#### VILNIUS UNIVERSITY HOSPITAL SANTAROS KLINIKOS

### DIGITALIZING HEALTH DATA AND SERVICES FOR PATIENTS AND R&D



One of the major hospitals in Lithuania encompassing the provision of medical care in almost all key areas covering practical and scientific medicine, education of students, residents, and physicians

### VILNIUS UNIVERSITY HOSPITAL SANTAROS **KLINIKOS**

Hospital information system, integrates: • electronic health records,

- Laboratory

- health care services.

• Images and signals archives,

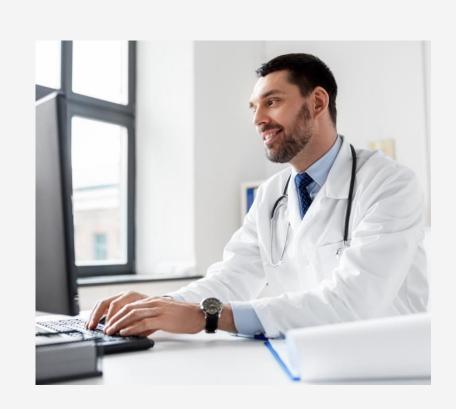
• staff and resource management,

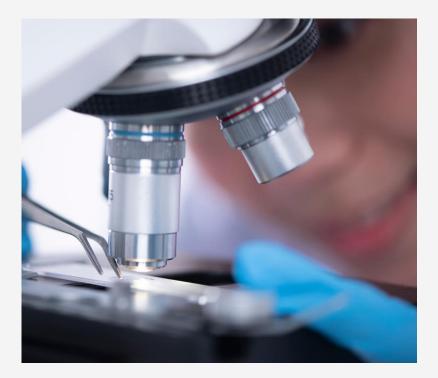
document management,

• other systems that are necessary for effective

## **VUHSK in numbers**







- About 7 000 personnel
- About 3 000 computerized working places
- About 200 servers
- More than 3 PB data
- ELI-HIS has more than 50M documents available.

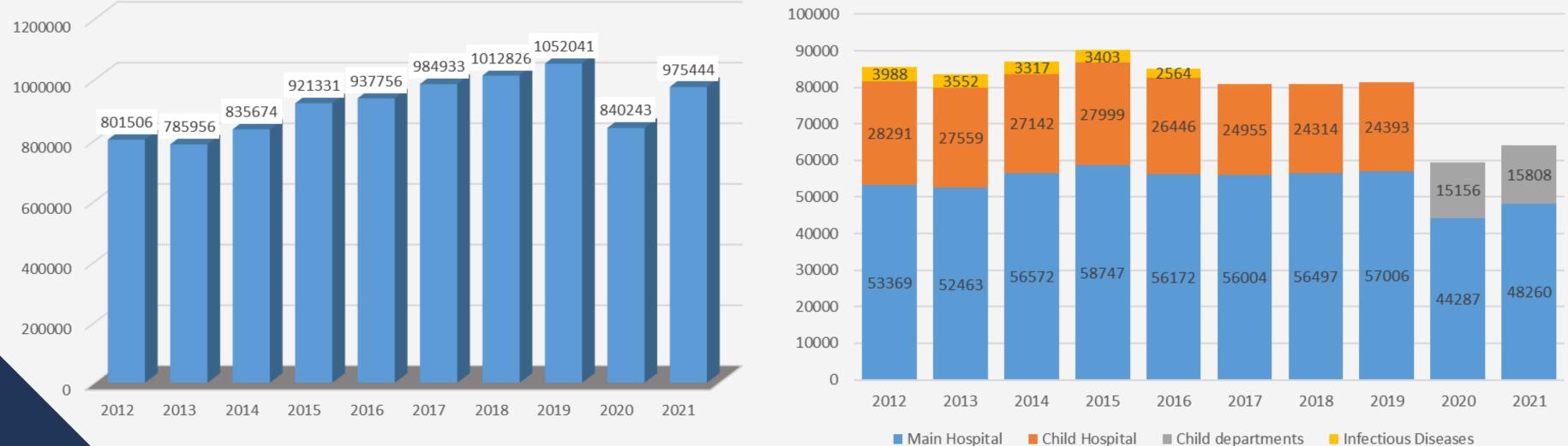




• In 2021 7.6M documents were created in ELI and they were viewed 28.7M times. More than 1M EKG (Electrocardiography) • More than 30M radiological examinations in PACS (picture archiving and communication system)

## **Encounter numbers**

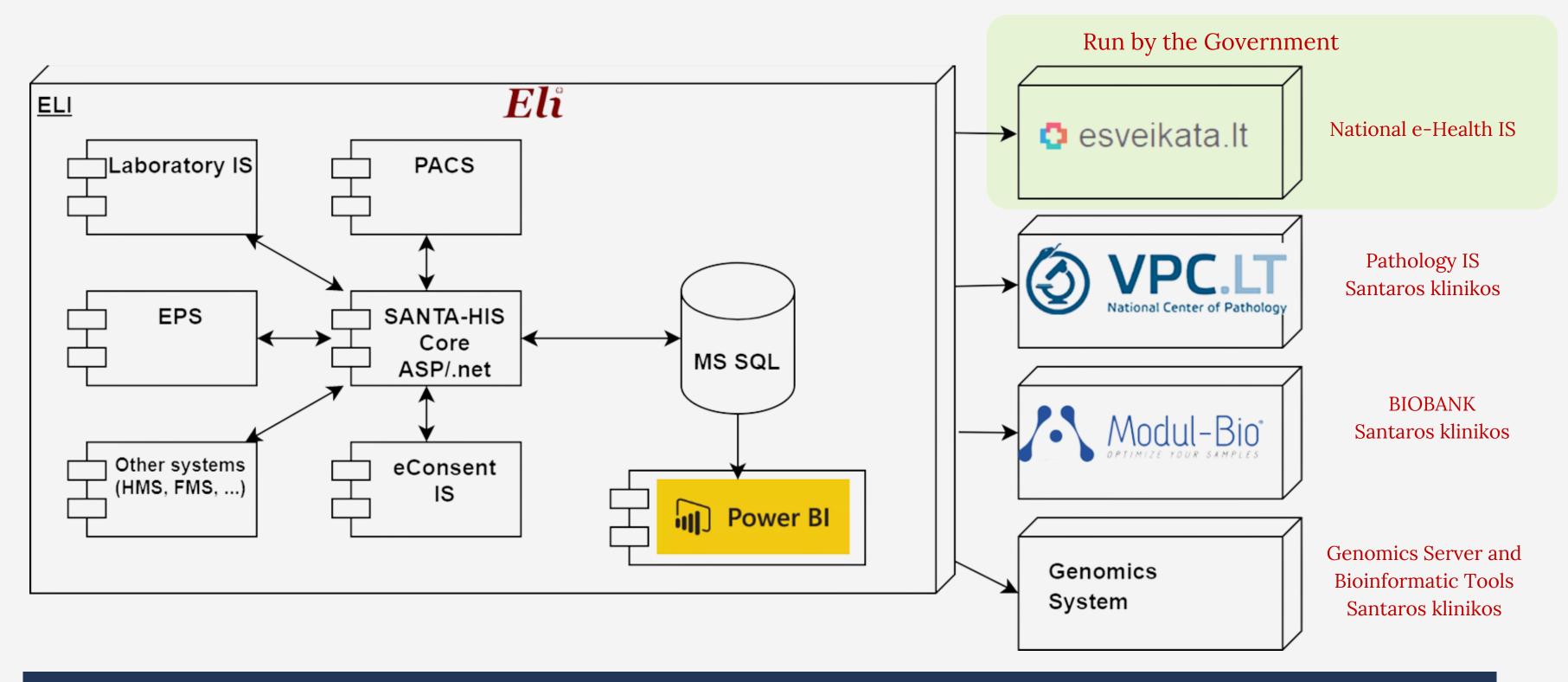
### Outpatients



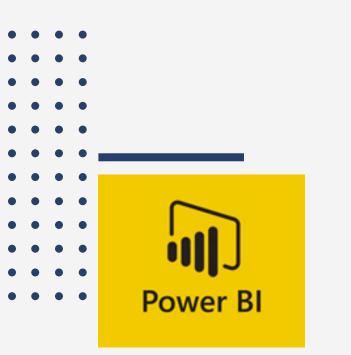


### Inpatients

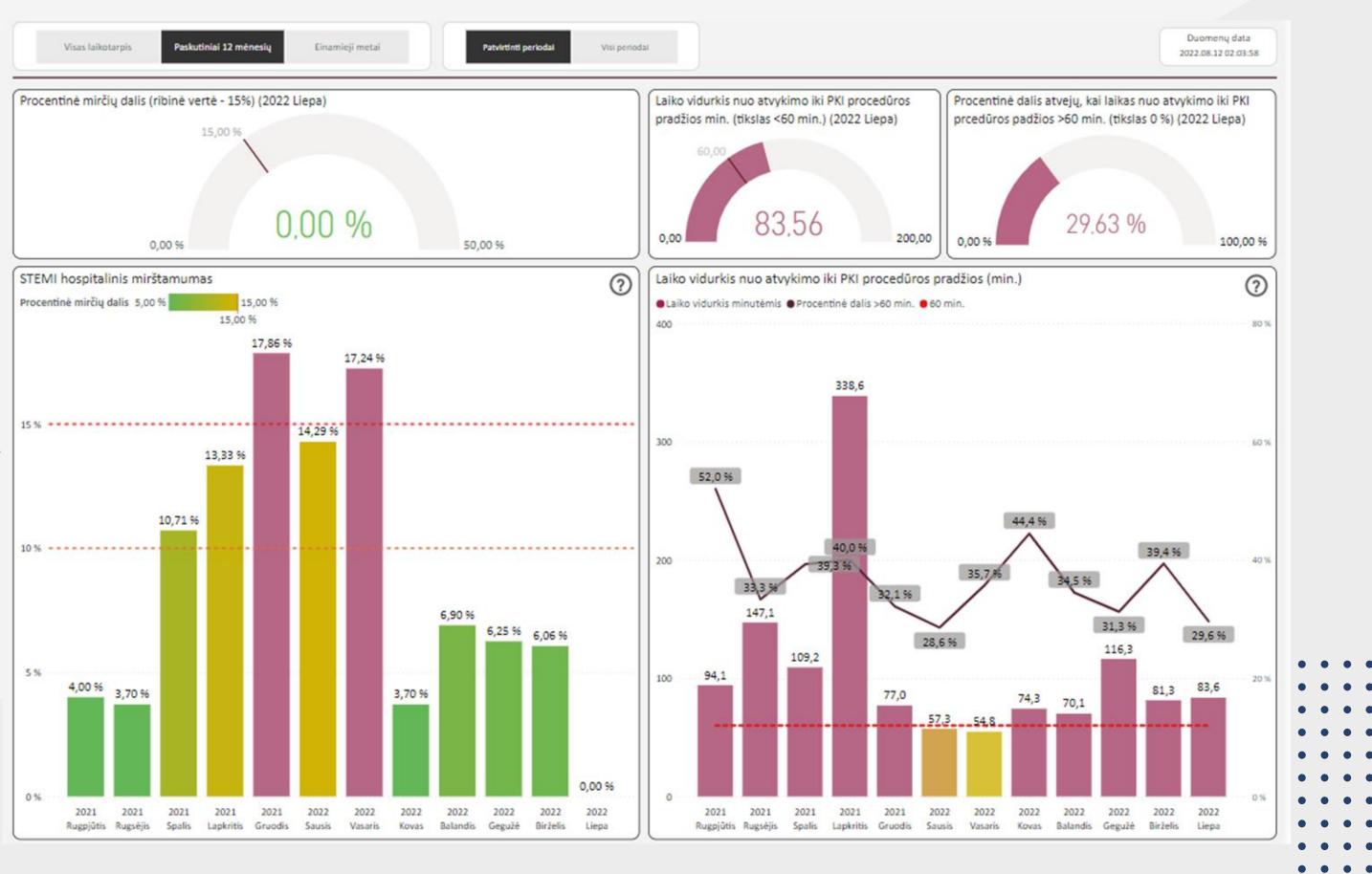
### **Abstract Architecture of EL**







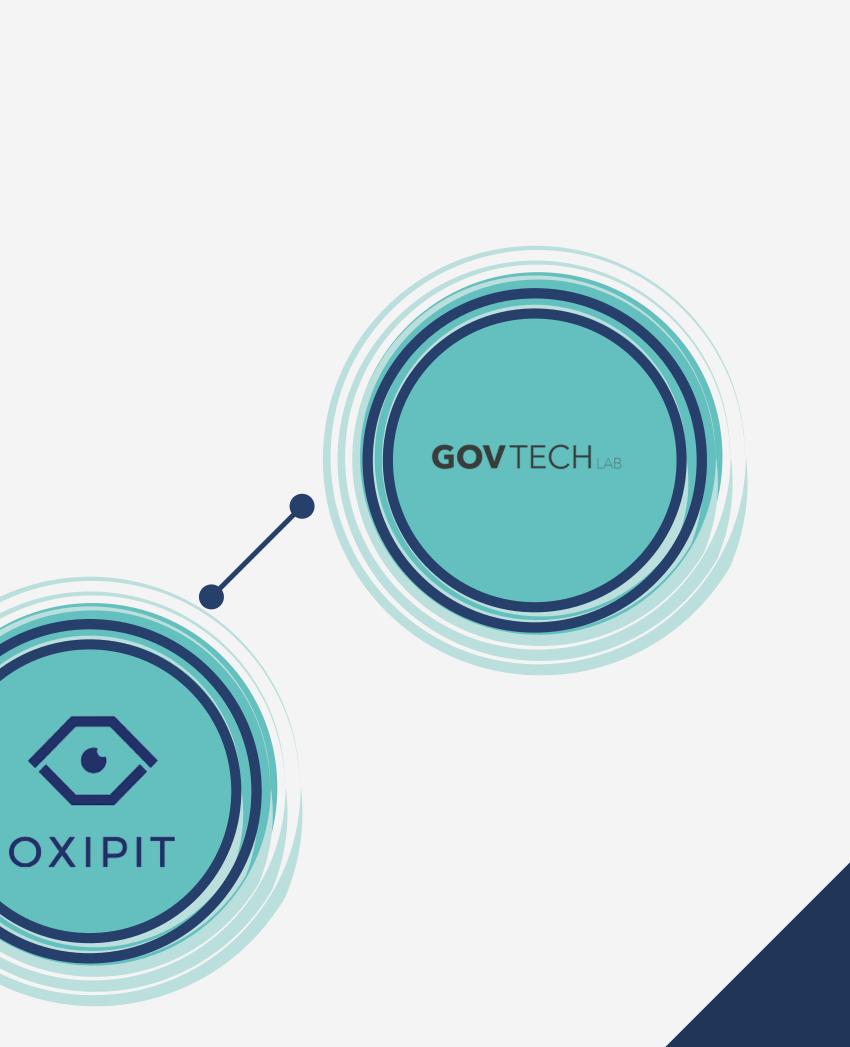
Medical personel uses Power BI to track and analyze essential metrics in realtime.

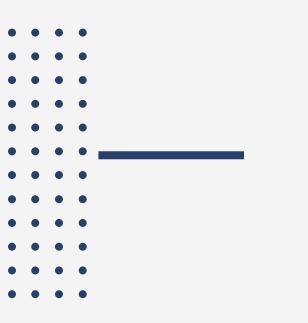


## Digital health services

IPK

esveikata.lt IPR

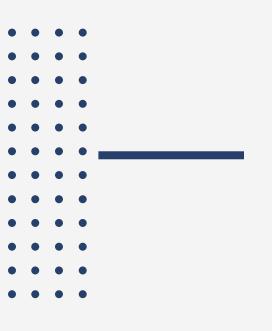




### Condition description form

	BŪKLĖS APRAŠAS (F4805)	н						
Darbuotojas:	ROMAN VOLKOV X ?							
Padalinys:	×?							
Gydymo įstaiga:	99 Viešoji įstaiga Vilniaus universiteto ligoninė Santaros klinikos ?							
Dokumento data:	2022-08-25 16:35							
Pacientas:	TES22-4 TESTAS TESTAU SKAS Glm.: 1993-01-01, vyras							
	Pacientui kurti dokumentai (Hematologų išplėstinis statusas)							
	Ruošinys nepasirinktas ? Saugoti kaip ruošinį							
Vizito tikslas:		R						
	Hematologų komisija							
Nusiskundimai:	○ Turi ○ Neturi							
	Anamnezė 🔨 🗙							
Ligos anamnezė ir atlikti tyrimai:		R						
Gyvenimo anamnezé:		R						
Paciento onkologinė anamnezė:	O Yra O Néra O Nevertinta							
Onkologinė šeiminė anamnezė:	○ Turi ○ Neturi ○ Nevertinta							
Imunodeficitas:	O Yra O Néra O Nevertinta							
B simptomai:	O Yra O Néra O Nevertinta							
CIRS:	O Yra O Néra O Nevertinta							
	Objektyviai 🔨 🗙							
Neuro: 🔨	○ Sąmoningas ○ Nesąmoningas ○ Nevertinta							
	Orientuotas O Neorientuotas O Nevertinta							
	Neurologinis aprašas							

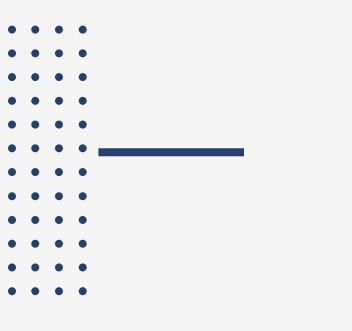




### **Phisician's medication orders**

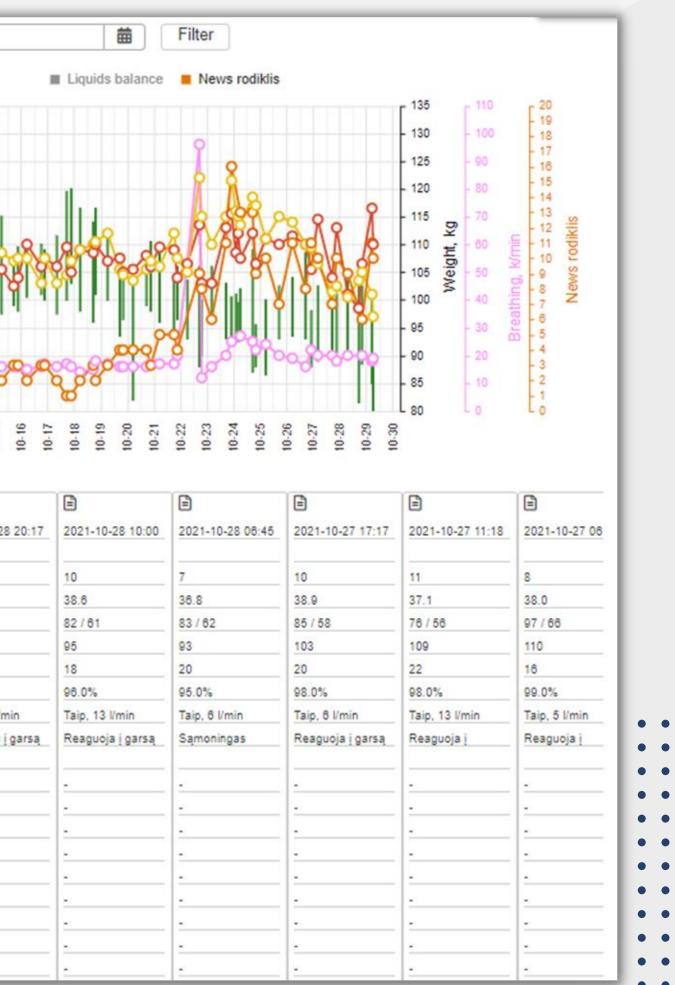
				« n	odyti po (d.	): 1	7 3	0 slinkti	i per (d.):
dabar savaitgalis ambulatorinis Vaisto vartojimas NEPATVIRTINTAS G, S -	specialūs va	istas							
schemos/datos		09-26	09-27	09-28	09-29	09-30	10-01	10-02	10-03
Narkotiniai vaistai 📝									
G Tramadolum; mg; injekc./inf. tirp. (N02AX02) informacija: I poodį; komentaras: 0,5 ampulės	50 mg								
СНОР 🦻									
Cyclophosphamidum; mg; injekc./inf. tirp. (L01AA01) informacija: Infuzija i.v. per 30 min. komentaras: skiesti su sol. NaCI 0,9 proc. 500 ml	1500 mg					15:00			
Vincristinum; mg; injekc./inf. tirp. (L01CA02) informacija: Bolus i.v. per 5 min.	1 mg					15:00			
Doxorubycinum; mg; injekc./inf. tirp. (L01DB01) informacija: Infuzija i.v. per 30 min. komentaras: skiesti su sol. NaCl 0,9 proc. 250 ml	100 mg					16:00			
Ondansetronum; mg; injekc./inf. tirp. (A04AA01) komentaras: bolus i/v	8 mg					14:30			
Transfuzijos 📝									
Krioprecipitatas 0(I); vnt; 40 ml	10 vnt			11:00	11:00	11:00	11:00 19:00	08:00 19:00	08:0 19:0
Trombocitai 0(I) Rh+; vnt; - komentaras: palaikyti >30 x10e9/I	1 vnt						12:00 15:30	08:00 19:00	08:00 19:00
Eritrocitų masė o(I) Rh+; vnt; maišelis	1 vnt								11:0
Eritrocitų masė o(I) Rh+; vnt; maišelis	1 vnt								
Eritrocitų masė o(I) Rh+; vnt; maišelis informacija: Į veną; komentaras: anemijos korekcijai	2 vnt								
Skysčiai ir elektrolitai 📝									
NaCl 0,9%; ml; injekc./inf. tirp. (B05BB01) Vaisto vartojimas nutrauktas 2021-10-25 07:44	500 ml		16:00	09:00					
KCl 10%; ml; injekc./inf. tirp. (B05XA01) Vaisto vartojimas nutrauktas 2021-10-25 07:44 * vaistas paskirtas atbuline data	0 ml		16:00	09:00					
MgSO4 25%; ml; injekc./inf. tirp. Vaisto vartojimas nutrauktas 2021-10-25 07:44 * vaistas paskirtas atbuline data	0 ml		16:00	09:00					
NaCl 0,9%; ml; injekc./inf. tirp. (B05BB01) Vaisto vartojimas nutrauktas 2021-10-25 07:44 * vaistas paskirtas atbuline data	1000 ml				09:00	09:00	09:00	09:00	09:00
KCl 10%; ml; injekc./inf. tirp. (B05XA01) Vaisto vartojimas nutrauktas 2021-10-25 07:44 * vaistas paskirtas atbuline data	0 ml				09:00	09:00	09:00	09:00	
KCl 10%; ml; injekc./inf. tirp. (B05XA01) Vaisto vartojimas nutrauktas 2021-10-25 07:44	30 ml								09:00
KCl 10%; ml; injekc./inf. tirp. (B05XA01) Vaisto vartojimas nutrauktas 2021-10-25 07:44	40 ml								
MgSO4 25%; ml; injekc./inf. tirp. Vaisto vartojimas nutrauktas 2021-10-25 07:44 * vaistas paskirtas atbuline data	0 ml				09:00	09:00	09:00	09:00	09:00
MgSO4 25%; ml; injekc./inf. tirp. Vaisto vartojimas nutrauktas 2021-10-25 07:44	15 ml								
KCl 10%; ml; injekc./inf. tirp. (B05XA01) Vaisto vartojimas nutrauktas 2021-10-25 07:44	10 ml								

• • •



### Nurse's notes

					From:		To:		
					Temperature 🔳 V	Veight Blood pre	sure <mark>=</mark> Pulse <b>=</b> E	Breathing	
	160	150	1 43	1					
	150	140	- 42						
	140 -	130	- 41						
	130 -	P 120	- 40				1 111		
	120 -	6Huu 110	U 39	-			18		
E	110 -						<b>X</b>		
Pulse Vrrin	100	SL	Temperature,	6			Milla 189		
Puls		d pr	le .	90,000	0000000	20000	ANAL SARY	e-wrig	
-	90 -	8000			NII	1 8 8	0 9	8.1.1	
	80 -			0		1	RV		
	70 -	60	- 34	-		1 80	000000	0.00	
	60 -	50	- 33			000 8	8 8 2	Lo a	
	50 -	40	32			<u> </u>	1		
Cill de	••	Timetal	ble for el		10-01 10-02 10-03	10-05 10-06 10-07 10-08	10-09 10-10 10-11	10-13 10-14 10-15	
Fill da	lta	Inneta	Die for ci	hanging body po					
					8	8			
			Data:	2021-10-29 19:11	2021-10-29 18:33	2021-10-29 09:30	2021-10-29 06:18	2021-10-28 2	
	Svoris (kg):							-	
News rodiklis					11	8	25.7	9	
Temperatūra (°C): Kraujospūdis (mmHg):					39.3 80 / 50	37.3 85 / 57	35.7 88 / 43	36.2 87/61	
Pulsas (k/min):					92	100	97	91	
Kvépavimas (k/min):					18	20	-	20	
SpO2: -				-	98.0%	96.0%	97.0%	98.0%	
Skiriamas papildomas deguonis					Taip, 2 l/min	Taip, 13 Vmin	Ne	Taip, 17 Vmin	
Sąmonés bűklé			nés bűklé		Reaguoja į garsą	Sąmoningas	·	Reaguoja į ga	
		Skysčių l	balansas:						
PVK:						·	·	·	
Contractor (							·	·	
pCVK:									
						· · · · · · · · · · · · · · · · · · ·	·	-	
PDK:								·	
Folley:							·	·	
Drenas:						· · ·		-	
	Gaster	stomes	AVF:					-	
	Gastro	Stomos V	amzdelis:	·	·	·			



# NATIONAL AND INTERNATIONAL ICT PROJECTS

Provision of emergency telemedicine services in emergency departments 2021-2022

Bio-feedback measurement and analysis technology for personal and public health 2021-2023

Patient engagement instruments for improving the quality of healthcare services 2020-2023



Delivering Efficiency, Quality and Sustainability in Healthcare





#### PanCareSurPass



Funded by the European Union

## o o o o Areas of Interest

Research / clinical trial dedicated platforms:

- Searchable/supporting complex queries;
- Data standards for data models
- Part of international research networks

Genomics:

 A scalable genomic database allowing the matching of genomic information to phenotype/disease ontology + biobank

Digital services, including the use of artificial intelligence



# GET IN TOUCH

#### CONTACT US





(+370) 6 977 1440 (+370) 6 977 1277



Santariškių str. 2, 08661 Vilnius



indre.klimantaviciene@santa.lt roman.volkov@santa.lt



https://www.santa.lt/en/