Appendix 1.

Pharmacotherapy Form for Transplant Recipients/Candidates
Pharmacotherapy Clinic, Imam Kho[illegible]ospital Complex

1. Patient Information
Gender: **Age:** **Weight:** **Height:**
Transplant type: **Candidate □** **Recipients□** **Transplant date:** **Past Medical History:**

2. Drug/Food Allergy
Food allergy: **Yes□** **No□**
Drug Allergy: **Yes□** **No□** **Drug Name:** **Form of Drug Allergy:** **Necessary Action:**

3. Pharmacotherapy Considerations:

4 Adherence to Current Medication Regime (Based on BAASIS)
Yes□ **No□**

5. Vaccination	
Hepatitis B Not required□ Required□	Comments:

5. Vaccination				
		Tetanus	Not required□	Require□	Comments:
Influenza	Not required□	Require□		Comments:
Pneumococcal	Not required□	Require□		Comments:

6. List of medications taken by the patient at the time of the visit:			
Drugs' name/dosage form/dose/frequency	**How is used by the patient**	**How should be used correctly**	**Medication-related considerations suggested to the patient or treating physician**

6. List of medications taken by the patient at the time of the visit:			

Stamp and signature of the pharmacotherapy specialist

Supplementary Table 1: Calculation of Cost Avoidance

Clinic	Severity	Probability tier	DRPs	Expected ADEs	Cost avoidance (USD)
Virtual	Catastrophic	1%	26	0.26	201.82
Virtual	Major	10%	10	1.00	776.23
Virtual	Major	40%	2	0.80	620.98
Virtual	Major	60%	13	7.80	6,054.60
Virtual	Moderate	10%	21	2.10	1,630.08
Virtual	Moderate	40%	30	12.00	9,314.77
Virtual	Moderate	60%	25	15.00	11,643.46
Virtual	Minor	40%	1	0.40	310.49
Virtual	**TOTAL**		**128**	**39.36**	**30,552.43**
In-person	Catastrophic	1%	48	0.48	372.59
In-person	Catastrophic	40%	72	28.80	22,355.44
In-person	Catastrophic	60%	13	7.80	6,054.60
In-person	Major	10%	26	2.60	2,018.20
In-person	Major	40%	4	1.60	1,241.97
In-person	Major	60%	14	8.40	6,520.34
In-person	Moderate	10%	32	3.20	2,483.94

In-person	Moderate	40%	47	18.80	14,593.13
In-person	Moderate	60%	25	15.00	11,643.46
In-person	Minor	40%	3	1.20	931.48
In-person	Minor	60%	16	9.60	7,451.81
In-person	**TOTAL**		**300**	**97.48**	**75,666.94**

In virtual clinic: 39.36×776.23=30,552.43

In in-person clinic:97.48×776.23=75,666.94

Supplementary Table 2. Resource use, unit costs, sources, and inclusion status for the economic evaluation

Category	Cost / benefit input	Unit cost or valuation (USD, 2024)	Quantity / resource use	Total value (USD)	Data source / valuation basis
Included costs (denominator)	Virtual clinic one-time set-up / platform cost	$353.00 per set-up	1 set-up for the virtual clinic	$353.00	Institutional/project implementation records; reported in Cost outcomes
	Virtual vaccine and medication intervention costs	Item-specific acquisition costs; aggregate reported	Patient-level vaccine/medication interventions during the 3-month virtual period	$2,652.46	Patient-level prescription/vaccination records and institutional/pharmacy price list
	Virtual miscellaneous intervention costs	$265.20 aggregate	1 aggregate miscellaneous-cost item	$265.20	Clinic costing records; reported as miscellaneous costs
	In-person clinic aggregate intervention/personnel/operating costs	Aggregate cost reported	150 patients / 32 clinic sessions over 8 months	$6,192.73	Institutional clinic/financial records; reported in Cost outcomes
Reported operational cost	Virtual pharmacist/personnel encounter cost	$6.90 per tele-pharmacotherapy encounter	82 patient encounters (or 22 clinic sessions, depending on costing definition)	$565.80 if counted per patient encounter	Methods section reported per-encounter cost
	In-person pharmacist/personnel encounter cost	$3.70 per in-person encounter	150 patient encounters	$555.00 if counted per patient encounter	Methods section reported per-encounter cost
Included benefits (numerator)	Virtual medication optimization cost savings	$8.40 mean saving per adjustment	17 medication adjustments	$142.84	Medication reconciliation/intervention records; discontinued/reduced medication cost x remaining prescription days
	In-person medication optimization cost savings	$6.14 mean saving per adjustment	125 medication adjustments	$768.07	Medication reconciliation/intervention records; discontinued/reduced medication cost x remaining prescription days

	Avoided hospitalization cost per expected preventable ADE	$776.21 per expected ADE	39.36 expected ADEs in virtual clinic; 97.48 expected ADEs in in-person clinic	$30,552.43 virtual; $75,666.94 in-person	Institutional transplant-related hospitalization cost; exact model unit cost derived from unrounded hospital data and equivalent to approximately 4.6 days x $167.83/day
	Virtual transportation saving: Tehran residents	$8.40 per patient	52 patients	$436.80	Patient residence/distance data and local transport cost assumptions
	Virtual transportation + meal saving: nearby non-Tehran residents	$29.52 per patient	17 patients	$501.84	Patient residence/distance data and standard meal/per-diem assumptions
	Virtual transportation + meal + accommodation saving: distant non-Tehran residents	$61.65 per patient	13 patients	$801.45	Patient residence/distance data, standard meal/per-diem assumptions, and one-night lodging assumption when applicable
Excluded from monetized analysis	Productivity losses	Not monetized	Not collected	Not included	Data unavailable
	Patient time valuation and caregiver/informal care time	Not monetized	Not collected	Not included	Data unavailable
	Long-term graft outcomes, mortality costs, and long-term ADE costs beyond index hospitalization	Not monetized	Not collected	Not included	Data unavailable
	Telemedicine infrastructure depreciation beyond the initial set-up cost	Not separately monetized	Not available	Not included separately	Institutional implementation records did not provide depreciation schedule

Abbreviations: ADE, adverse drug event; BCR, benefit-to-cost ratio.