

Akwaaba

FULL PITCH AND BUILD GUIDE

AKWAABA · AN AI COLLEAGUE FOR AFRICA'S COMMUNITY HEALTH WORKERS

How Akwaaba works, and how to build it.

The problem, the opportunity, every feature for volunteers, nurses and supervisors, the technical design, how to run it, and a 12-month plan to 10,000 health workers.

NOVEMBER 2026 GHANA · VOLTA REGION PILOT BADUKB@OUTLOOK.COM

BUTRE, WESTERN REGION · UNSPLASH

SUMMARY

An AI colleague for the whole community health team.

Akwaaba is a Claude assistant on WhatsApp for volunteers, nurses and supervisors, in Ewe, Twi and English. It goes live in Ghana's Volta Region within weeks and aims for 10,000 health workers within a year.

Nurses turn register photos into a draft monthly return (names hidden before any model sees them), get a Monday list of who is due for a vaccine or visit, and turn shelf counts into a requisition. Volunteers log home visits by voice and refer people, and the nurse confirms they arrived. Anyone can raise a disease alert that becomes a draft report for the district. Supervisors see every compound in one message and send notices to the team.

Safety does not depend on the model. An emergency card is sent by plain code before Claude is called, and the danger-sign checklist stays out of the pilot until clinicians have graded it in a silent trial.

WHO THIS GUIDE IS FOR

Partners deciding whether to back a pilot, Ghanaian health and language experts who might review it, and engineers who want to run or extend it. The short version is the **Investor and Partner Brief**.

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THE PROBLEM

Coverage is high. Follow-through, supplies and reporting are where care slips.

Ghana runs about **6,500 CHPS compounds** (Community-based Health Planning and Services), covering 46% of the country. Each is usually run by one nurse, a Community Health Officer, with a few volunteers. They keep paper registers, compile monthly returns, give health talks, visit homes and decide when someone must go to a facility.

First contact is strong: about **88%** of mothers have four or more antenatal visits and a postnatal check within two days, and **89%** of children get the third Penta dose (Ghana DHS 2022). The losses come afterwards.

- **Second doses.** 14% of Volta children who got the first measles dose missed the second; 32% in the Northern Region.
- **No defaulter lists.** 76% of Volta facilities kept no written list; only 1 to 2% of health workers named tracing as a duty.
- **Reminders wanted.** 78% of Volta caregivers would welcome text reminders; fewer than 10% of facilities sent any.
- **Paperwork.** An average of 34 registers and 35 monthly forms per facility; recording takes about a third of consultation time and monthly reporting about 9 hours per health worker.
- **Locked-out reporting.** In 86 Northern CHPS zones, officers said the national platform is "controlled from the district level" and some send paper reports instead.
- **Stale stock records.** Inventory tools at 50 to 95% of sites but often not updated; only 40% of commodity managers trained.
- **Language.** Guidance is in English; communities speak Ewe, Twi, Ga, Dagbani and more.
- **Isolation.** Many work alone, hours from a doctor, with a phone as their only tool.

Daily Graphic, Sept 2025; Ghana DHS 2022 (Countdown 2030 profile); Nyaku et al., Pan African Medical Journal, 2017; BMC Health Services Research, 2021; Chirawurah et al., PLOS One, 2026; GHSC-PSM Ghana brief, 2025. Photo: Kumasi.

THE OPPORTUNITY

A workforce of a million, set to double, and serving it costs very little.

1.04m
community health workers in Africa, 2024

2m
committed for 2030, needing ~$4.3bn a year

<1%
of that budget would cover Claude for every one of them

70%
of Ghanaians online; 38.3m mobile connections

WHY NOW

- **Policy.** Ghana's National AI Strategy 2025 to 2035 commits $250m to an AI centre plus a $20m implementation fund, creates a Responsible AI Office, and calls for AI in indigenous languages.
- **Proof in Ghana.** Ashesi University's Nutribot, a WhatsApp nutrition assistant, went nationwide in May 2026.
- **A partner template.** Anthropic's three-year MOU with Rwanda covers health; its 2026 Public Benefit Report asks for measured outcomes.

THE MOAT IS NOT THE CODE

1. **A clinician-graded health dataset** in Twi and Ewe, with a public slice released as an evaluation set.
2. **A place in the workflow.** Once a district writes Akwaaba into monthly reporting, switching is a policy decision.
3. **A field network.** Champions, a two-hour onboarding playbook and a support line run by a Ghana lead.

THE LANDSCAPE

EFFORT	WHO IT SERVES	WHERE	WHAT IT MEANS FOR AKWAABA
Nutribot (Ashesi)	The public, nutrition advice	Ghana, national	A Ghanaian WhatsApp health tool can win national backing; a possible research partner
D-tree companion	Health supervisors, in Swahili	Zanzibar	The closest model for later supervisor features
PATH silent trial	Community health workers	Rwanda	The method we follow before any triage feature
Akwaaba	CHPS nurses and volunteers	Ghana	Returns, follow-ups, talks and stock in Ewe and Twi, with a public graded evaluation

Africa CDC and African Union, Feb 2026; DataReportal 2025; Ghana News Agency, Apr 2026; News Ghana; D-tree, Feb 2026; PATH, Jul 2025; Anthropic.

THE PRODUCT

Nothing to install. Type, speak or send a photo, and tap.

A health worker says hi, picks Ewe, Twi or English and her role, and gets the menu for her job. Under every answer, **More** offers a voice note, a printable PDF, an image card, saving to her library, or a quiz.

FOR	MENU ITEM	WHAT IT DOES
NURSES	📊 Monthly return	Register photos to a draft return, names hidden first
NURSES	📅 Follow-ups	Vaccines, antenatal and postnatal visits due; Monday list; family reminders
NURSES	📦 Stock check	Shelf counts to flags and a draft requisition
VOLUNTEERS	🏡 Log a home visit	By voice or text; a danger sign triggers the card and a referral
EVERYONE	🔁 Refer someone	To the nurse, who confirms arrival; checked again at 48 hours
EVERYONE	🦠 Disease alert	Notifiable disease signs to a draft alert for the district
SUPERVISORS	👥 Team overview	Every compound's numbers in one message, plus notices
SUPERVISORS	📋 Supervision visit	A checklist for visiting a CHPS compound
EVERYONE	📢 Talks, visits, myths	One-minute talks with voice; home visit guides; myth replies
EVERYONE	📍 Clinics and quizzes	Nearest mapped facility; tap quizzes to refresh training

Voice notes in Twi, Ewe or Ghanaian English are transcribed by GhanaNLP's Khaya models and echoed back (“I heard: …”) before the answer. MY DATA shows what Akwaaba remembers; FORGET ME deletes everything.



ANTENATAL CARE, IMMUNISATION AND CHILD HEALTH ARE THE HEART OF A VILLAGE CLINIC'S WORK

FEATURE · MONTHLY RETURN

No photo with names on it ever reaches Claude.

1 · PHOTO

One page at a time

Up to 12 register or tally-sheet pages, in WhatsApp or the app.

2 · HIDE NAMES

On our server

Known name columns blacked out; OCR hides any other word and long numbers. Fails closed.

3 · READ

Counts only

A forced tool call: one whole number per field. Nowhere to put a name.

4 · CHECK

In code

Pages added up, contradictions and big jumps from last month flagged.

5 · DRAFT

Never submitted

Text and an A4 PDF. The nurse checks and submits it herself.

WHAT CLAUDE SEES

OPD Register · October 2026

SAMPLE FOR DEMONSTRATION. All names, numbers and data are invented.

No.	Date	Name	Age	Sex	Complaint	RDT	Referred
1	02/10	Ama Serwaa Boateng	4	F	Fever	Positive	No
2	02/10	Kofi Agbeko	31	M	Cough		No
3	03/10	Esi Dzifa Amedzro	2	F	Fever	Positive	No
4	05/10	Yaw Mensah Kpodo	56	M	Body pains		No
5	06/10	Akosua Fiadzo	1	F	Fever, diarrhoea	Negative	Yes
6	08/10	Selorm Adzaku	23	F	Headache		No
7	09/10	Kwame Gbedemah	3	M	Fever	Positive	No
8	11/10	Edem Kudjordji	45	M	Fever	Negative	No
9	12/10	Abla Tsikata	4	F	Cough		No
10	15/10	Mawuli Ahiable	38	M	Fever	Positive	Yes

A SAMPLE REGISTER (INVENTED NAMES)

OPD Register · October 2026

[redacted]

No.	Date	[redacted]	Age	Sex	Complaint	RDT	Referred
1	02/10	[redacted]	4	F	Fever	Positive	No
2	02/10	[redacted]	31	M	Cough		No
3	03/10	[redacted]	2	F	Fever	Positive	No
4	05/10	[redacted]	56	M	Body pains		No
5	06/10	[redacted]	1	F	Fever, diarrhoea	Negative	Yes
6	08/10	[redacted]	23	F	Headache		No
7	09/10	[redacted]	3	M	Fever	Positive	No
8	11/10	[redacted]	45	M	Fever	Negative	No
9	12/10	[redacted]	4	F	Cough		No
10	15/10	[redacted]	38	M	Fever	Positive	Yes

AFTER HIDING: EVERY NAME AND PHONE NUMBER GONE, EVERY COUNT KEPT

The original photo is never stored. Only monthly totals are kept, to compare with next month. If names can't be hidden (no OCR engine, an unreadable photo), the photo is refused and the nurse is asked to type the counts. OCR is weaker on handwriting, so the district's register layout, with its name columns, is collected before the pilot.

THE DRAFT SHE GETS BACK

Draft monthly return · October 2026

DRAFT prepared by Akwaaba from register photos. Check every number before submitting.

Section	Item	Total
Outpatients	OPD attendance, all ages	96
	OPD attendance, under 5	41
Malaria	Suspected malaria	38
	Tested (RDT)	35
	Tested positive	37
Maternal health	ANC new registrants	9
	ANC visits, all	31
	Postnatal visits	14
	Deliveries attended	3
Child health	Children weighed	118
	Penta 1 given	12
	Penta 3 given	10
	Measles-Rubella 1 given	11
Family planning	New acceptors	7
	Continuing users	52
Community work	Home visits	44
	Health talks given	6
	Referrals to a facility	5

⚠ **Please check before submitting**

- More positive malaria results than tests: Tested positive 37, Tested (RDT) 35
- Children weighed changed a lot since last month: 61 to 118
- Deliveries attended: hard to read

Shaded cells were not found on the photographed pages. Pages read: 2. Names were hidden before reading.
Layout is a placeholder until the district's own monthly return form is added.

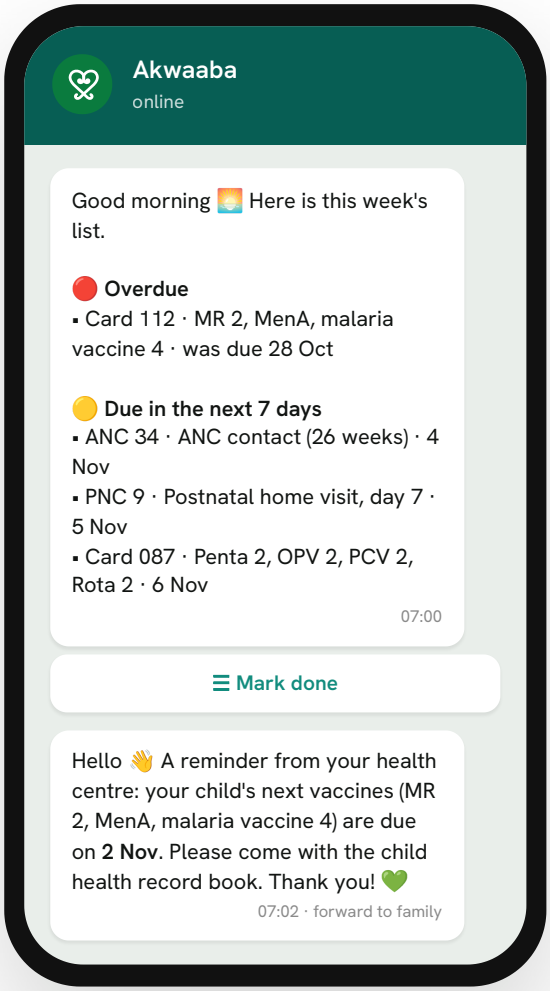
SAMPLE PDF. THE LAYOUT FOLLOWS THE DISTRICT'S FORM ONCE IT IS ADDED.

FEATURE · FOLLOW-UPS

A defaulter list most clinics don't have, sent every Monday.

The nurse adds a child, a pregnancy or a new mother with a **card or register number and one date**. Akwaaba works out every visit due from the Ghana Health Service schedule and keeps the list for her.

1. **Add by number, never by name.** "Card 112, 14/08/2026". Any other words, such as a name, are dropped before saving. Visits more than two weeks in the past count as done, so she can start with children already in care.
2. **Monday at 7am**, a list of who is overdue and who is due in the next 7 days. Missed vaccines stay on the list for catch-up; a missed antenatal contact gives way to the next.
3. **One tap** marks a visit done and shows the next one.
4. **Reminders to forward.** A message for each family, in the nurse's language, ready to send from her own WhatsApp.



Sample data. Register numbers stand in for names.

SCHEDULES (IN A FILE THE DISTRICT CONFIRMS)

FOLLOW-UP	VISITS
Child	Birth; 6, 10, 14 weeks; 6, 7, 9, 12, 18 and 24 months (BCG to MR 2, MenA, malaria vaccine 1–4, vitamin A)
Pregnancy	WHO 8-contact model: 12, 20, 26, 30, 34, 36, 38, 40 weeks, from the due date or weeks pregnant
New mother	Within 48 hours, day 3, day 7 home visit, 6-week check

WhatsApp allows free messages only within 24 hours of a person's last message. Outside that window the Monday list opens with an approved template ("3 of your follow-ups are due this week. Reply DUE.").

Child schedule: Ghana Health Service, ghs.gov.gh/immunisation (checked Nov 2026). Why it matters: Nyaku et al., 2017.

FEATURES · TALKS, VISITS AND STOCK

The rest of a nurse's week, in her language.

📢 Community talks with a voice note

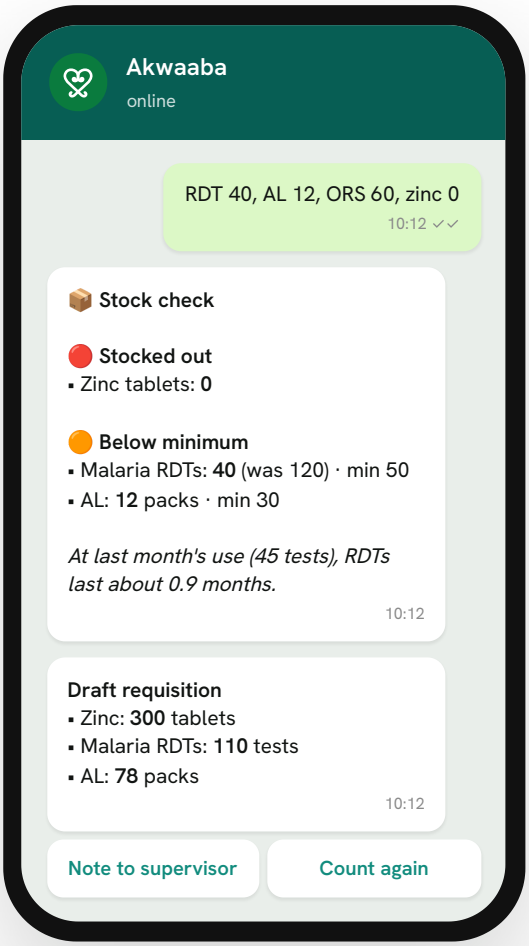
She asks, by text or voice, for a talk on bed nets for the weighing day. She gets a bold title, three points and one action, in everyday Ewe or Twi, with English kept for terms like ORS or RDT. **Listen** sends it as a voice note to play to the group; a quiz checks the group understood. ORS use for diarrhoea is only about 40% in Ghana, so talks like this matter.

🏠 Home visit guides and myths

A short checklist for a newborn, pregnancy or TB follow-up visit: what to ask, what to look at, the danger signs that mean “go now”, and one message for the family. Myth replies acknowledge the worry, give the facts and end with one step, never mocking.

📦 Stock check

She types shelf counts. Code (not the model) compares them with the district's minimum and maximum levels, flags stock-outs, estimates how long RDTs last at last month's testing rate (from her monthly return), and drafts a requisition up to the maximum. A follow-up button writes a polite note to her supervisor. The levels are placeholders until the district provides its own.



Sample stock check and requisition

ORS figure: Ghana DHS 2022 (Countdown 2030 profile).

FEATURES · THE WHOLE TEAM

Volunteers, nurses and supervisors, joined by one code.

1 · VOLUNTEER

Logs a visit

By voice: “House 14, baby 5 days old not sucking”. Only the house number is kept.

2 · CODE

Spots danger

The emergency card goes out at once, with a one-tap referral.

3 · NURSE

Is told

She taps Arrived when they reach her. The volunteer hears back.

4 · 48 HOURS

Checks

Still open? The volunteer is asked, and nudged to visit again.

5 · SUPERVISOR

Sees it all

Referral arrival rate, visits, returns and stock-outs, every Monday.

👥 Teams

A nurse's **My team** shows a code like AK-4821. Her volunteers send “JOIN AK-4821”; nurses join their supervisor the same way. Messages to someone who hasn't written in 24 hours wait in their outbox and arrive with their next message, as WhatsApp requires.

🔁 Referrals that close the loop

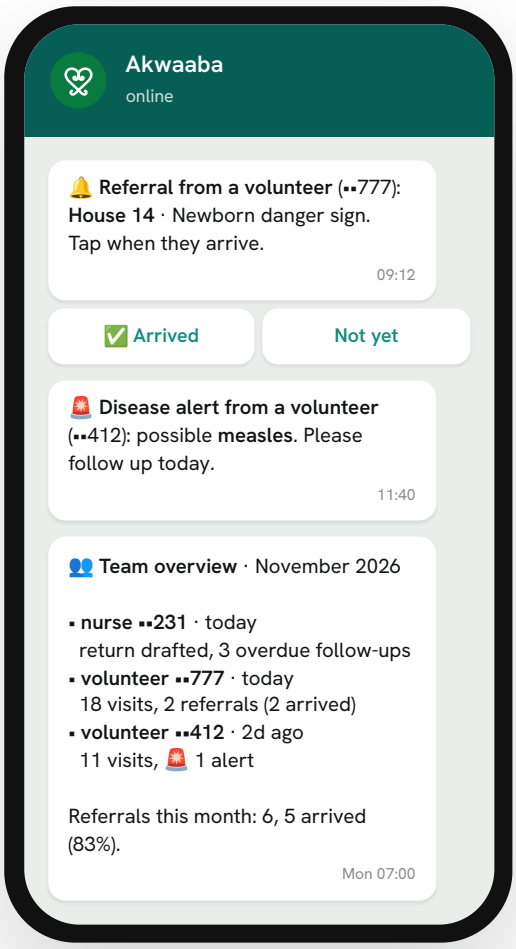
Nine reasons, from fast breathing to family planning, each a tap. Urgent reasons also send the emergency card. Arrival is confirmed by the nurse or checked at 48 hours, so the team finally knows how many referrals reach care.

🦠 Disease alerts

Code checks for signs of conditions reported immediately under IDSR: measles, cholera, polio-like paralysis, meningitis, yellow fever, haemorrhagic fever, neonatal tetanus, rabies, mpox, anthrax, maternal death, or a cluster of illness. A match becomes a draft alert for the District Disease Control Officer, and the team lead is told at once.

📋 Supervisors

A team overview of every compound, notices to the whole team in one message, and a supportive checklist for supervision visits.



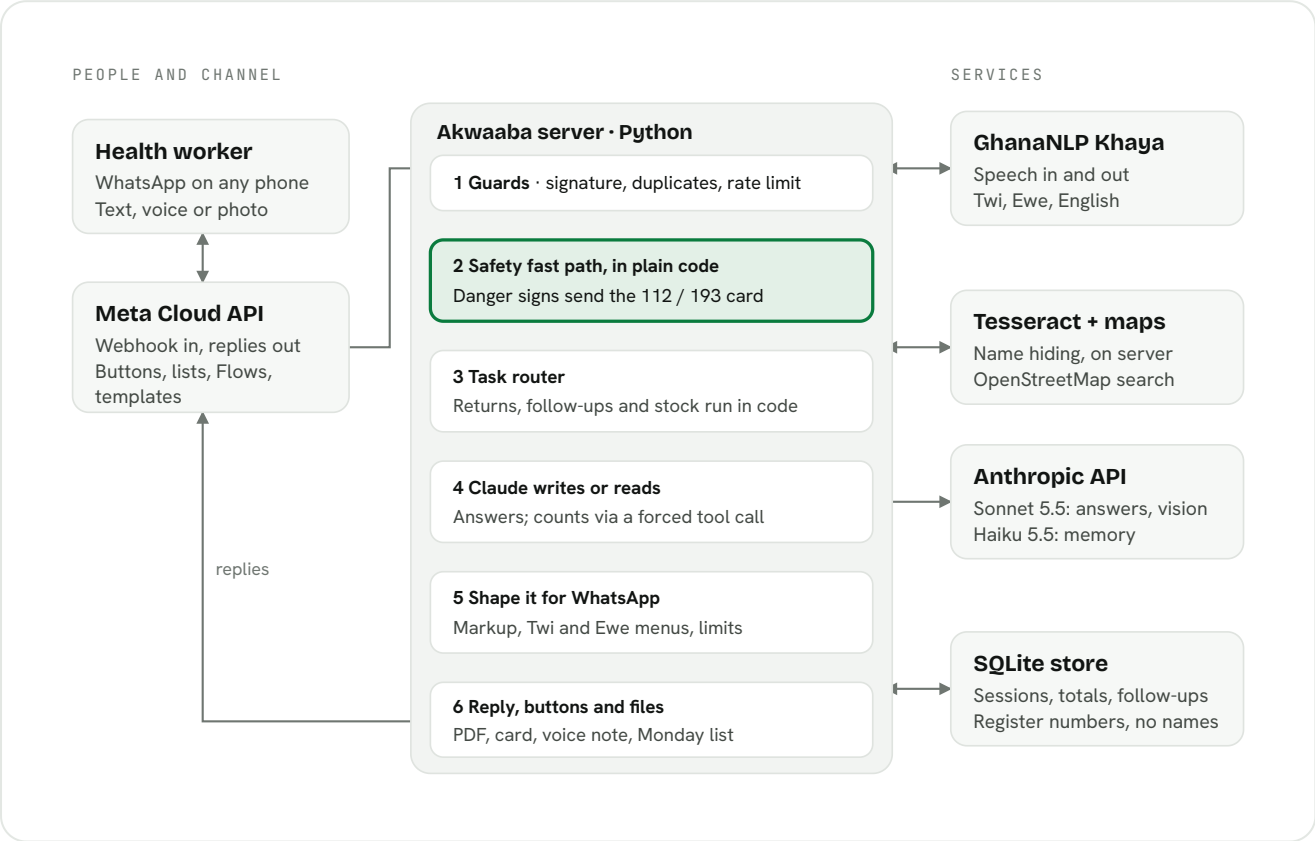
What a nurse and a supervisor see. Sample data.

Alert list based on WHO AFRO IDSR technical guidelines (3rd edition); Ghana's 2022 IDSR guidelines to be confirmed with the district.

HOW IT WORKS

One small server between WhatsApp and Claude.

Every message takes the same path in about three seconds. Anything that must be exact or must never fail runs in code; Claude writes, and reads counts, inside limits it cannot remove.



THE LIFE OF ONE MESSAGE

1
Checked
Meta's signature verified, duplicates dropped, hourly limit applied.

2
Understood
Voice notes transcribed and echoed back; photos go to name hiding.

3
Made safe
Danger signs send the 112 / 193 card before anything else.

4
Routed
Returns, follow-ups and stock run in code; questions go to Claude.

5
Answered
Shaped for WhatsApp, with buttons, files and a voice note.

6
Remembered
A short profile updated after the reply, identifiers removed.

ANSWERS

Claude Sonnet 5.5 writes from a health system prompt, the reply language, format rules, the worker's profile and summary, and the current task. A reply cut off at the limit is trimmed to a whole sentence.

MEMORY

Claude Haiku 5.5 updates a short work profile and a rolling summary after each reply. Names, numbers and health details are dropped in code before anything is saved.

BUILT WITH

Python and FastAPI, SQLite, reportlab and Pillow for PDFs and cards that print ɛ, ɔ and ŋ, Tesseract OCR, Overpass and Nominatim for maps.

SAFETY, PRIVACY AND LANGUAGES

What must never fail is plain code.

FIVE LAYERS OF SAFETY

1. **Emergency card in code.** 58 general patterns plus 28 for pregnancy and newborns (bleeding, fits, a cold baby, fever in the first weeks) send “go to a facility now, call 112 or 193” before Claude is called. Deliberately over-inclusive.
2. **Danger-sign checklist.** Built, but off in the pilot.
3. **Rules in the prompt.** Never prescription doses; test for malaria before treating; when unsure, choose the more urgent option.
4. **Monthly clinician audit** of sampled answers by a Ghanaian clinician.
5. **Silent trial before any triage**, scored offline and graded under a Ghana Health Service ethics route, as PATH did in Rwanda.

44 / 44

urgent test cases caught (15 child, 7 newborn, 11 maternal, 11 adult), with 0 false alarms on 20 routine questions. Writing the set first showed an earlier version missed 26; the tests now fail if any slips.

PRIVACY

- Register photos are redacted before any model call; originals are never stored; photos are refused if names can't be hidden.
- Follow-ups are stored by register or card number. Other words are dropped before saving.
- Memory keeps 24 recent messages, a summary and a short work profile. MY DATA shows it; FORGET ME deletes everything, including follow-ups and stock counts.
- The usage log has no message text, voice or photos, and phone numbers become an irreversible code.
- Before real use: Data Protection Commission registration and a district data-sharing agreement.

LANGUAGES

- Answers in everyday spoken Ewe or Twi; English kept where no everyday word exists; never invented words or proverbs.
- Every menu, button and message is in plain files that a native speaker can review without touching code. Both are drafts awaiting paid native review.
- The emergency card always keeps the English too.

“Akwaaba never gives a medicine dose, never diagnoses, and never submits anything on a nurse's behalf.”

These are product rules, enforced in the prompt and in code, and checked by the monthly clinician audit. Triage only returns after a silent trial graded by Ghanaian clinicians.

WHAT IS BUILT, AND THE EVIDENCE

A working prototype, tested hard, with no real users yet.

PIECE	TODAY	BEFORE THE PILOT
Monthly return from register photos	BUILT	The district's real form and register layout; data-sharing agreement
Follow-ups and Monday list	BUILT	District confirms schedules; approved WhatsApp template
Health talks with voice	BUILT	Native-speaker review; voice tried on the live number
Stock check and requisition	BUILT	The district's minimum and maximum levels
Teams, visit log and referrals	BUILT	Volunteers onboarded with their nurse's code
Disease alerts	BUILT	District confirms Ghana's 2022 IDSR list and who receives alerts
Emergency card	BUILT	Clinician review of the red-flag set; Twi and Ewe phrasings
Danger-sign checklist	OFF IN PILOT	A silent trial first
Menus in English, Twi and Ewe	BUILT	Native-speaker review
Cloud hosting	READY	Deploy (container, persistent disk, health checks)
Accounts	TO DO	Registered non-profit, Meta verification, own number

93
automated tests against a fake WhatsApp and a fake Claude

44/44
urgent cases caught by the emergency card

0
names left on a sample register after hiding, checked by OCR

40
health prompts ready for native-speaker grading in Twi and Ewe

What doesn't exist yet: real users, measured time saved, and graded answer quality in Ewe and Twi.



HOW TO BUILD AND RUN IT

On a WhatsApp test number in an afternoon.

WHAT YOU NEED

NEED	FROM
Anthropic API key	Claude Console
WhatsApp Cloud API app, number ID, token, app secret	Meta for Developers (a test number works for five phones)
Public HTTPS address	ngrok for demos, or a cloud host
GhanaNLP Khaya key	translation.ghananlp.org (voice)
ffmpeg, Tesseract	Package manager (voice; register photos)

RUN IT ON A LAPTOP

1. Run **setup.sh** once: it installs packages and says what's missing.
2. Copy **.env.example** to **.env** and paste in the keys.
3. Run **start.sh**: it starts the tunnel and serves on port 8000.
4. In Meta's dashboard, set the webhook to /**whatsapp** and subscribe to messages.
5. Message the test number and say hi.
6. Optional: **flows_setup.py** registers the native WhatsApp forms.

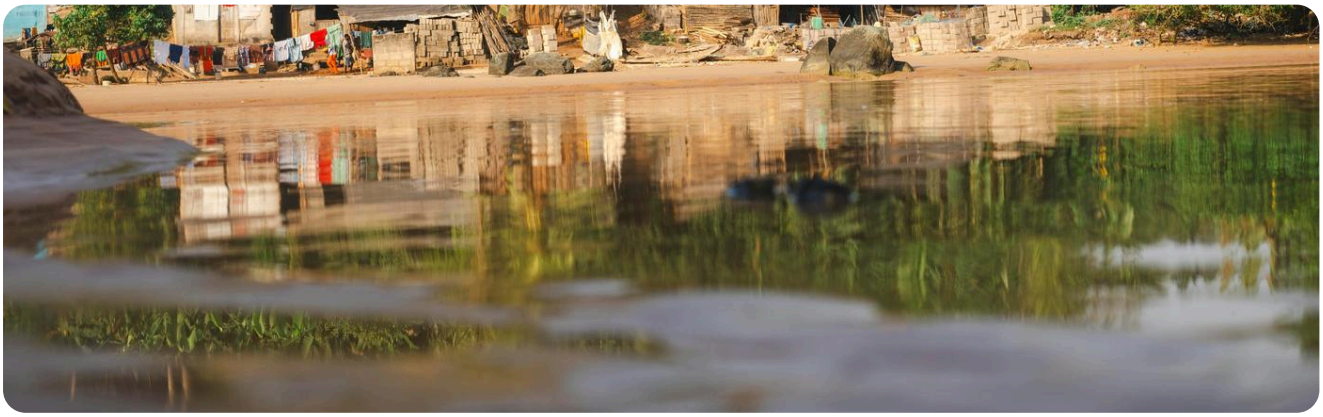
HOST IT

The Dockerfile installs ffmpeg and Tesseract and keeps the database on a disk at /data; the host checks /healthz. Configs for Fly.io (Johannesburg) and Render are included. Run one machine: SQLite lives on its volume.

```
# Fly.io
fly launch --no-deploy --copy-config
fly volumes create akwaaba_data --region jnb
--size 1
fly secrets set ANTHROPIC_API_KEY=...
META_ACCESS_TOKEN=... \
  META_PHONE_NUMBER_ID=...
META_VERIFY_TOKEN=... \
  META_APP_SECRET=...
PUBLIC_BASE_URL=https://<app>.fly.dev
fly deploy
```

CHECK IT

```
# 93 tests
python -m pytest tests
# emergency card against the red-flag set
python evals/run_red_flags.py
# is voice and name hiding ready?
curl https://<host>/health
```



BUTRE, WESTERN REGION · VILLAGE CLINICS BRING PRIMARY CARE TO PLACES LIKE THIS

CONFIGURE, HOST AND EXTEND

District rules live in plain files, not code.

SETTINGS

SETTING	WHAT IT IS
ANTHROPIC_API_KEY	Claude API key (required)
META_* (4 keys)	WhatsApp Cloud API (required)
PUBLIC_BASE_URL	Address for images and links when hosted
KHAYA_API_KEY	GhanaNLP speech, for voice
WA_TEMPLATE_DUE	Approved template for the Monday list
DASHBOARD_KEY	Protects the impact dashboard

ADD THE DISTRICT'S OWN RULES

- **Monthly return form:** report_formats/*.json lists sections, fields, consistency checks and the register's name columns.
- **Schedules:** schedules/ghana.json, confirmed by the district.
- **Stock levels:** stock_lists/chps_core.json, minimum and maximum per item.
- **A new language:** copy i18n/tw.json (for example to gaa.json for Ga), translate each line, add it to LANGUAGES. A test checks every string is translated and fits WhatsApp's limits.

CODE MAP

FILE	JOB
`app.py`	Webhook, dashboard, privacy page, Monday scheduler
`bot.py`	The conversation: menus, tasks, answers, voice
`prompts.py`	Everything the assistant says or is told
`safety.py, evals/`	Emergency card and its red-flag test set
`redact.py, register.py`	Register photos to a draft return, names hidden first
`followups.py, schedules/`	Visits due, Monday list, reminders
`stock.py, stock_lists/`	Shelf counts to a requisition
`memory.py`	Profile and summaries, identifiers filtered out
`speech.py, voice.py`	Voice notes in and out
`i18n/`	Interface text in Twi and Ewe
`whatsapp.py, flows/`	Meta API client and native forms
`alerts.py, diseases/`	Immediately notifiable disease alerts
`store.py`	SQLite: sessions, totals, follow-ups, teams, referrals
`webapp.py, static/app/`	The optional companion app

THE 12-MONTH PLAN

Ten thousand health workers in twelve months, with a gate every month.

Model cost is not the constraint: a year of Claude for 10,000 health workers is at most about $300k at list prices. Permission and trust are. So we launch with features that hold no patient data, publish results monthly, and earn each next step in public.

WEEKS 0–2

Live

- 10 nurses from our field network on the test number
- Features that hold no patient data first
- Fiscal host: an existing Ghanaian NGO

Gate: daily use, zero safety misses

DAY 30

One district

- About 25 compounds, 150 nurses and volunteers in Volta
- First public numbers
- Evaluation v1 (300 items) published

Gate: return time cut; referral arrival tracked

DAY 90

Three districts

- Volta and Ashanti, about 600 users
- Register photos on, after data protection approval
- Regional directorate sign-off

Gate: 60% weekly active; follow-ups completed up

MONTH 6

Region scale

- About 500 compounds
- National proposal to Ghana Health Service
- Silent triage trial with clinicians

Gate: outcomes hold at scale; cost per user known

MONTH 12

10,000 workers

- National path in Ghana
- A second country live with a partner
- Open-source core in use elsewhere

Gate: licences cover running costs

WHAT WE MEASURE, AND PUBLISH MONTHLY

MEASURE	DEFINITION	DAY-90 TARGET
Weekly active	Share of onboarded health workers using Akwaaba each week	60% or more
Time saved	Minutes to prepare the monthly return, with and without Akwaaba, timed in the field	A clear cut, with the spread
Referrals that arrive	Share of referrals confirmed as reaching care	Baseline at day 30, then up
Follow-through	Listed vaccine and antenatal visits marked done within two weeks of the due date	Baseline, then up
Alerts	Disease alerts drafted and time to reach the district	Same day
Language and safety	Graded Ewe and Twi answers; emergency card sensitivity; clinician audit	Published with the rubric
Cost	Claude, WhatsApp, speech and hosting per active user per month	Published from day 30

BUSINESS MODEL, COST AND RISKS

Model cost is not the constraint. Trust is.

WHO PAYS

- **Now:** API credits and one seed grant for launch, clinical review and the evaluation.
- **Month 3+:** build-and-run contracts with NGOs already running health worker programmes.
- **Month 12+:** a per-worker licence at cost plus support, paid by ministries and donors; zero-rated data from telecoms.
- **Open core:** the server is open-sourced so others can fork it; revenue comes from running it well.

Launch under an existing Ghanaian NGO's registration, keeping WhatsApp service messages free for eligible non-profits through December 2027.

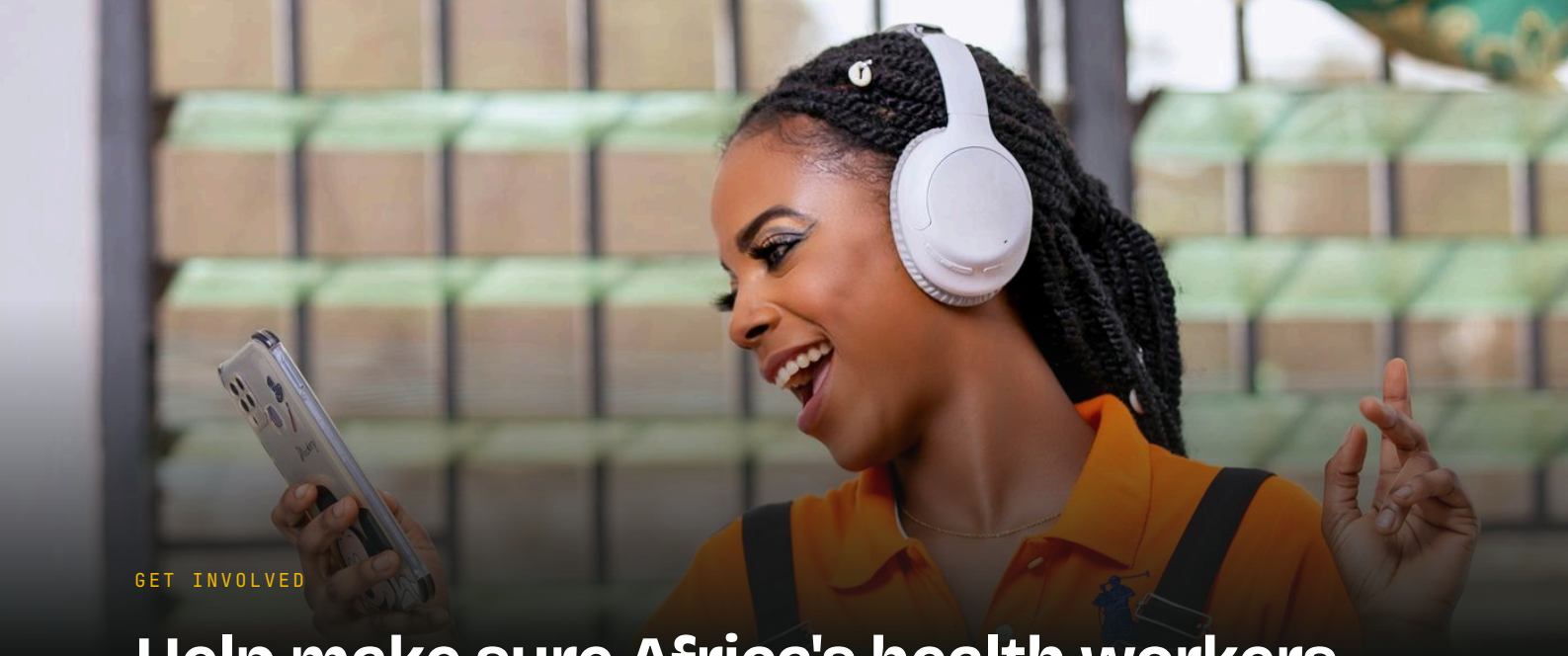
MODEL COST, ESTIMATED

$0.70–$2.50

per worker per month at Claude Sonnet 5.5 list prices ($2 and $10 per million input and output tokens), at 4 questions a working day. 10,000 workers for a year: about $84k to $300k. Test answers used 1,000 to 3,700 input and 600 to 2,100 output tokens, Twi the longest. Speech, WhatsApp and hosting are extra.

RISKS

RISK	MITIGATION
Ghana Health Service says no, or slowly	Launch with district support and no patient data; publish monthly; regional sign-off by day 90 on the evidence
Patient data in photos or lists	Names hidden before any model call; numbers not names in follow-ups; DPC registration and a district agreement first
Wrong or stiff Ewe and Twi	Paid native reviewers, weekly sample scoring, a published quality score
A health answer causes harm	No triage or doses before a silent trial; emergency card in code; monthly clinician audit
Health workers try it and drop it	Recruit through supervisors and teams; onboard in person; publish weekly activity honestly
Costs rise	Non-profit messaging exemption to Dec 2027; GhanaNLP quota; short answers; cost published
Remote founder	A paid Ghana lead from day one; the founder on the ground around launch



GET INVOLVED

Help make sure Africa's health workers aren't left behind.

Anthropic Beneficial Deployments	API credits for up to 10,000 health workers for 12 months, a safety review of the evaluation, co-publication, an introduction to the Rwanda health team
Ghana Health Service	A Volta district now; regional sign-off by day 90
A clinician or nurse	Clinical adviser: sign off prompts and rules, run the monthly audit
A native speaker	Review interface text and grade answers (paid)
A university or GhanaNLP	Co-own the evaluation; co-author the findings
A funder or NGO	A seed grant now, or a build-and-run contract from month 3
An engineer	Ask for code access

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Kwabena (KB) Badu-Antwi, founder · Jerry Mbonu, Ghana lead

SOURCES

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Akwaaba is a prototype. Screens use sample data; the Ewe and Twi text awaits native review; figures are estimates from test runs and the sources above. Photos from Unsplash (Ato Aikins, Kojo Kwarteng, Yoel Winkler, Pius Quainoo); the people pictured are not Akwaaba users.