



**State Health Insurance Fund
of the Republic of Uzbekistan**



Artificial Intelligence for Health Insurance: Uzbekistan Perspective

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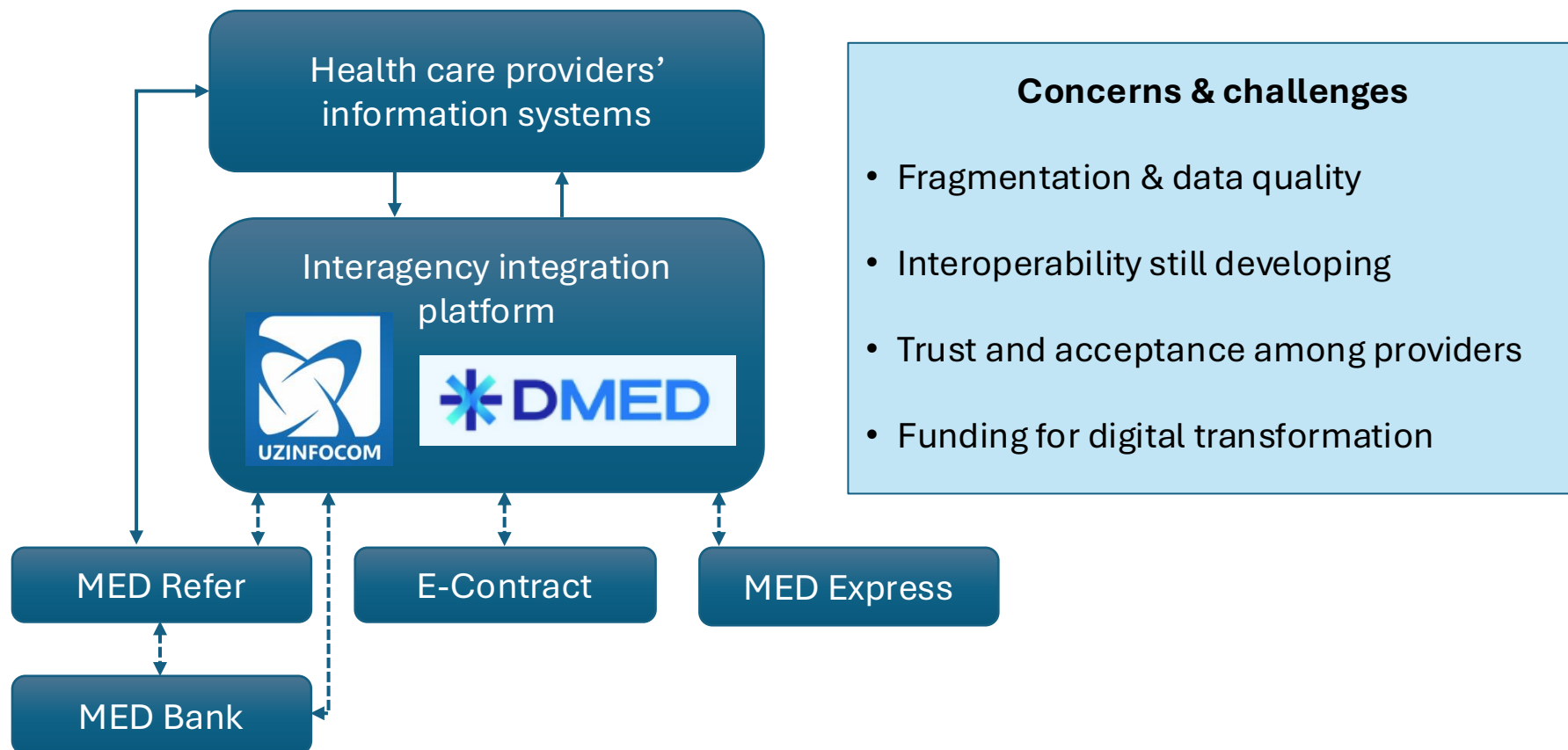
Uzbekistan: map & demographics

- Population: ~38 million (2025 estimate)
- ~450 thousand km²
- Urban vs rural: ~50/50%
- Life expectancy: 75.1 (all), 72.5 (male), 76.9 (female)
- Health insurance coverage: ~100% (8 pilot regions), nationwide by the end of 2026 (+ 6 regions)





Current information system architecture





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SHIF's information systems

EShartnoma

- Concluded contracts: terms and financial amounts
- Contracted healthcare providers (public and private)
- Volume of contracted services

MED Express

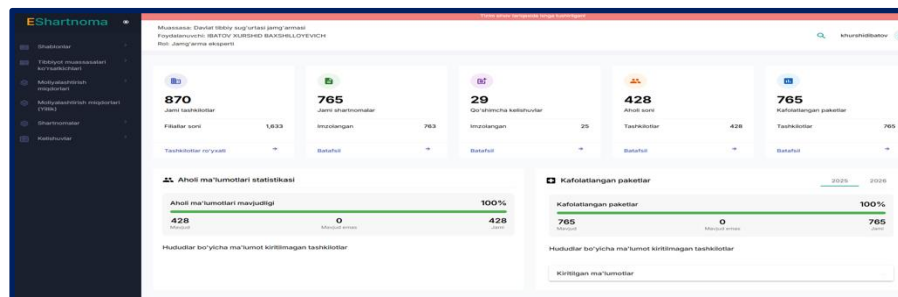
- Medicines reimbursement programme
- Contracted pharmacies
- Patients covered

MedRefer

- Guaranteed benefits package
- Beneficiary categories
- Tariffs for contracted services
- Referrals to specialized care

MED Bank

- Claims management (capitation in PHC, inpatient treated cases)
- DRG case-mix grouper
- Payment module



MED Express interface showing Pharmacy Reports. The table lists various pharmacies and their associated costs:

Name of the institution	Tib	Period	Amount to be paid
17 "Dorivorlar Dori-Dorivor" A.O. 8-sonli do'kon	20000747	01.08.2023 - 30.08.2023	16 471 508
17 "Dorivorlar Dori-Dorivor" MCH	20000747	01.08.2023 - 30.08.2023	12 870 800
17 "Dorivorlar Dori-Dorivor" A.O. 24-sonli do'kon	20000747	01.08.2023 - 30.08.2023	2 888 400
17 "Dorivorlar Dori-Dorivor" A.O. 25-sonli do'kon	20000747	01.08.2023 - 30.08.2023	2 820 430
17 "Dorivorlar Dori-Dorivor" A.O. 26-sonli do'kon	20000747	01.08.2023 - 30.08.2023	2 332 325
17 "Dorivorlar Dori-Dorivor" MCH	20000747	01.08.2023 - 30.08.2023	1 145 300
17 "Dorivorlar Dori-Dorivor" A.O. 28-sonli do'kon	20000747	01.08.2023 - 30.08.2023	1 138 910
17 "Dorivorlar Dori-Dorivor" A.O. 29-sonli do'kon	20000747	01.08.2023 - 30.08.2023	1 077 768
17 "Dorivorlar Dori-Dorivor" A.O. 30-sonli do'kon	20000747	01.08.2023 - 30.08.2023	437 760
17 "Dorivorlar Dori-Dorivor" A.O. 31-sonli do'kon	20000747	01.08.2023 - 30.08.2023	407 800

MedRefer interface showing patient referral details and costs. The table lists various medical services and their associated costs:

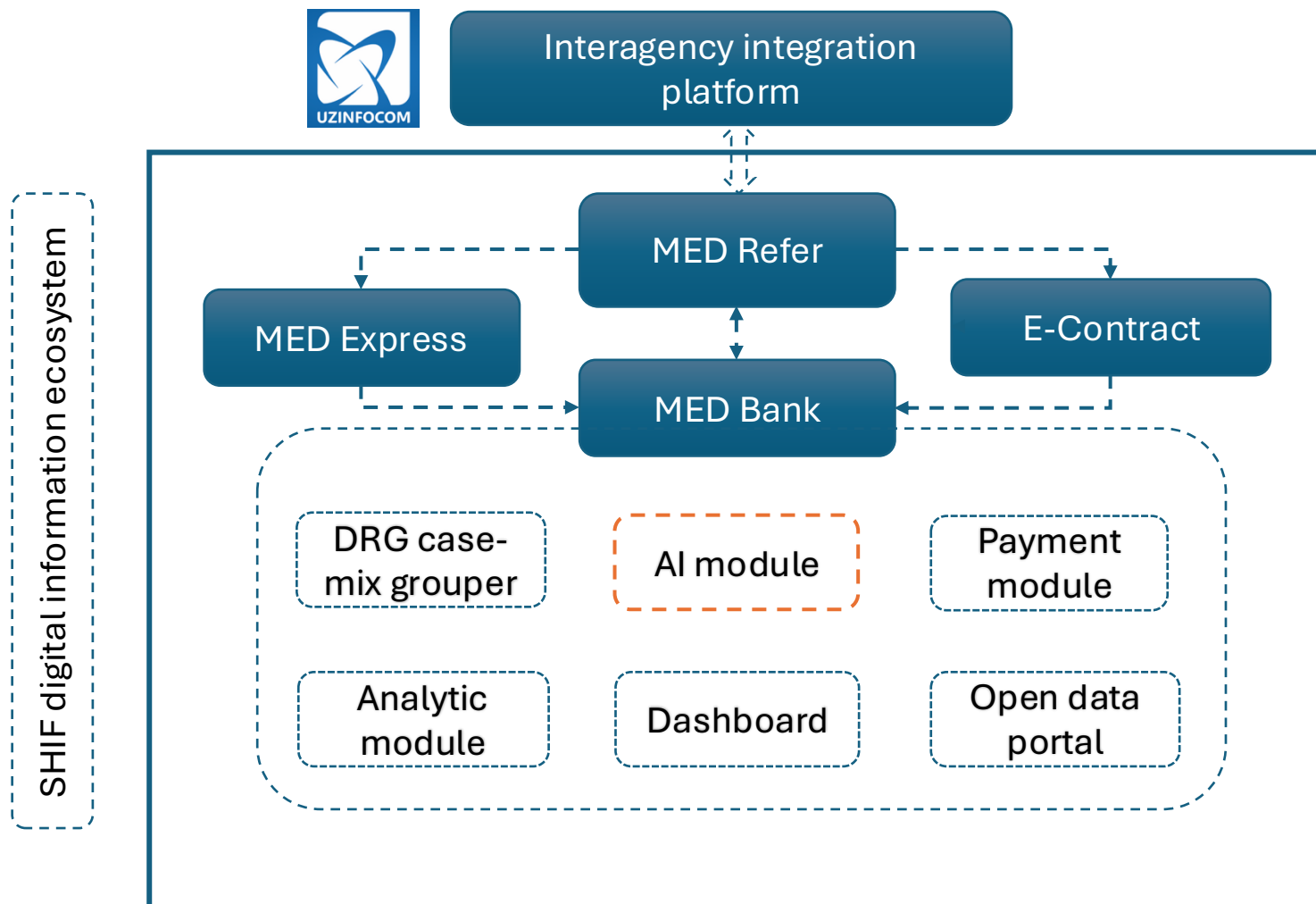
T/y	Xizmatlar/visitalar nomi	To'lanadigan summa	To'lanmaydigan summa
1	Tashxis qo'yish uchun o'tkazilgan tekshiruvlar	3 073 075	0
2	Mutaxassislar ko'rigi	360 000	0
3	Konservativ davolash (fizioterapiya turlari, davolovchi jismoniy tarbiya va shu kabilar)	980 000	0
4	Operativ davolash	9 000 000	0
5	Dori vositalari, tibbiy buyumlar va sarflov materiallari uchun xarajalar	14 187 888,724	0
6	Statsionarda yotib davolanish (2 kun)	694 600	0
7	Reanimatsiya bo'limi (4 kun)	5 229 600	0
8	Ovqatlanish (2 kun)	60 000	0
Jami		33 585 163,724	0

MED Bank interface showing medical organization analysis. The table lists various medical organizations and their associated costs:

Title page	Attached population P1	Attached population P2	Attached population P3
Section 1. Attached population			
Structure of the attached population by age groups and gender			
Structure of the attached population by PHC organizations			
Structure of hospitalizations by hospital			
Structure of hospital mortality by ICD-10 classes			
Structure of hospitalizations by ICD-10 classes			
Structure of average stay by selected clinical category			
Analysis of the spectrum of hospitalizations by ICD-10 classes			
Section 3. Hospitalizations analysis (Surgery)			
Structure of surgeries by hospital			
Structure of surgeries by type in hospitals			



Planned information system architecture









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Potential areas for AI use

- Claims automation for faster approvals
- Fraud detection: duplicate & abnormal claims
- Predictive analytics: service demand & financial needs
- Provider performance monitoring
- Policy support: tariff setting, budgeting

Integration within existing IS framework

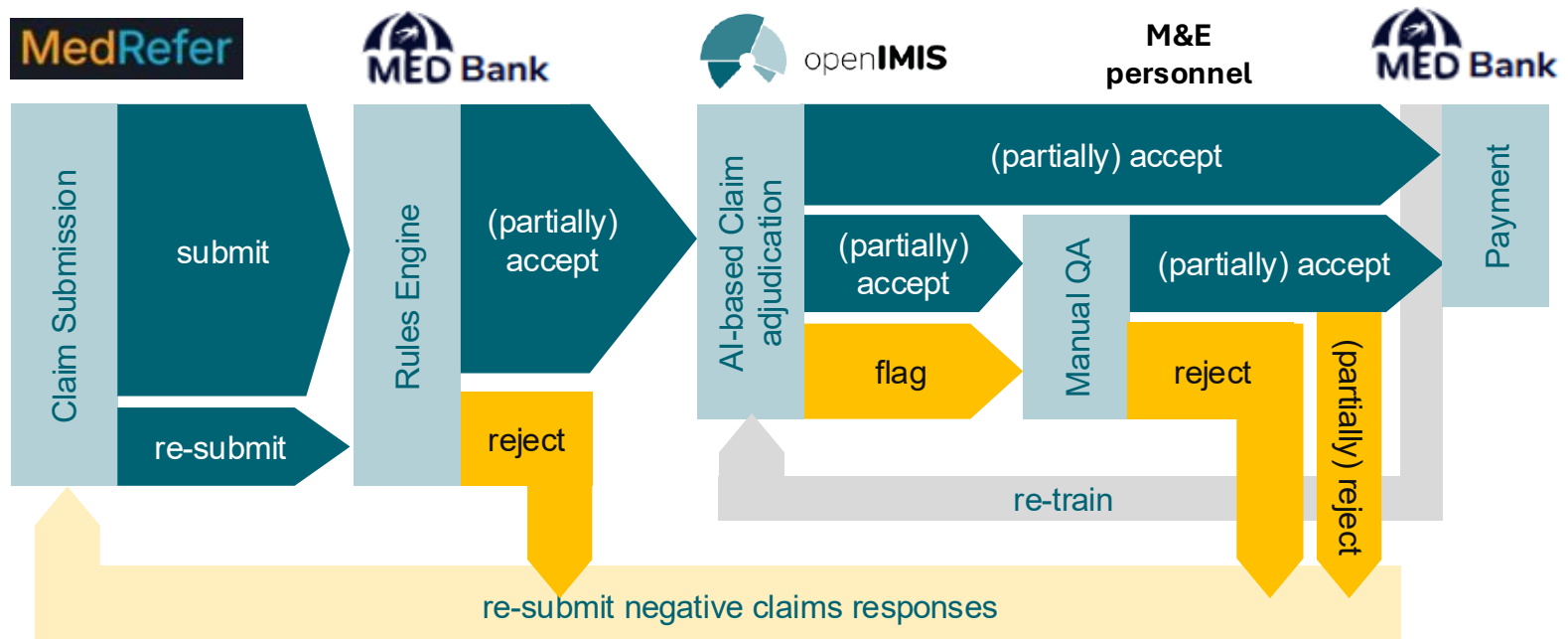
Existing System	Function	AI integration opportunity
	Stores population registration data and socio-demographic profiles	Use AI to detect duplicate enrollments, predict risk profiles, and forecast utilization trends
	Holds patient medical histories and episodes of care, including for DRGs	Automate claims workflows; Identify frauds & risks; Enable predictive modeling for case severity and cost forecasting
	Processes prescription reimbursements	AI to identify prescription anomalies, assess therapeutic compliance, and forecast drug expenditure
	Tracks referrals to specialized care	Machine learning to analyze referral patterns and detect inefficiencies or overutilization



Implementation pathway (1)

Assessment & planning: Conduct an assessment across existing IS. Prioritize 2–3 high-impact use cases: in-patient claims categorization & fraud detection, and drug reimbursement analytics. Define AI scheme design & operationalization.

Scheme design: AI-based adjudication workflow





Implementation pathway (2)

Scheme operationalization: Procurement of AI model training hardware. Upgrade existing hosting infrastructure. Recruit AI experts / data scientists.

Adaptation: Define data-sharing protocols. Localize AI algorithms to Uzbek data and coding standards (ICD-10, DRG codes, tariff catalogues, etc.). Integrate models via secure APIs into MED Bank test environment. Train SHIF staff. Establish AI monitoring dashboard.

Pilot: Start in Syrdarya region (existing pilot experience, manageable size ~900K population). Select 2–3 hospitals, ~20k claims, focus on in-patient services (later could be extended to out-patient). Track accuracy, adjudication time, coding consistency. Measure improvements and refine models.

Scale-up: Extend AI-supported modules nationwide with iterative model retraining. Embed AI-supported decision tools into SHIF's contract management and budgeting workflows.



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Thank you for your attention!