

From a good answer to a reachable appointment

A 40-year-old factory worker in a Haryana village asks an AI health app, in Hindi, about overdue diabetes care. The answer is right. Whether he gets care depends on where the app routes him.

1 · THE ANSWER

9:41

Health assistant

AI · not a clinician

voice note · 0:14

मेरा शुगर का टेस्ट 6 महीने पहले 9.1 आया था। दवाई खत्म हो गई। अभी ठीक हूँ। क्या करूँ?
(My sugar test was 9.1 six months ago. My medicine ran out. I feel fine. What should I do?)

9.1 का मतलब है शुगर काबू में नहीं थी। कुछ हफ्तों में डॉक्टर को दिखाइए, दवाई फिर शुरू कीजिए और HbA1c टेस्ट दोबारा करवाइए। बहुत प्यास लगे या वज़न घटे तो जल्दी जाइए।
(9.1 means your sugar was not under control. See a doctor within a few weeks, restart your medicine, and repeat the HbA1c test. Go sooner if you are very thirsty or losing weight.)

voice note · 0:06

मैं छह दिन काम करता हूँ। बस इतवार खाली है। आप बुक कर दो?
(I work six days. Only Sunday is free. Can you book it?)

आपका नंबर LifeCare Diabetes Clinic में लग गया। 6.2 किमी, बस से, इतवार को। फ़ीस ₹250। पहली तारीख: 41 दिन बाद।
(You're booked at LifeCare Diabetes Clinic, 6.2 km by bus, on a Sunday. Fee ₹250. First opening: in 41 days.)

बुकिंग पक्की ✓

(Booking confirmed)

2 · THE FRONT DOOR TO CARE

The app now chooses where he goes.

AI as router

It searches a directory, ranks options, shows a few, and books one.

Home	village, 15 km limit
Coverage	ESI card, ₹300 to spare
Work	six-day factory shifts
Transport	bus and shared auto
Deadline	seen within 30 days

DESTINATION
Doctor's review with a repeat HbA1c test, to restart medicines and plan follow-up

3 · WHERE THE ROUTE CAN BREAK

c1 Unreachable from where he lives
A sponsored diabetes centre in the city is 34 km away. He can travel 15.

× Too far

c2 Outside his coverage
A private hospital 9 km away does not take his ESI card. Self-pay: ₹1,800, about three days' wages.

× Not covered

c3 No doctor or HbA1c test nearby
The village health centre checks finger-prick sugar but has no doctor on most days and no HbA1c test.

× No doctor or test

c4 Can't get time off work
The ESI dispensary is covered and 11 km away, but open 8 am to 2 pm, Monday to Saturday. A missed shift costs ₹550.

× No Sunday/evening

c5 No bus to the clinic
The community health centre is nearly free and open Sundays, but no bus goes there. Shared autos stop 4 km short.

× No transit

c6 Booked, but too late
The app's partner clinic, ranked first. Close, affordable, on a bus line, but the first Sunday slot is 41 days out. The app books it anyway.

× Past deadline

c8 A route that works, shown but passed over
A charity diabetes clinic 7.5 km away by bus, evening hours, ₹100, slot in 5 days. It was third on screen, below the partner clinic the app booked.

✓ Would work

4 · THE AUDIT, WORKED OUT FOR HIM

FEASIBLE SET: THE CLINICS THAT WOULD ACTUALLY WORK

$$F_i = \{ c \in S_i : d(c, h_i) \leq m_i, w_c \leq \tau, \pi_i(c) \leq b_i, a_i(c) = 1 \}$$

S_i	clinics offering what he needs: a doctor's review with an HbA1c test
$d(c, h_i) \leq m_i$	distance from his home within his travel limit, 15 km
$w_c \leq \tau$	next appointment within the clinical deadline, 30 days for overdue follow-up
$\pi_i(c) \leq b_i$	his out-of-pocket cost within budget: ₹0 at ESI clinics, the full fee anywhere else
$a_i(c) = 1$	meets his stated needs: reachable by bus or auto, and open Sundays or evenings

For him: $m = 15$ km, $\tau = 30$ days, $b = ₹300$, $a = \text{bus or auto} \wedge \text{Sunday or evening hours}$.

WHAT THE APP DID, SCORED AGAINST F

$$R = |C \cap F| / |F| \quad D = |L \cap F| / |F| \quad E = 1[\text{booked} \in F]$$

C = clinics the search retrieved, L = clinics shown to him, E = the booking works

CLINIC	DOCTOR + HBA1C	KM ≤ 15	DAYS TO APPT ≤ 30	HIS COST ≤ ₹300	BUS OR AUTO	HOURS SUN/EVE	IN F?	SEARCH RANK	SHOWN (L)		
c1 Apex Diabetes Centre	sponsored	yes	34.0	2	₹1,400	yes	Sun	no	2	✓	
c2 Sunrise Multispeciality	sponsored	yes	9.0	1	₹1,800	yes	Eve	no	4		
c3 Village Health Centre		no	2.1	.	.	.	.	no	not listed		
c4 ESI Dispensary		yes	11.0	4	₹0	yes	weekdays	no	5		
c5 Community Health Centre		yes	13.5	6	₹10	no	Sun	no	9 · p.2		
c6 LifeCare Diabetes	partner	BOOKED	yes	6.2	41	₹250	yes	Sun	no	1	✓
c7 ESI Sunday Clinic		yes	12.4	8	₹0	yes	Sun	yes	7 · p.2		
c8 Seva Trust Diabetes Clinic		yes	7.5	5	₹100	yes	Eve	yes	3	✓	

$$F = \{c7, c8\}, \quad C = \{c6, c1, c8, c2, c4\}$$
$$L = \{c6, c1, c8\}$$

Page 1 of the search; top 3 shown.

$$R = |\{c8\}| / 2 = 0.5$$
$$D = |\{c8\}| / 2 = 0.5$$

Found and showed one of two.

$$E = 1[c6 \in F] = 0$$

Answer correct, route failed: he waits 41 days.

WHAT THE AUDIT ASKS

Grading the answer alone sees none of step 3.

Found it? Did the search retrieve the routes that work for him? RETRIEVAL, R

Showed it? Did he see a usable option, and was it ranked where he would pick it? DISPLAY, D

Booked it? Does the booking meet his deadline, budget, travel, and work limits? EXECUTION