for provided healthcare. This happens only after hospital's opening which takes several years after the first investments are made. In the past, the role of investor was almost exclusively taken on by the state, which built most of the hospitals half a century ago. Nowadays, also private investors can build a hospital, as we can learn from abroad.

In Slovakia, situation is different. The private financing of new hospitals is still in its early stages. The pioneer in this area is the investment group Penta, which entered the healthcare industry in 2002 by acquiring a stake in health insurance company Dôvera. Subsequently, it expanded its scope to the segment of pharmacies (Dr. Max), polyclinics (ProCare) and also hospitals (Svet Zdravia), in which it is now well established (Penta Investments, 2022).

During more than 15 years in the healthcare industry, Penta has gained extensive experience in managing hospitals (currently 17 hospitals), thanks to which it can prepare a high-quality project for a new hospital with a good financial plan, which will ensure that the hospital can be operated in a sustainable manner and the costs of its construction will likely return to its investor.

A big advantage for Penta is also the group's experience with projects from its real estate portfolio Penta Real Estate (Sky Park, Jurkovičova tepláreň, Digital Park, Bory Mall and others). It has helped Penta to gain a great deal of experience with project management or cooperation with architectural and construction companies. These experiences are crucial from the point of view of building a hospital, which can be considered a very specific and demanding construction.

Last but not least, when financing the construction of the hospital, Penta can also draw on its experience in investing in various projects (private equity, bank loans, bond issues). This was fully demonstrated during the preparation of the New Generation Hospital Bory, whose case study we prepared after interviews with Jozef Mathia (investment manager of Penta Investments), Marek Hvožďara (Head of Investment Financing at Penta Investments) and Martin Hrežo (CEO, Penta Hospitals International).

Hospital Bory is not the first project of brand-new hospital for Penta. Its ability to build and run a new hospital Penta tested at a smaller scale in Michalovce. Regional hospital worth EUR 33.2 million was designed by the Dutch architectural studio Dutch Health Architects in cooperation with the Slovak designer ARTES Design Košice. The hospital with a capacity of 310 to 370 floating beds was rather small compared to the Bory Hospital, and Penta managed to build it in 2.5 years (ProCare, 2017).

CASE STUDY II – NEW GENERATION HOSPITAL BORY

Source: Penta Hospitals

ABOUT PROJECT

The first new generation hospital of the Svet zdravia network is being built in the Bory district on the north-western edge of Bratislava, close to the Bory Mall shopping center. After its opening, it will provide planned and acute healthcare to patients under the conditions of public health insurance.

Healthcare will be organized in multidisciplinary programs. A total of 6 programs were defined: women and children, orthopedic-traumatic, oncological, cardiovascular, neurovascular and metabolic and digestive disorders. The basic clinical programs will be supplemented by other specializations (19), in which procedures will be performed on an outpatient basis and as part of one-day care. The hospital will have all basic clinical workplaces. It should also present a number of unique innovative solutions in the Slovak healthcare sector (central medicine preparation plant, pipeline mail, self-guided logistics vehicles, a system of floating beds) and technological firsts (CyberKnife, Elekta linear accelerator).

Penta group is also planning to build a teaching and scientific research center based on a public-private partnership with the Bratislava self-governing region and in cooperation with the Slovak Medical University. The intention is therefore to build a medical campus right next to the hospital. It will house an auditorium, a multifunctional training center with an operating theatre and an intensive care training workplace with complete equipment (Penta Hospitals, 2022).

Source: Penta Hospitals

Table 4: New generation hospital Bory – about project

HOSPITAL BUILDING	
Floors	6 plus heliport
Total floor area	530 000 m2
Number of parking spaces	473
The value of construction works done every day	EUR 165 000
CONSTRUCTION COSTS	
Building	EUR 110 million
Medical and non-medical equipment	EUR 75 million
Testing, commissioning and project management	EUR 55 million
MEDICAL AREA	
Total number of beds	408 / extension possible to 700+
Estimated number of hospitalizations	35 000 / year
Estimated number of outpatient hospitalizations	350 000 / year
Estimated number of births	3 750 / year
Diagnostic devices	3/CT, 2/MR
Number of operating rooms	14 plus 1 hybrid
Number of multidisciplinary care rooms for adults	24
Number of delivery rooms with a family-oriented ICU for new-borns	8
PERSONNEL	
Number of doctors	320
Number of nurses	440
Number of other medical personnel	470
Number of other personnel	170

Source: Penta Hospitals, 2021

The construction of the Bory Hospital is in an advanced stage (approximately 80% is already completed). Hospital should start to accept first patients in the first quarter of 2023. Construction began in August 2018, almost immediately after obtaining the building permit. The project work itself began in 2015 and lasted a total of 3 years. Due to the pandemic, the construction of the gross structure and its completion will be extended to 4.5 years compared to the planned 3.5 years. Despite the fact that Penta Investments, as a private investor, is

not bound to public procurement, the entire preparation of the new hospital project, its construction and start-up will take approximately 7.5 years.

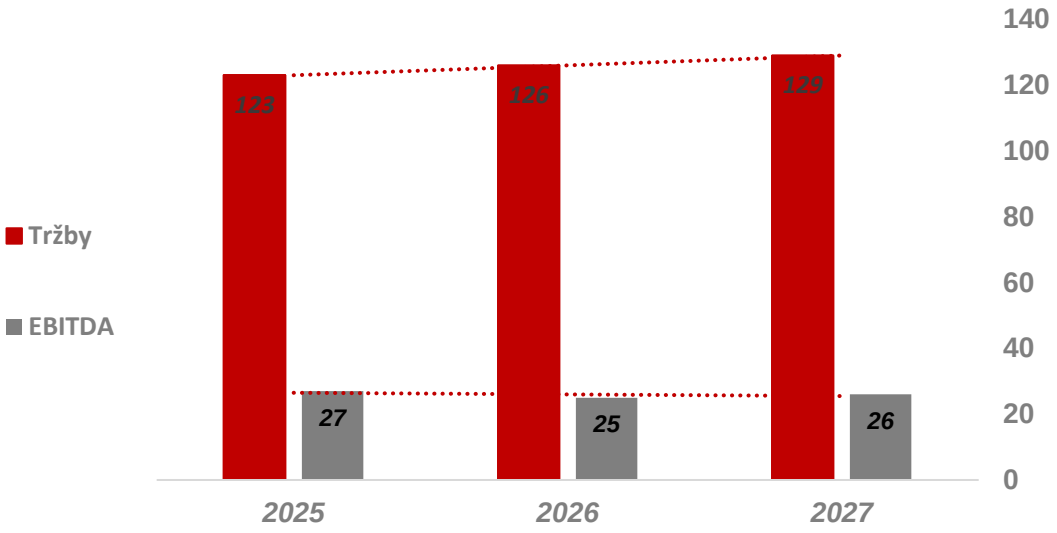
Scheme 2: Project timeline – new generation hospital Bory

Source: Penta Hospitals, 2021

FINANCING

The construction of a brand-new hospital by a private investor is based on the idea that the hospital construction project itself is built on a strong partner. In the case of the Bory Hospital, it is the investment group Penta, which has committed its own funds into the project. These will largely cover the costs of the preparation and construction of the hospital until its operation starts. After the start of its activity (primarily provision of healthcare paid from public health insurance), when the hospital starts generating its own income, the burden is transferred to the hospital itself, while it must be able to service its own debt. This assumption can only be met if the project is built on a medical plan linked to a sound financial plan that will ensure that the hospital can be operated in a sustainable manner. In this case, the investor bet on such a combination of provided healthcare services, whose payments from insurance companies also enable the creation of profit (Stachura, 2022). At the same time, the project tries to maximize the efficiency of the provision of healthcare as well as to minimize costs (centralized purchases) (Penta Hospitals, 2022).

Figure 6: Revenues and EBITDA at full operation of the hospital BORY



Source: Penta Hospitals, 2021

The structure of sources of financing for hospital construction Bory

- own resources (provided by Penta Investments Limited)
- Bory Hospital bonds, arranged by Privatbanka,
- bank financing covering the hospital construction (financing used until the start of the hospital operation with and subsequent refinancing) and purchase of technology (mainly medical equipment leasing)

Most of the resources used for the construction of the hospital are Penta Investments Limited's own resources.

Penta usually optimizes the capital structure of its projects by issuing bonds. These are, however, project that are long-standing and generating sufficient free cash flow or on standardized real estate projects. Since Penta group considers the Bory Hospital project as unique, among other things, from a societal point of view, it has decided to allow Privatbank's private banking clients to participate in this project through multiple bond issues.

Altogether, Penta has already issued 50 million in 5 rounds using its own companies Svet zdravia Development, a.s. and NNG Funding s.r.o.

Table 5: Issue of New generation hospital Bory bonds

Round	Issue date	Issued funds (eur)	Income with interest rate	Dates for payment of bond yield
1	29.10.2018	10 000 x 1 000 eur = EUR 10 million	3,70 % p.a.	29.04.2019 a 29.10.2019
2	20.05.2019	10 000 x 1 000 eur = EUR 10 million	3,95 % p.a.	20.11.2019, 20.05.2020, 20.11.2020, 20.05.2021, 20.11.2021 a 20.05.2022
3	07.08.2019	10 000 x 1 000 eur = EUR 10 million	3,50 % p.a.	07.02.2020 a 07.08.2020
4	18.08.2020	10 000 x 1 000 eur = EUR 10 million	4,25 % p.a.	18.11.2020, 18.02.2021, 18.05.2021, 18.08.2021, 18.02.2022, 18.08.2022, 18.02.2023 a 18.08.2023
5	18.03.2022	10 000 x 1 000 eur = EUR 10 million	3,75 % p.a.	18.06.2022, 18.09.2022, 18.12.2022, 18.03.2023, 18.09.2023, 18.03.2024, 18.09.2024 a 18.03.2025

Source: Privatbanka, Issuance conditions of Nemocnica Bory Bonds (2018-2022)

Since Penta group has many years of experience with this method of financing (including healthcare project such as Dr.Max) and at the same time it owns Privatbank, which has been arranging bonds for it for more than 10 years, this method of financing is for Penta from a technical point of view problem free.

According to Penta's managers, the uniqueness of this method in the case of the Bory Hospital lies mainly in the fact that, through long-term correct behaviour towards clients, rigid fulfilment of its obligations to them, and successful completion of other bond financed projects, Penta was able to build a very strong trust of clients, and they, after issuing Bory Hospital bonds responded very positively and decided to support the project with their own money.

An important motivation for the issuance and purchase of a bond in the case of building a hospital is also the value of the project itself, which after its completion will bring an increase in the quality of life in Bratislava community.

2.3 MIXED RESOURCES

By mixed resources, we primarily understand various forms of public-private partnership, or the leasing of the state hospital's own property to a private individual or sale of land.

RENT OR SALE OF OWN PROPERTY

General hospitals have an average of 30 buildings per hospital, some even have up to 81 buildings in their ownership and often spread over a large plot of land with little built-up area (MF SR, Recovery and Resilience Plan, 2021). Many of the buildings are not being used, which basically reduces the value of the hospital itself. On the contrary, in the case of leasing some unused part to the state or a private individual, the obtained funds can be used to cover capital costs. A similar situation also applies when renting land.

This form of resource allocation is used in hospitals today (buffet, shop, private healthcare providers, laboratories, parking lots, etc.), but its potential is not sufficiently used everywhere. This financing scheme is, for example, does not work for hospitals that have a legal form of a budget organization. In this case, the income from the rental of property is income of the state budget. Similarly, in the case of a non-profit organization, its scope is also limited by the necessary consent of the founder (Pažitný et al., 2014).

A current example is the sale of the premises of the Railway Hospital and Healthcare Center in Košice. The owner of the area, Railways of the Slovak Republic, decided to sell the area in which the hospital is located at the beginning of 2022. The sale should take place in the form of an auction, the management proposed a starting amount at the level of almost EUR 13.32 million without VAT (Trendreality.sk).

PUBLIC-PRIVATE PARTNERSHIP

In general, public-private partnerships (PPP) are not significantly used as a financing option in Slovakia. At the same time, self-governments in many countries around the world, often use PPP as a tool that enables the state and its self-governments to "fulfill their mandate, in other words to create a viable environment for its citizens by attracting private resources or know-how" (Birčáková, 2021, page 72).

Originally, PPPs arose in the USA, that is, in a country with a strong belief in market forces, which gives a lot of space to private companies with the belief that they will operate more efficiently than the state. Later, the construction of infrastructure in the public interest in cooperation with private individuals spread to the Great Britain and gradually also to other EU countries (Birčáková, 2021).

EU countries are embarking on **PPP projects in the field of healthcare in order to use the financial resources of private companies as well as their expertise in the field of infrastructure development and healthcare provision to improve public health services. PPPs provide governments with alternative methods of financing, infrastructure development and service delivery.** By making capital investment more attractive to the private sector, PPPs can reduce the risk for private investment in new markets and lower barriers to entry (PWC, 2015).

Even Slovakia has not completely avoided the trend of PPP projects in the healthcare sector, although caution and mistrust of private companies still persist here. In the case of hospitals, after 2004, the model of partnership between the local government (city or region) owning the hospital premises and a private investor leasing and managing the hospital for a longer

period of time (20-30 years) gradually spread in Slovakia. By gradually creating such partnerships, the Penta investment group managed to create a network of a total of 17 hospitals (Svet Zdravia). Likewise, the Agel group has created and is developing a partnership with local governments in several cities in Slovakia (9 hospitals). We can also list other partnerships, for example, PPP between the Bratislava self-governing region and the Medirex group (Nemocničná a.s.) in the case of the hospital in Malacky, or the partnership between the city of Šahy and the company Hospitale, s.r.o. which unites the doctors of the hospital.

These public-private partnerships have contributed to increased funding in the health sector on two levels

1) the original owner (municipality) obtained financial resources from the lease, which could be further used to finance other hospitals under its jurisdiction (in some cases of heavily indebted hospitals, the amount of the lease is low, but the municipality does not need to commit additional funds to the hospital).
2) the private investor invested additional (own) funds in the modernization of these hospitals (the investor's commitment is usually stated in the hospital lease agreement)

From its entry into the health sector, Penta group claims to invest a total of more than EUR 480 million in the Slovak health sector by 2023 (including the construction of hospitals in Michalovce and Bory in Bratislava). These investments come largely from savings obtained from the more efficient operation of hospitals and also from group itself beyond the scope of the achieved profit (Penta Investments, 2019).

Agel calculated its investments for the last three years (2019-2021) at EUR 84.4 million (AGEL, 2022).

What is interesting about public-private partnerships is their huge variability. Individual partnerships differ from each other depending on the specific conditions stipulated in the agreement/contract. Common to PPP projects are the following key features that distinguish them from other forms of cooperation (PWC, 2015):

- long-term contracts (15+ years, usually also 20-30 years)
- the joint nature of the investment or deposit of assets
- the private sector assumes significant financial, technical and operational risks and bears responsibility for defined results
- shared risk between public and private partners

The basic models of PPP projects (in healthcare) according to PWC (2016) are as follows:

DBOT model (design, build, operate, transfer) in which the private partner is responsible for the design, construction and maintenance of the infrastructure during the duration of the contract (more than 15 years) and after the contract expires, it transfers this responsibility back to the government. The private partner is also responsible for the management of the hospital, including services such as laundry and buffet, but does not provide healthcare services. This obligation is retained by the public sector (in its entirety). The most common form of this model in healthcare is the Private Finance Initiative (PFI) model, which is widely used to build hospitals in the UK.

DBOD model (design, build, operate, deliver). Since the beginning of the 21st century, an increasing number of governments have explored more ambitious models in healthcare,

such as public-private integrated partnerships (PPIPs), in which a private partner is additionally responsible for the provision of all clinical services in one or more health facilities, often including a hospital acute care as well as primary care facilities. Thus, the private partner designs, builds and operates the facilities as well as provides clinical care, including the recruitment of health workers, all for the duration of the contract.

A special form of this PPIP model is the so-called concession model where a concession contract is concluded with precisely defined key performance indicators. The commitment of the provider of integrated care is to provide care that meets not only the current but also the future needs of residents in a certain geographic area**.**

From a legal point of view, we could further divide PPP projects as follows (EY, 2014):

- **institutional PPP project -** establishment of a new legal entity jointly controlled by a public and private partner, eventual acquisition of partial control over an existing public sector entity by a private partner.
- **contractual PPP project -** is based on a contract between a private and public partner and can be designed in different forms depending on the distribution of risks between the contracting parties. The contract usually covers various aspects of the project, for example, design, financing, construction, reconstruction, operation, special services and/or maintenance. Such a partnership is normally based on a concession for construction works or a concession for services (or another contract) depending on the project.
- **availability-based PPP project –** in this kind of project, the availability risk is borne by the private partner. Availability means that the infrastructure or services provided by the private partner meet the required parameters and are available to the public. Evidence that the public partner does not bear the risk of availability is when the payments to the private partner are significantly reduced, if the infrastructure or services are not available to the public as agreed in the contract, do not work or do not meet the agreed parameters or standards. On the contrary, if the infrastructure or services meet the required parameters, the private partner receives full payments, possibly together with a reward, if the infrastructure or services are delivered in a higher quality.
- **PPP project based on demand -** is a project in which the risk of demand is borne by the private partner. This means that the private partner bears the risk of whether there will be interest in the infrastructure or services, (due to the market situation, competition or obsolescence of technology). The contract sets an increase or decrease in payments depending on the current use of the infrastructure or services.
- **Mixed PPP project –** are defined by mixed payments (part of the payments are covered by the public partner and part of the payments by the end users). The decisive criterion is demand risk, and which side bears it to a greater extent.
- **Concession -** the private partner's income consists mainly of revenues from the infrastructure (payments made by end users for infrastructure). The essential feature of the concession is that the concessionaire is responsible not only for the construction of the infrastructure, but also for its use. Demand risk is borne by the concessionaire, not the public partner. The concessionaire bears the construction risk along with the demand risk.

Although there is currently no hospital in Slovakia that would operate based on a concession model, a few years ago such a project was intensively prepared and the team of experts

who worked on it managed to prepare the project in relatively great detail. Therefore, we believe that even such a model of public-private partnership could work in the Slovak healthcare system during the construction of a new hospital, adapted to Slovak conditions. In the third case study, we describe the project of the new Bratislava University Hospital, which was brought to the competitive dialogue by Ribera Salud.

In 2015, the Ministry of Health of the Slovak Republic began to search for a partner for the project of the new University Hospital in Bratislava in the form of a competitive dialogue. After the announcement of the intention to build and operate the new UNB, several interested parties applied, in the end the Ministry of Health of the Slovak Republic conducted a competitive dialogue with 5 interested parties:

- Ribera Salud Infraestructuras,
- InterHealth Canada s Metrostavom,
- Agel in cooperation with Assuta Medical Centers,
- Pessina Costruzioni in cooperation with Dúha, a. s. a Credinvest International Slovakia Rizzani De Eccher and Policlinico San Donato (Trend, 2015)

The Spanish Ribera Salud Grupo, which is one of the pioneers of public-private partnership in Europe, also showed interest to participate in dialogue.

RIBERA SALUD GRUPO

Ribera Saud is a business group founded in 1997 that specializes in the management of innovative healthcare projects. Its shareholders are Centene corporation (90%) and Banco Sabadell (10%). Centene is a leading Fortune 500 healthcare company in the US. It has more than 30 years of experience working with US state governments and is one of the main providers of the Medicare and Medicaid programs. Banco Sabadell is the fourth largest commercial bank in Spain. The company has branches in every region of the country and is present in 16 other countries (Ribera Salud, in 2022

Ribera Salud provides comprehensive health care in the autonomous regions of Spain, but it also has projects in South America and Europe. It manages 8 hospitals (of which 4 are university hospitals) and more than 80 primary health care centers.

Its main values are: TRANSFORMATION, ETHICS AND CARE and COMMITMENT

Triangle of success combines the strengths of three key areas:

1) **Clinical management**:

- support for prevention and clearly targeted health services, integration of the entire system
- management of patient demand and needs,
- strengthening the position of general practitioners

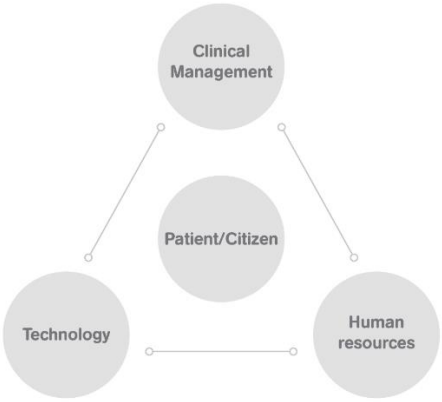
2) **People management**

- teamwork, motivational programs
- education, professional career development plans

3) **Information and communication technologies**

- connection and exchange of clinical and non-clinical data,
- data analytics
- tele-medicine
- electronic communication with patients

Ribera Salud presented to the world the so-called Alzira model, which is described in the case study.



CASE STUDY III - ALZIRA MODEL (CONCESSION MODEL)

Source: Ribera Salud Grupo

ALZIRA MODEL

In 1999, Ribera Salud created a unique model of public-private partnership PPP, based on the provision of quality health services to patients. This model was named Alzira after the location of the first hospital where it was applied in cooperation with the local government. Its version at that time does not fully match today's Alzira model, which has undergone transformation and improvement.

Today, Alzira model can be considered tested and functional (there is proof of feasibility) and is globally considered one of the best in the field of integrated care (its success story has also attracted the attention of well-known international universities such as Harvard Business School and Berkeley).

It is an integrated model with full capitation, the benefit of which is a reduction in waiting times, a reduction in the number of first consultations with specialists and a higher satisfaction of employees, but especially patients. This model focuses mainly on three main beneficiaries: citizens, health professionals and public administration.

The model works on 4 basic pillars, which are interconnected and above all, connecting the public and private sectors into one strong partnership, in which the public sector plays an important role.

In this model, **ownership of hospital infrastructure** remains public (state, region, city), and a private investor invests in the hospital during the concession period.

Public control. The public sector retains the role of controller and regulator and is therefore able to control compliance with the continuity of healthcare provision**.**

Public financing is governed by existing legal regulations and does not change in any way from the patient's point of view (health insurance, co-payments). The model uses new payment mechanisms and a different flow of funds between health insurance companies, health care providers and the public sector.

Private provision of health care works on the basis of the so-called concession contract (a contract between the public sector and Ribera Salud) and with precisely defined key performance indicators. The commitment of the provider of integrated care is to provide care that meets not only the current but also the future needs of residents in a certain geographic area.

Public ownership of infrastructure | Public control | Public financing | Private provision of healthcare

Advantages of the model

- It covers the real needs of the residents
- It is financially sustainable
- Its success is based on the principle of health promotion and prevention (emphasis on primary care)
- Close cooperation with various community organizations (city, associations, schools, etc.) => coordinated efforts to promote a healthy lifestyle
- The provision of healthcare is still perceived by the city residents as municipal - the designation of buildings will continue to be public
- New modern clinical approaches (integrated care)
- Modernization of health infrastructure - buildings and technologies - financing from savings resulting from effective provision of health care
- Strategic control over the provision of healthcare continues to be held by the public partner, which remains the owner of the hospital
- Reduction of the administrative burden for the state

ABOUT PROJECT OF NEW UNIVERSITY HOSPITAL BRATISLAVA

According to calculations made by the Ministry of Health, nUNB should have cost between EUR 200 and 250 million, while it was supposed to handle up to 44,000 hospitalizations, 875,000 outpatient examinations, 610,000 diagnostic procedures and 47,000 operations.

The condition was also the conclusion of a contract on a future contract with VšZP (minimum of 5 years) and an agreement with the university.

Table 6: Project of new University hospital Bratislava

CONCESSION CONTRACT	
Legal form of concessionaire	Creation of special purpose vehicle
Contract length	30 years
Capitation = Health insurance	Contract on the future contract with the biggest health insurance company VšZP (5 years), agreed in advance
HOSPITAL	
Location	Patrónka
Number of beds	880
Hospitalizations	44 000
Outpatient examinations	875 000
Operations	47 000
Diagnostic examinations	610 000
INVESTMENTS	
Costs of licenses and permits	6%
Project cost, facultative management	12%
Project management cost	6%
Investment in equipment	EUR 25-30 million

Source: Ribera Salud, 2016

The competitive dialogue was cancelled by ex-minister of health Mr. Drucker in November 2016, at a time when the interested parties had already prepared relatively detailed documentation (architectural study, draft concession contract) and the financial model of the hospital.

3. WILL THE RECOVERY AND RESILIENCE PLAN SAVE US?

After the COVID-19 pandemic, Europe is trying to support the recovery of the economies of its member states and is sending them the largest stimulus package (EUR 2.018 trillion in current prices) that has ever been financed in Europe. A total of EUR 6.575 billion is planned for Slovakia from the Recovery and Resilience Plan package, and these resources are to be redistributed into 5 key areas of public policies (Recovery and Resilience Plan of the Slovak Republic, 2021).

Table 7: Breakdown of the allocation of funds from the Recovery and resilience plan into key areas of public policies

Recovery and resilience plan	EUR billion	%
Green economy	2,301	35.00%
Education	892	13.57%
Science, research, innovation	739	11.24%
Healthcare	1,533	23.32%
Effective public administration and digitization	1,110	16.88%
Together	**6,575**	**100.00%**

Source: Recovery and resilience plan Slovakia, 2021, page 7

One of the key areas is healthcare, to which approximately 23.3% of all resources should be allocated. Compared to the Czech Republic or Poland, it is more, compared to Hungary it is less, the differences in V4 are significant (6.9% of the budget versus 34.1%).

Table 8: Recovery and resilience plan in V4 countries

Country	Total volume of grants and debts (EUR billion)	Healthcare (EUR billion)	Healthcare/Total volume of grants and debts
Poland	35.97	4.542	1.6%
Hungary	7.20	2.457	34.1%
Czech Republic	7.07	0.488	6.9%
Slovakia	6.55	1.524	23.3%

Source: authors according to BRUEGEL DATASETS
Note: Bruegel datasets calculated that the amount of funds for the component Affordable and high-quality long-term social and health care, is EUR 256 million. Information in the Recovery and Resilience Plan of the SR says it should be EUR 265 million. This difference is caused by the fact that Bruegel did not include the costs of administrative capacity for the implementation of reforms and investment in the amount of EUR 9 million.

Great differences between the V4 countries also exist in the way funds are allocated within the health sector. Slovakia has allocated its resource into 3 components (see table 19), while up to 65% of all resources are reserved for the completion of the hospital network! (Recovery and Resilience Plan of the Slovak Republic, 2021).

Table 9: Slovakia - Recovery plan, distribution of resources (healthcare)

Component		EUR billion
11	Modern and affordable healthcare	1.163
	New network of hospitals - construction, reconstruction and equipment	*998*
	Project preparation and project management of investments	*58*
	Construction and renovation of emergency medical service stations	*32*
	Renewal of the vehicle fleet	*23*
	Digitization in healthcare	*41*
	Support for the opening of new primary care clinics in areas of short-term care	*11*
12	Humane, modern and affordable mental healthcare	105
13	Affordable and high-quality long-term social and healthcare	265
TOTAL		**1.533**

Source: Recovery and resilience plan Slovakia, 2021, page 7 and 429

With regard to the declared investment gap and the poor state of the infrastructure of institutional facilities, at first glance the allocation of almost EUR 1 billion for the construction, reconstruction and equipment of hospitals is good news for Slovakia. After all, if all the declared plans are implemented, these resources can help us significantly reduce the huge investment gap estimated at almost EUR 3 billion.

We definitely consider it desirable that modernization of hospitals will be financed from the Recovery and Resilience Plan of the Slovak Republic, just as other countries (Poland and the Czech Republic) have stipulated in their plans. However, at the same time, since the preparation of the plan itself (Peter Pažitný was at the first working session at the Ministry of Finance of the Slovak Republic in August 2020, but subsequently did not participate in any work due to his personal disagreement with the direction of the document), we also perceive possible risks. These should not be underestimated in any case, because there is a risk that the resources will not be used effectively and at the end of the day, the Slovak healthcare system will not move forward.

Risk no. 1 – Disproportionality in the distribution of resources

The disproportionality of hospital network investment compared to other investments in the field of healthcare is striking in the first place. Slovakia seems to have completely resigned to building modern healthcare system according to the criteria of the 21st century. The plan lacks any investments in excellence (Poland and the Czech Republic plan to develop highly specialized centers), investments in digitization in the amount of EUR 41 million (or 3% of all resources intended for the health sector) are minimal compared to Poland (EUR 1 billion) or Hungary (EUR 310 million) and key primary care, unlike Hungary (EUR 192 million), has only EUR 11 million allocated to save the troubled GPs (less than 1%) (Pažitný, 2022).

There are the plans despite the knowledge we have about Slovak healthcare system. Today we can say with certainty that only thanks to the rapid onset of digitization and the strengthening of the ambulatory sector (mainly primary care) can Slovakia manage to cope

with the emerging trend of population aging and the shortage of health workers (Pažitný, 2022).

Table 10: Czech republic - Recovery plan, distribution of resources (healthcare)

Project	Recovery plan EUR million	%
Establishment of the Czech Oncological Institute	222	45.50%
Development of highly specialized hemato-oncology and oncology care	65	13.29%
Increasing the availability and development of comprehensive rehabilitation care for patients after critical conditions	62	12.62%
Establishment of a simulation center for intensive care, including optimization of the educational system	53	10.76%
Development of highly specialized care - building a center for cardiovascular and transplant medicine	39	7.97%
The establishment and development of the Center for Oncology Prevention and infrastructure for Innovative and Supportive Care at the Masaryk Institute of Oncology	32	6.64%
Support the quality of preventive screening programs	16	3.22%
Total	**489**	**100.00%**

Source: authors according to BRUEGEL DATASETS

Table 11: Hungary - Recovery plan, distribution of resources (healthcare)

Project	Recovery plan EUR million	%
Equalization of income ratios of doctors	860	35.00%
Creating conditions for healthcare in the 21st century	837	34.05%
Supporting the digital transition of healthcare	310	12.62%
Digitization program for the safety and well-being of people with limited self-sufficiency	258	10.50%
Development of primary care to strengthen the role of general practitioners, expand services close to home and relieve specialist care	192	7.83%
Total	**2 457**	**100.00%**

Source: authors according to BRUEGEL DATASETS

Table 12: Poland - Recovery plan, distribution of resources (healthcare)

Project	Recovery plan EUR million	%
Development and modernization of the infrastructure of highly specialized care centers and other entities	2 119	46.65%
Accelerating the digital transformation of healthcare through the further development of digital healthcare services	1 000	22.02%
Creating suitable conditions for increasing the number of health workers	700	15.41%
Creating favourable conditions for the development of the pharmaceuticals and medical devices sector	300	6.61%
Strengthening the research base in the field of medical sciences and health sciences	273	6.01%
Development and modernization of the infrastructure of health entities at the district level.	150	3.30%
Total	**4 542**	**100.00%**

Source: authors according to BRUEGEL DATASETS

Risk no. 2 – Will it be possible to tie up funds for optimizing the hospital network?

The EU recovery plan should be tied to the implementation of reforms. In the case of hospitals, the intended reform is the so-called Optimization of the hospital network, which, thanks to many years of preparation, was in December 2021 finally able to pass the parliament and was approved in the form of Act 540/2021 Coll. on the categorization of institutional healthcare. The very connection of the investment in building hospitals to the reform is problematic, as its implementing regulations are delayed, which complicates the possibility of connecting the medical plan of the new hospital to this reform. Even the very process of evaluating prepared projects at the ministry is questionable in connection with the reform, as the absent connection to the reform does not seem to be a fundamental disqualifying criterion (Letovanec, 2022).

The problem with the optimization of the hospital network as well as with Act 540/2021 Coll. also lies in the fact that it does not create any other possibilities for supporting the entry of capital (Pažitný, 2022).

Risk no. 3 – Funds from the Recovery Plan will be limited only to state owned hospitals

Although it might seem that it is in the interest of the patient that all hospitals meeting the established criteria can apply for money from the recovery and resilience plan without distinction, politicians or the Ministry of Health has a different opinion. According to Igor Pramuk, vice-president of the Hospital Association of Slovakia, these funds will only be available to state hospitals and private investors will not have access to them (in order to make them available to non-state facilities, Slovakia must apply to the European Commission for a so-called state aid notification) (Jeseňák, 2022).

If this information, which has not yet been confirmed by the Ministry of Health, turns out to be true some interesting projects will not even get the opportunity to apply for support from the recovery plan (for example, the construction of a new hospital in Rimavská Sobota or

Humenné according to the project on the basis of which Penta built hospital in Michalovce). At the same time, smaller regional hospitals, which are almost all in private hands, will also be largely excluded. This may also have an adverse impact on the hospital stratification reform, which has already been approved and largely concerns the transformation of smaller regional hospitals. Hospitals will need extra resources for this transformation and therefore should have the right to apply for funds from the recovery fund under fair conditions.

A possible decision to exclude private hospitals will also contradict the government's manifesto, which states "*The rules will apply equally to all entities of the system, regardless of ownership.*" (Government's manifesto, 2021, page 33)

Risk no. 4 –Lack of time to build new hospitals

The biggest concern of several experts concerns the time frame of implementation. Although a few months have passed since the approval of the recovery plan, it is still not 100% confirmed which new hospitals will be built or reconstructed. In the first preparatory document, the Ministry of Health of the Slovak Republic undertook to specify the investment plan with a list of specific projects during the second quarter of 2021 (Supreme Audit Office, 2021). Some months later, we still do not know much.

The director of the Health Implementation Agency, Mr. Slavomír Udič, pointed out a complexity of evaluation process including evaluation criteria for hospital plans. Some of these criteria are set by the Recovery and Resilience Plan itself and are binding (financial cost per bed, energy savings of at least 30% of primary energy compared to the current state, completion time of the construction work in various planned stages). Other additional criteria serve to complete the overall picture of the efficiency of the funds spent (effective area, total price per unit of measurement, project preparation costs as a % of the total investment, total area per 1 bed, project preparation costs, medical concept and the "resistance" aspect) (Udič, 2022).

Since the **funds from the Recovery and Resilience Plan are a returnable investment**, the selection of projects based on the evaluation of the mentioned criteria is very important. In case we approve projects with unsatisfactory medical concept or very high cost, the state budget might be significantly burden in the future and the benefit from a project would be lost (Udič, 2022).

We should definitely not underestimate the risk associated with requirement to return funds in the event of failure to meet the criteria, so we have to evaluate carefully. On the other hand, too much delay in deciding on the acceptance of individual projects will cost us the precious time that the recipients of the investment need for its implementation!

In the recovery plan, Slovakia has committed to operate new hospitals with 870 beds at the fully equipped level ("full fit out") by the end of 2025, to renovate hospitals with a capacity of 495 beds at the fully equipped level, and also to complete the rough construction of new hospitals with another 1,035 beds (Recovery and Resilience Plan of the Slovak Republic, p. 428). In reality, approved hospitals with a capacity of at least 2,400 beds must be modernized by the end of 2025 and the last invoices sent by June 2026.

All these tasks should be completed in less than 4 years, which in the case of the construction of new hospitals is a really tight deadline. Countries in Western Europe usually do it in 5-7 years (Jeseňák, 2022), the new generation hospital Bory in Bratislava took 4.5 years to build and 3 years of project preparation (Penta Hospitals, 2022). In addition, Penta didn't even have to bother with the public procurement process, which usually drags out the process significantly.

At the same time, Slovakia has almost no experience in building hospitals from recent years, and therefore no experts who could speed up the process. The historical unsuccessful development of the construction of the state hospital Rázsochy (started in 1987, demolished last year) or the failed plan to build a new university hospital on Bratislava Patrónka (dialogue canceled by ex-minister Drucker) are strong arguments for critics (Folentová, 2016).

Although even at the beginning of May 2022, at the time of finalizing this text, we cannot determine with absolute certainty which projects will be financed from the Recovery and Resilience Plan of the Slovak Republic, several projects have high chances also considering their readiness. Most likely, some of these projects will receive funds (Krempaský, 2022):

- Rázsochy hospital (it is in the government's program statement, the land is available, the hospital is in the development stage: after the statement of the Office for Public Procurement, a tender can be issued for a contractor)
- Martin University hospital in Turiec (it is also in government's program statement, a project has been prepared, it should cost EUR 330 million without tax and have 650 beds)
- Faculty hospital in Trnava (this plan has been talked about for a longer time, there is a plot of land, and a project plan has been prepared)
- a regional hospital in Rimavská Sobota or Humenné according to the project of the Penta hospital in Michalovce (the project exists, the Banská Bystrica self-governing rgion as the owner of the RS hospital agrees)

SO WILL THE RECOVERY PLAN BE THE SALVATION FOR SLOVAK HOSPITALS?

The answer is probably no, which reinforces our view that the possibilities described in the previous chapter, especially in the section on private or mixed sources, should be actively explored.

The risks associated with drawing funds from the recovery and resilience plan are not negligible, and many agree that building 870 beds is simply beyond our means. Therefore, we must urgently consider all the options we have.

In the event that Slovakia recognizes in time that the projects cannot be fulfilled within the deadline, it can, for example, try to prevent the forfeiture of funds by moving them to another priority within the recovery and resilience plan (a difficult task that is feasible only this year) (Beblavý, 2022). With this step, it would be possible to achieve a more balanced plan.

Another option is to build a skeleton or only the rough construction and the rest will be financed in another way (Jeseňák, 2022). For example, by adding a private individual to the partnership. The third option is to release part of the funds for the construction of smaller regional hospitals, where a private investor already has prepared project studies, or to buy them from him. There was even speculation in the media about the possibility of the state buying the Bory New Generation Hospital (Beblavý, 2022).

In conclusion, the opinion of the Supreme Audit Office, which we agree with:

„The budget for 2022 envisages capital expenditures in the healthcare chapter in the amount of EUR 206 million, while the absolute majority - up to EUR 199 million should be from the Recovery and Resilience Plan. For 2023 and 2024, the draft budget assumes that all capital expenditures of the health sector will be covered by the Recovery Plan. Such a dependence of the Ministry's investments on a single source, the drawing of which is additionally conditioned by the fulfilment of various criteria, is risky, therefore the Supreme Audit Office of the Slovak republic recommends an adequate diversification of sources of financing investments in healthcare“ (Supreme Audit Office, 2021 page 25).

SOURCES

ANDELOVÁ J. (2022) Štátna poisťovňa môže získať ďalších 40 miliónov. Jej dofinancovanie odborníci kritizujú online [cit.2.5.2022] In: Zdravotnícke noviny. Available at: <https://mediweb.hnonline.sk/zdn/analyzy/24679248-statna-poistovna-moze-ziskat-dalsich-40-milionov-jej-dofinancovanie-odbornici-kritizuju>

AOPP (2022) Pacienti a lekári volajú po zmene! Situácia v zdravotníctve je podľa nich kritická online [cit.8.5.2022] Available at: <https://aopp.sk/clanky/default/pacienti-lekari-volaju-po-zmene-situacia-v-zdravotnictve-je-pod-nich-kriticka>

BEBLAVÝ M. (2022) Keď alibizmus zabíja In: Sme komentáre [cit.2.5.2022] Available at: <https://komentare.sme.sk/c/22893314/ked-alibizmus-zabija.html>

BIRČÁKOVÁ J., Holíková M., Kollár E., Pilát J., Vilkovský M., Kaliňák M. (2021) Verejno-súkromné partnerstvá vs. Podnikanie pri zabezpečovaní verejnoprospešných činností. online [cit.2.5.2022] Available at: <file:///C:/Users/SPRAVCA/Downloads/NP%20PKSD_ZMOS_Verejno-sukromne%20partnerstva.pdf>

BRUEGEL DATASETS (2022) European Union countries' recovery and resilience plans [online]. [cit.2.5.2022] Available at: <https://www.bruegel.org/publications/datasets/european-union-countries-recovery-and-resilience-plans/>

COUNCIL FOR BUDGET RESPONSIBILITY (2022) Dlhová brzda. Available at: <https https://www.rrz.sk/dlhovabrzda/>

ERNST & YOUNG (2014) Štúdia uskutočniteľnosti – Záverečná správa [online]. [cit.2.5.2022] Available at: <https://www.health.gov.sk/Zdroje?/Sources/dokumenty/mzsr/Zaverecna-sprava.pdf>

FAKULTNÁ NEMOCNICA AGEL SKALICA (2021). Výročná správa 2020 online [cit.8.5.2022] Available at: < https://www.registeruz.sk/cruz-public/domain/financialreport/attachment/8683593>

FINSTAT.SK, Výročné správy a účtovné závierky nemocníc

FOLENTOVÁ V. (2016) Nová bratislavská nemocnica nebude na Patrónke, Drucker uprednostní Rázsochy či Ružinov [online]. [cit.8.5.2022] Available at: <https://dennikn.sk/565404/nova-bratislavska-nemocnica-nebude-na-patronke-drucker-meni-zvolenskej-plany/>

HEALTH POLICY INSTITUTE (2014) Modernizácia slovenských nemocníc: Základné rámce zdravotnej politiky 2014-2016. ISBN 978-80-9711193-8-6

GAVUROVÁ B., KOVÁČ V., FEDAČKO J. (2017). Regional disparities in medical equipment distribution in the Slovak Republic – a platform for a health policy regulatory mechanism. [online]. In: Health Economics Review (2017) 7 : 39, DOI 10.1186/s13561–017–0176–0.

GOVERNMENT OF SLOVAKIA (2021) Programové vyhlásenie vlády Slovenskej republiky na obdobie rokov 2021 - 2024 [online]. [cit.19.4.2022] Available at: <https://www.nrsr.sk/web/Dynamic/DocumentPreview.aspx?DocID=494677>

GOVERNMENT OFFICE OF SLOVAKIA (2016) Čerpanie peňazí EÚ v období 2007 - 2013 dosiahlo 97,2 % [online]. [cit.15.4.2022] Available at: <https://www.partnerskadohoda.gov.sk/cerpanie-penazi-eu-v-obdobi-2007-2013-dosiahlo-972-/>

HEALTH CARE SURVEILLANCE AUTHORITY (2021), Správa o stave vykonávania verejného zdravotného poistenia za rok 2020 [online]. [cit.15.4.2022] Available at: <https://www.udzs-sk.sk/wp-content/uploads/2021/08/SSVVZP_2020_final.pdf>

HEALTH CARE SURVEILLANCE AUTHORITY (2022), Oznámenie výšky podielu poistencov jednotlivých zdravotných poisťovní na celkovom počte poistencov na základe odhadovaných počtov poistencov k 01.01.2022 [online]. [cit.5.4.2022] Available at: <https://www.udzs-sk.sk/wp-content/uploads/2022/01/OZNAMENIE_podiel-PP_3.1.web_.pdf>

INEKO (2015) Ako Slovensko zaplatí za neliečenie zdravotníctva [online]. [cit.15.3.2022] In: i-health.sk, Available at: <http://www.i-health.sk/analyzy/1619_analyza-ineko-ako-slovensko-zaplati-za-neliecenie-zdravotnictva>

INEKO (2021) Projekt Nemocnica roka 2021 Available at: <https://kdesaliecit.sk/nemocnica-roka/2021/metodika>

INEKO (2022) Projekt Hospodárenie obcí, krajov a organizácií Available at: <http://www.hospodarenieobci.sk/>

INESS. Vesmír verejných výdavkov 2015-2021 [online]. [cit.4.4.2022] Available at: < https://cenastatu.sme.sk/vesmir>

JESEŇÁK, Š. (2022) Viceprezident Asociácie Nemocníc Slovenska Igor Pramuk: Rozkaz znel jasne, ani euro na neštátne nemocnice. [online]. [cit.27.4.2022] In tyzden.sk Available at: <https://www.tyzden.sk/rozhovory/82005/viceprezident-asociacie-nemocnic-slovenska-igor-pramuk-rozkaz-znel-jasne-ani-euro-na-nestatne-nemocnice/?fbclid=IwAR3Srl3yyz-aNFDDYZSSasJgF7CDQ_nXiBCkS62Oj9LEqKfaK5MnEBqFswo>

KALIŠ R., STRACOVÁ E. (2019). Using the DEA method to optimize the number of beds in the Slovak hospital sector. In: Ekonomický časopis, 67, 2019, č. 7, s. 725 – 742.

KREMPASKÝ J. (2022) Máme miliardu a chceme postaviť päť nemocníc za štyri roky. Nereálne, vravia experti In: Sme.sk [online]. [cit.11.4.2022] Available at: <https://domov.sme.sk/c/22902843/nove-nemocnice-lengvarsky-razsochy-penta.html>

LETOVANEC M. (2022) O miliarde pre nemocnice rozhodnú 3 body a dvaja zamestnanci ministerstva...ak vôbec In: Sme blog, [online]. [cit.2.5.2022] Available at: <https://blog.sme.sk/miriamaletovanec/ekonomika/o-miliarde-pre-nemocnice-rozhodnu-3-body-a-dvaja-zamestnanci-ministerstva-ak-vobec>

MADRO P. (2022) Prečo sa opäť oddlžujú nemocnice In: Pravda.sk [online]. [cit.11.4.2022] Available at: <https://spravy.pravda.sk/domace/clanok/620903-nemocnice-dostanu-stamiliony-nebude-to-stacit/>

MoF SR (2021): Recovery and resiliance plan. [online]. [cit.15.3.2022] Available at: <https://www.mfsr.sk/files/archiv/1/Plan_obnovy_a_odolnosti.pdf>

MoF SR, Public administration budget 2011-2022, Available at: <https://www.mfsr.sk/sk/financie/verejne-financie/rozpocet-verejnej-spravy/>

MINISTRY OF INVESTMENTS, REGIONAL DEVELOPMENT AND INFORMATIZATION OF THE SR (2022): Informácia o stave implementácie európskych štrukturálnych a investičných fondov v programovom období 2014 – 2020 (ročná). [online] [cit.18.4.2022] Available at:<https://www.partnerskadohoda.gov.sk/data/files/5548_informacia-o-stave-implementacie-esif-k-31122021rocna.pdf >

MoH SR (2007) Operačný program Zdravotníctvo. [online] [cit.18.4.2022] Available at: <http://www.nsrr.sk/download.php?FNAME=1209467513.upl&ANAME=OPZ_Sk_schvalene.pdf>

MoH SR (2013) Informácia o stave investícií v akútnej lôžkovej zdravotnej starostlivosti na Slovensku a zámer realizácie výstavby novej nemocnice v Bratislave. [online] [cit.18.4.2022] Available at: <https://www.health.gov.sk/Zdroje?/Sources/Sekcie/IZP/BioMedPark.pdf >

MoH SR, Annual reports MZ SR 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 [online] [cit.3.5. 2022] Available at: <https://www.health.gov.sk/clanok?vyrocne-spravy-mzsr>

MoH SR (2021) Investment plan 2021-2026 [online] [cit.3.5. 2022] Available at: <https://www.mzsr.sk/Zdroje?/Sources/dokumenty/mzsr/mzsr-investicny-plan2021-2026.rtf>

MITRÍK K. (2019) Kontroly 21. storočia už nie sú o „má dať – dal“. [online] [cit.3.5. 2022] In Verejné obstarávanie v kocke, máj 2019. Available at: < https://www.nku.gov.sk/nku-v-mediach/-/asset_publisher/iPxv5CFcIQ6z/content/karol-mitrik-kontroly-21-storocia-uz-nie-su-o-ma-dat-dal-rozhovor-verejne-obstaravanie-v-kocke?inheritRedirect=false>

NATIONAL BANK OF SLOVAKIA (2021): Štrukturálne výzvy, ISSN 2729–8825 [online] Available at: <https://www.nbs.sk/_img/Documents/_Publikacie/sktrukturalne_vyzvy/2021/Strukturalne_vyzvy_2021.pdf>

NATIONAL INSTITUTE OF HEART AND VASCULAR DISEASES (2021) Annual report 2020. [online] [cit.3.5. 2022] Available at:< https://www.nusch.sk/files/press/2021/nusch-vyrocna-sprava-2020-web-verzia.pdf>

NATIONAL INSTITUTE OF HEART AND VASCULAR DISEASES (2022) Interné materiály

OECD, EUROPEAN UNION, WORLD HEALTH ORGANIZATION (ľ2011) System of Health Accounts, 2011 (chapter: Capital Formation in Health Systems).

PAŽITNÝ P. (2021) Rozdiel v platbe štátu za svojich poistencov pre rok 2022 je medzi SR a ČR priepastný. [online]. [cit.11.4.2022] In: Zdravotnícke noviny, Available at: <https://mediweb.hnonline.sk/nazory/12104307-rozdiel-v-platbe-statu-za-svojich-poistencov-pre-rok-2022-je-medzi-sr-a-cr-priepastny>

PAŽITNÝ P., ZAJAC R. (2021) Zelená kniha. Vydavateľstvo SLOVART spol. s.r.o. Bratislava ISBN 978-80-556-4723-4

PAŽITNÝ P. (2022) Plány obnovy vo V4: dôraz na excelentnosť, digitalizáciu a ľudské zdroje. Ale nie na Slovensku. Tu sme pri budovaní štandardu. In: Zdravotnícke noviny, [online]. [cit.11.4.2022] Available at: <https://mediweb.hnonline.sk/analyzy/22183962-plany-obnovy-vo-v4-kladie-doraz-na-excelentnost-digitalizaciu-a-ludske-zdroje-ale-nie-u-nas?fbclid=IwAR26RDZqFR6SirdeqgC_P3EiNtKHj08iWk_DZNZ4RzRSDyj_jpyoj2rOrs4>

PENTA HOSPITALS (2021) Interné materiály, Nemocnica novej generácie Bory

PENTA INVESTMENTS (2019) Predstavujeme vám Nemocnicu novej generácie Bory, [online]. [cit.2.5.2022] Available at: <https://zlepsujemezdravotnictvo.sk/predstavujeme-vam-nemocnicu-novej-generacie-bory/>

PENTA INVESTMENTS (2022) Penta v zdravotníctve. Available at: <https://zlepsujemezdravotnictvo.sk/penta-v-zdravotnictve/>

PRIVATBANKA (2018) Emisné podmienky Dlhopisov Nemocnica Bory 01 [online]. [cit.15.4.2022] Available at: <https://www.privatbanka.cz/data/pdf/korporatne-emisie-neverejne/emisne-podmienky-nemocnica-bory-01pdf.pdf>

PRIVATBANKA (2019) Emisné podmienky Dlhopisov Nemocnica Bory 02 [online]. [cit.15.4.2022] Available at: <https://www.privatbanka.sk/data/pdf/korporatne-emisie-neverejne/emisne-podmienky-nemocnica-bory-02pdf.pdf>

PRIVATBANKA (2019) Emisné podmienky Dlhopisov Nemocnica Bory 03 [online]. [cit.15.4.2022] Available at: < https://www.privatbanka.cz/data/pdf/korporatne-emisie-neverejne/emisne-podmienky-nemocnica-bory-03pdf.pdf>

PRIVATBANKA (2020) Emisné podmienky Dlhopisov Nemocnica Bory 04 [online]. [cit.15.4.2022] Available at: <https://www.privatbanka.sk/data/pdf/korporatne-emisie-neverejne/emisne-podmienky-nemocnica-bory-04pdf.pdf>

PRIVATBANKA (2021) Emisné podmienky Dlhopisov Nemocnica Bory 05 [online]. [cit.15.4.2022] Available at: <https://www.privatbanka.sk/data/pdf/korporatne-emisie-neverejne/emisne-podmienky-nemocnica-bory-eur-i-2022pdf.pdf>

PROCARE (2017) Čo prináša nemocnica novej generácie? [online]. [cit.2.5.2022] Available at: <https://www.procare.sk/co-prinasa-nemocnica-novej-generacie/

PWC (2015) Public-private partnerships in the health services: A global perspective

PWC (2016) Innovation roll out: Valencia's experience with public-private integrated partnerships [online]. [cit.13.4.2022] Available at: <https://www.pwc.com/gx/en/healthcare/publications/assets/pwc-valencia-ppip-report.pdf>

RIBERA SALUD (2021) FactSheet2021. Interné materiály

SUPREME CONTROL OFFICE OF THE SR (2021) Stanovisko Najvyššieho kontrolného úradu SR k návrhu štátneho rozpočtu SR na rok 2022 [online] [cit.3.5. 2022] Available at: <https://www.nku.gov.sk/documents/10157/164740/Stanovisko_k_navrhu_statneho_rozpoctu_na_rok_2022.pdf>

ŠTUDENTSKÁ RADA VYSOKÝCH ŠKOL (2019) Kniha plesní. Čierna kniha slovenských nemocníc [online]. [cit.2.5.2022] Available at: <https://srvs.eu/wp-content/uploads/2019/05/Kniha-Plesn%C3%AD_A5.pdf>

TOPORCEROVÁ M. (2022) Škrty v zdravotníctve: Uprostred pandémie sa má ušetriť štvrť miliardy [online]. [cit.11.4.2022] In: mediweb.hnonline.sk, Available at: <https://mediweb.hnonline.sk/analyzy/17892924-skrty-v-zdravotnictve-uprostred-pandemie-sa-ma-usetrit-stvrt-miliardy>

TRENČIANSKY SAMOSPRÁVNY KRAJ (2017) Zmena Rozpočtu Trenčianskeho samosprávneho kraja na roky 2017 – 2019. [online]. [cit.19.4.2022] Available at: <https://www.tsk.sk/financie/rozpocet-tsk.html?page_id=46216>

TRENČIANSKY SAMOSPRÁVNY KRAJ (2018) Zmena Rozpočtu Trenčianskeho samosprávneho kraja na roky 2018 – 2020. [online]. [cit.19.4.2022] Available at: <https://www.tsk.sk/financie/rozpocet-tsk.html?page_id=46216>

TRENČIANSKY SAMOSPRÁVNY KRAJ (2019) Zmena Rozpočtu Trenčianskeho samosprávneho kraja na roky 2019 – 2021. [online]. [cit.19.4.2022] Available at: <https://www.tsk.sk/financie/rozpocet-tsk.html?page_id=46216>

TRENČIANSKY SAMOSPRÁVNY KRAJ (2020) Zmena Rozpočtu Trenčianskeho samosprávneho kraja na roky 2020 – 2022. [online]. [cit.19.4.2022] Available at: <https://www.tsk.sk/financie/rozpocet-tsk.html?page_id=46216>

TRENČIANSKY SAMOSPRÁVNY KRAJ (2021) Zmena Rozpočtu Trenčianskeho samosprávneho kraja na roky 2021 – 2023. [online]. [cit.19.4.2022] Available at: <https://www.tsk.sk/financie/rozpocet-tsk.html?page_id=46216>

TRENČIANSKY SAMOSPRÁVNY KRAJ (2022) Zmena Rozpočtu Trenčianskeho samosprávneho kraja na roky 2022 – 2024 (1. zmena) [online]. [cit.6.5.2022] Available at: <https://www.tsk.sk/financie/rozpocet-tsk.html?page_id=46216>

TREND.SK (2015) V megatendri na novú nemocnicu sa pobije päť konzorcií [online] [cit.2.5. 2022] Available at: <https://www.trend.sk/spravy/megatendri-novu-nemocnicu-pobije-pat-konzorcii>

TREND.SK (2022) Zdravotníctvo sa reálne dofinancuje len o 100 miliónov eur, tvrdí Union [online] [cit.3.5. 2022] Available at: <https://www.trend.sk/spravy/union-zp-zdravotnictvo-realne-dofinancuje-len-100-milionov-eur>

VLACHYNSKÝ M. (2021) Oddlženie je už normálka [online] In Blog INESS [cit.15.4.2022] Available at: <https://iness.sk/sk/oddlzenie-je-uz-normalka>

ZÁKON Č. 583/2004 rozpočtových pravidlách územnej samosprávy a o zmene a doplnení niektorých zákonov

ŽILINSKÝ SAMOSPRÁVNY KRAJ (2017, 2018, 2019, 2020, 2021) Úprava rozpočtu Žilinského samosprávneho kraja na rok 2017, 2018, 2019, 2020, 2021, 2022 [online]. [cit.19.4.2022] Available at: <https://www.zilinskazupa.sk/sk/samosprava/urad-zsk/odbor-ekonomicky/rozpocet-jeho-upravy/>

CEE Health Policy Network

ABOUT CEE HPN

Central & East European Health Policy Network (CEE HPN) is a civil association based in Bratislava. It was founded in 2011. The executive director is Peter Pažitný, the coordinator is Ľubica Löffler. The members of the association as of 1 January 2022 were: Peter Pažitný, Martin Kundrát, Robert Vincze (Slovakia), Wesley Berkovsky (USA), Paul van Hoof (the Netherlands), Alain Rinaldi (Switzerland), Santiago Delgado (Spain) and Adam Kruszewski (Poland).

CORE VALUES

All members, partners and sponsors of CEE HPN share following values:

Innovation
We support innovative solutions for the benefit of the consumers.

Transparency
We support transparency in performance of medical providers and health insurers so that consumers are able to make choices based on reliable information.

Individual responsibility
We support individual responsibility in each health status – either healthy or ill. We believe that also ill people can contribute by their responsible behaviour to improvements in their health status. We believe that adequate financial responsibility of people is necessary to protect their sovereign position as consumers.

Fair competition
We believe that fair competition is a key driving force leading to better products and services in health care to fulfil consumers preferences**.**

Fair access
We believe, that each individual has a right for fair access to healthcare services. Fair access means consumer choice of provider, scope, place and time of the treatment that is clear of corruption and stress from refusal and lowering the dignity of consumers.

Public Money Protection
We support the financial sustainability and efficient utilization of the public finances.

Local Focus with CEE experience
Each member possesses a high knowledge of the local healthcare system. We believe that local people are the best drivers for change in their countries. Together, as a network, we can share experience and learn from each other.

MISSION

Our mission is to influence the healthcare system change in CEE countries for the benefit of the consumer.

VISION

Our vision is to have a strong and growing network of the health policy experts in CEE countries. The network is recognized as a point of influence towards sustainable consumer oriented healthcare systems.