OR-01 The village health worker's curriculum: what to teach in 300 hours

HEALING after the FALL, research library, OR-01

Researched 10 October 2026 by Claude Opus agent for THRIVING after the FALL, Book Four. Library document, unverified.

How to read this report

FO-04, SY-01 and FO-06 covered what lay healers achieved, where they did harm and the manuals they carried (THRIVING library, FO-04, SY-01, FO-06). This report asks only how a healer is made: what to teach, in what order, for how many hours, how it is examined, how it is kept alive and what is left out. Each programme is read three ways: the claim, the record and the inference. My own arithmetic and unconfirmed figures are marked [VERIFY], the owner's decisions [OWNER]. Manual design is left to OR-09 and infirmary staffing to OR-07, both forthcoming.

1. Findings

1.1 What the programmes taught and for how long

The record spans almost two orders of magnitude in training time. At one end is a Nigerian project's seven-day course. At the other is the US Special Forces medic's year. The table converts each programme to approximate classroom hours so they can be compared with the book's 300.

Programme	Pre-service training	Approx. classroom hours	Then	Source
Maradi, Niger VHW (Sanders 1985)	7 to 10 days (7 medical, 3 literacy)	60 to 80 [VERIFY]	10-day refresher every year	Lehmann and Sanders 2007
ASHA, India	23 days	about 180 [VERIFY]	phased modules	WHO 2018
Mitanin, Chhattisgarh	20 days in total	about 160 [VERIFY]	refresher at intervals	Lehmann and Sanders 2007
Nepal FCHV	18 days in two 9-day phases	about 140 [VERIFY]	refresher (length unconfirmed)	Nepal MoHP n.d.
BRAC shasthya shebika	about 4 weeks, residential	about 190 [VERIFY]	monthly refresher	BRAC n.d.
Barefoot doctor, China	3 to 6 months (some 1 to 4)	500 to 1,000 [VERIFY]	ad hoc	Lee and Kim 2018, NLM n.d.
Ajoya, Mexico (Werner)	2 months intensive	384 [VERIFY]	follow-up visits	Werner and Bower 2026

Programme	Pre-service training	Approx. classroom hours	Then	Source
Mozambique APE	4 months (about 50% practice)	about 320 in class [VERIFY]	supervision	WHO 2018
Alaska CHA/P	16 weeks in 4 sessions over 2 to 3 years	about 640 [VERIFY]	200 field hours after each session	Landon 2004, UAF 2014
Ethiopia HEW	12 months (30% theory)	about 600 in class [VERIFY]	supervision	WHO 2018
Pakistan LHW	15 months (20% theory)	about 480 in class [VERIFY]	1 day a month, 15 days a year	Lassi n.d., WHO 2018
US Army 68W combat medic	16 weeks after basic training	about 640 [VERIFY]	unit sustainment	Army.mil 2021
Special Operations Combat Medic	36 to 37 weeks	about 1,450 [VERIFY]	then SFMS 16 weeks for 18D	DVIDS 2012, NSOMI n.d.

The hours column is my own conversion at 8 hours a day and 5 or 6 days a week. The sources give months and weeks, not hours.

Three hundred hours sits between the narrow volunteer cadres (ASHA, FCHV, BRAC) and the polyvalent workers (Alaska, Ethiopia, Pakistan, Mozambique) who carry curative care alone, and the latter are the relevant comparison. Even they spread classroom time across long supervised practice: Pakistan's LHW spends 12 of 15 months mostly in the field (Lassi n.d.), and Alaska's aides log 200 field hours after each session (UAF 2014, ANTHC 2020). Lehmann and Sanders (2007) found "agreement on one matter" in the literature: continuing training is as important as the first course, and one study found it may matter more than who is selected (Ande and colleagues 2004, cited in Lehmann and Sanders 2007).

1.2 China's barefoot doctors: what three to six months bought

The claim. In Maoist accounts the barefoot doctor, a peasant chosen by the brigade and trained for a few months in Western and Chinese medicine, solved rural care. Victor Sidel carried the claim to the New England Journal of Medicine in June 1972 (Sidel 1972). I read only its bibliographic record. An NPR account says Sidel admitted quality was hard to measure while praising care where there had been none (NPR 2005).

The record. A 2018 narrative review gives a training length of 3 to 6 months, or 2 to 3 years where necessary (Lee and Kim 2018). The US National Library of Medicine gives 1 to 4 months with medical teams (NLM n.d.).

- **Selection and pay.** Trainees were selected by their villages and trained in a larger town. They were paid about half a regular doctor's monthly salary.
- **Numbers.** Almost 1.4 million served under the rural cooperative medical scheme, alongside about 23.6 million medical assistants. The review gives no year for these figures (Lee and Kim 2018).
- **Outcomes.** Infant mortality fell from about 200 to 34 per 1,000 between 1962 and 1982. The same period brought water, vaccination, campaigns against schistosomiasis and a cooperative insurance scheme, so the fall cannot be credited to the training [VERIFY].

The manual is the most concrete trace of the curriculum.

- **The 1970 Shanghai handbook** reviewed by Lee and Kim ran to 744 pages in 21 chapters. Chinese herbal medicine took over 100 pages. Western drugs were confined to a 79-page appendix.

- **The English "Barefoot Doctor's Manual"** was a United States government translation of a 1970 Hunan manual. It was published by the National Institutes of Health in 1974 (xiv, 960 pages) and reprinted by Running Press in 1977 (942 pages) (HathiTrust n.d., Wellcome Collection n.d.).

No three-month course masters a 900-page book. The manual was a reference, and the course taught a working core.

The examination. The brief's lead says that in 1985 about a third of barefoot doctors passed the examination that converted them into village doctors. I could not confirm that figure.

What the national statistics do show (NBS 2009):

1985	People
Village doctors (the title earned by examination)	643,022
Health aides	650,072
Total in post	1,293,094

The table's footnote says village doctors before 1985 "referred to barefoot doctors". A search summary describes about 0.64 million who passed the qualifying examination receiving the village doctor certificate.

So about half of those still in post in 1985 passed. Against a peak workforce of 1.4 million or more, the share is nearer to between a third and a half [VERIFY]. The 1980 row of the same table does not reconcile and may contain a transcription error (NBS 2009).

The inference. The barefoot doctor model shows that a short course can staff a whole countryside quickly. It also shows what happens without refreshers, without an exit examination and without a check on prescribing.

By the 2000s, rural clinics staffed partly by the barefoot doctors' successors were injecting freely. A study of 20,125 prescriptions from 680 village clinics in ten western provinces found:

- injections in 22.93 per cent of prescriptions
- antibiotics in 48.43 per cent
- village doctors with full-time medical education were less likely to inject (odds ratio 0.65) (Dong 2011, secondary summary).

Zhang and Unschuld (2008) frame the whole history as China's long struggle to give peasants any care at all. In 1964, by their account, health spending for 8.3 million state-covered urban citizens exceeded that for 500 million peasants.

1.3 Jamkhed: chosen by the village, trained every week

The claim. The Comprehensive Rural Health Project at Jamkhed, Maharashtra, founded by Mabelle and Rajanikant Arole in the early 1970s [VERIFY], holds that the right person is more important than the right syllabus. On this view the village, not the programme, should choose her. She is usually a low-caste woman with little schooling.

The record. A 2024 focus-group study of 18 village health workers (VHWs) gives the most concrete detail I could reach (Kaysin 2024).

Feature	What the study found
Selection	Village elders choose, with CRHP support. Patience, compassion and willingness to drop caste were valued. Participants largely rejected a formal education requirement.

Feature	What the study found
Schooling	Senior VHWs averaged 1.6 years (range 0 to 6). Junior VHWs averaged 4.7 years.
Years of service	Senior VHWs averaged 28.9 years (range 23 to 34). Junior VHWs averaged 12.2.
Initial training	"Intensive" at the centre. Length not stated.
Continuing training	Weekly, at the CRHP centre, for 15 to 35 VHWs. Led by a staff facilitator and a senior VHW.
Curriculum	Three areas: knowledge, skills, and personal development (self-esteem, public speaking, equity).
Methods	Skits, puppets, songs, anatomical models, hospital observation and a goat dissection. Learning in the field beside the mobile health team was rated most effective.

A case study reports that about two-thirds of the VHWs served for more than two decades, and that most attrition was by death or moving away (Olivas n.d.).

On outcomes, CRHP's own monitoring reports infant mortality of 176 per 1,000 in 1971 and 18 in 2016 in project villages, against 41 for India (Kaysin 2024). Post-neonatal deaths were 30 per cent lower than in control villages between 1994 and 2007 (Olivas n.d.). These are the project's own figures, not an independent evaluation.

I could not find the length of the initial course, and I could not read Arole and Arole's 1994 book. A secondary summary says over half of initial training time goes to personal development [VERIFY].

The inference. Jamkhed's lessons concern selection and continuing training, not the first course. Village selection produced workers who stayed for decades, against Alaska's 20 to 33 per cent annual loss (section 1.4). And training never stopped: a weekly session for a working lifetime, the "one day a week" model that Helping Health Workers Learn draws from Chimaltenango, Guatemala (Werner and Bower 2026).

1.4 Alaska: training in blocks, while already working

Alaska's Community Health Aide Program is the closest modern analogue to the book's village. About 500 aides work in 178 communities. In most of them the aide is the sole provider, with the nearest physician hundreds of air miles away (Landon 2004).

Training structure.

- **Hired before trained.** Aides are hired first and complete 16 weeks of basic training "on an ongoing basis over the first two to three years in their position" (Landon 2004).
- **Four sessions.** The University of Alaska Fairbanks catalogue gives four sessions of four weeks, each followed by a field component in the village clinic. The certificate carries 34 credits: four sessions of 8 credits and a 2-credit preceptorship, with a C minus or better required in each (UAF 2014).
- **Field hours.** A programme presentation, read only as a search summary, gives:
  - Session I: 4 weeks, then 20 patient encounters
  - Session II: 4 weeks, then 200 hours and about 60 patients in the village clinic
  - Sessions III and IV: 3 and 4 weeks, each followed by 200 hours (ANTHC 2020).
- **Entry and renewal.** Entry requires an eighth-grade reading and mathematics level on a standard test and an emergency trauma technician course. Certification lasts two years and needs 48 continuing education credits to renew (YKHC n.d., secondary).

- **Final certification.** The curriculum ends with a skills checklist, a supervised clinical preceptorship and a statewide Community Health Practitioner examination (UAF 2014). Aides work from the Community Health Aide Manual (CHAM) and decide on treatment, stabilisation and transport together with a physician by telephone (ANTHC n.d.).

Attrition. In 1988 the programme lost about a third of its workforce, over 151 positions. New funding in the early 1990s improved pay and training capacity and attrition fell, but by fiscal year 1999 it was back at 20 per cent a year (Landon 2004). Each departure costs years, because the untrained replacement must serve while learning. Interviews in 15 villages named five retention factors: co-worker support, timely basic training, a fully staffed clinic, community support and family support (Landon 2004). MI-12 draws the rule never to leave one healer alone (THRIVING library, MI-12).

The inference. Alaska's structure suits a village that cannot spare its healer for months: short residential blocks, logged village practice between them, a manual on the desk, a voice at the end of a line, an examination and renewal every two years. After the Fall the telephone becomes a runner or a radio to the district (OR-07, forthcoming). The rest transfers whole.

1.5 The national cadres: what short courses buy

BRAC, Bangladesh. The shasthya shebika takes a residential basic course of about four weeks, then a monthly refresher, with extra training for tuberculosis, pneumonia or safe motherhood. Each covers about 250 households (BRAC n.d., secondary summary).

The brief's figure of three weeks was not confirmed. BRAC's earlier oral rehydration campaign trained in five days and paid by results on a resample (THRIVING library, FO-04). Dropout was costly: 44 per cent in one study area and 32 per cent in another programme, read through garbled OCR (BRAC 1997) [VERIFY]. Shebikas left for lack of time, lack of "profit" and family disapproval, each loss costing about US$24 in training and supervision (Khan and colleagues 1998, cited in Lehmann and Sanders 2007).

Nepal. Female community health volunteers are chosen by Mothers' Groups for Health with local facility staff. They receive 18 days of basic training in two phases of nine days (Nepal MoHP n.d., secondary).

Pakistan. Since 1994 about 100,000 lady health workers (LHWs) each serve about 1,000 people. Training lasts 15 months: three in the classroom, then 12 of three weeks' field work and one week's classroom a month. Afterwards come one day of continuing education a month and 15 days of refresher a year, one supervisor per 25 workers with a monthly checklist visit, and pay of about US$180 a month (Lassi n.d.). Entry requires community recommendation and, by one account, eight years of schooling, and a 2008 exchange confirmed that the 15 months include the classroom three (WHO Bulletin 2008, secondary).

Ethiopia and Mozambique. The WHO guideline gives Ethiopia's health extension workers 12 months (30 per cent theory, 70 per cent practice) and Mozambique's agentes polivalentes elementares (APEs) 4 months (about half and half) (WHO 2018).

Before Mozambique revitalised the programme in 2010, APEs in some districts had only a one-week course on treating sick children (RAcE 2017, secondary). A 2024 study of 148 APEs in Zambezia found only 48 per cent restocking their kits monthly, with stock-outs from 19 to 92 per cent depending on the item (secondary summary). Training without supply is training wasted.

Community case management of sick children. The WHO and UNICEF course "Caring for the sick child in the community" was run in Yemen in six-day courses, for example at Dhamar from 6 to 11 November 2010 with 24 workers. Clinical practice sessions covered counting breaths, rapid malaria tests, mid-upper-arm circumference (MUAC) and amoxicillin (WHO EMRO 2010, secondary).

Six days, roughly 48 hours, is the size of one well-built module for one group of conditions.

1.6 The military medic as the ceiling

The US Army combat medic (68W) course runs 16 weeks at Fort Sam Houston after basic training. It assesses emergency and combat trauma care and ends with an eight-day field exercise (Army.mil 2021).

The Special Operations Combat Medic course was lengthened from 24 to 36 weeks in 2012, taking in blocks once taught only to the Special Forces medical sergeant. That sergeant's own course was cut to 16 weeks at the same time (DVIDS 2012, secondary). A Navy page gives 37 weeks, beginning with a five-week emergency medical technician block (NSOMI n.d., secondary). The Special Forces medic therefore trains for about a year in all [VERIFY].

The medic's course is a ceiling, not a model. Its extra hours buy invasive airway work, intravenous access, injected drugs and clinical rotations [VERIFY], exactly what the village healer should not do (section 1.11). The 68W's roughly 640 classroom hours [VERIFY] serve a narrower case mix than a village sees, backed by total supply, evacuation and a physician chain. The village healer gets half the hours and none of the chain, so she is taught to recognise, stabilise and decide, not to intervene.

1.7 Does length matter? What the WHO review found

The WHO guideline on community health worker programmes commissioned a systematic review of whether longer pre-service training gives better results (WHO 2018). It found eight eligible studies.

- **Comparison trials.** All the trials compared very short durations, days or hours. Two suggested that more training (half a day against half an hour) improved screening performance.
- **Cross-sectional studies.** Three were equivocal. One found longer training linked with greater competency, one found mixed effects, and one found an inverse relationship.
- **Randomised trial.** A cluster trial found no difference in the attempts needed to pass the course examination between groups trained for different lengths.
- **Review of reviews.** This found that training improves knowledge and skills, but that "training duration had no consistent effect" on effectiveness.

The guideline therefore declined to set a global minimum. Instead it lists what should set the length (Recommendation 2): scope of work, competencies required, prior skills, the trainees' circumstances, training capacity and the conditions of practice.

It adds two points that bear directly on the book.

- **Isolation argues for more training.** Workers in isolated places with limited supervision "may require a longer initial duration of training".
- **Phased training is endorsed.** It approves training in modules "delivered after some intervals of practice".

It also states that adult learning methods and design "may be equally or even more important" than length (WHO 2018).

The inference. Three hundred hours is defensible if it is competency-based, phased and followed by practice and refreshers. It is not defensible as a single block followed by nothing. Isolation after the Fall argues for the upper end of the range for the core skills, and for ruthless exclusion of everything else.

1.8 Hours per competency

No source I read gives a measured "hours to competence" for any village skill. What exists are the lengths of courses that taught one skill or one group of skills, and the measured gains.

Competency	Course size found in the record	Measured result	Hours proposed here
Oral rehydration solution: making and teaching	BRAC 5 days for teachers. Mothers taught at home in under an hour	12 million households taught (THRIVING library, FO-04)	12
Sick-child danger signs, breath count, MUAC, amoxicillin	WHO and UNICEF community course 6 days (WHO EMRO 2010)	IMCI danger signs carry odds of death of 5 to 10 (THRIVING library, MA-07)	40 across sections
Newborn resuscitation (Helping Babies Breathe)	1-day course	Ventilation on a mannequin from 5% to 97% (Bang 2016)	10
Normal birth with clean technique	Part of LHW and HEW courses (months)	No hours figure found	16
Wound care and simple closure	Part of 68W and CHA sessions	No hours figure found	16
Bonesetting without gangrene	1-day course for traditional bonesetters	Gangrene amputations from 25 to 7 (THRIVING library, SY-01)	6
Malaria microscopy	7-day courses for laboratory staff in Nigeria	Slide detection agreement only 48.9% to 56.8% (Nigeria 2024, secondary)	0 (district module)
Injections	Not taught (section 1.11)	Overuse 22.93% of prescriptions (Dong 2011)	0

The microscope is the clearest case for exclusion. After a seven-day course, trained laboratory staff agreed with experts on whether a slide was positive barely more than half the time. Agreement on species rose only from 27.9 to 39.2 per cent, and on parasite counts from 0 to 25 per cent (Nigeria 2024, secondary summary). A survey found 93 per cent agreement where quality assurance existed and 77 per cent where it did not (same summary).

A microscope in the village dispensary is useful only with a long apprenticeship and a reference reader at the district. It does not belong in the 300 hours.

Suturing is the other trap. The record shows that clean, fresh, simple wounds close safely, and that most contaminated wounds should not be closed at once (THRIVING library, WO-03). The hard skill is the decision, not the stitch. The 300 hours teach the decision, cleaning, irrigation, dressing and delayed closure. Stitching is practised on tissue and supervised in the apprenticeship before it is done alone.

1.9 How fast skills decay, and what interval holds them

The decay curve is now well measured for resuscitation, and it is fast.

Study	Who	Measured decay
Riggs 2019 (34 studies, 35,421 people)	Adult lay rescuers	CPR skills “deteriorated within 3 months, then plateaued from 3 to 6 months”. Authors propose refreshers every 3 to 6 months.

Study	Who	Measured decay
Bang 2016 (835 attendants, 71 facilities, India and Kenya)	Birth attendants after Helping Babies Breathe	Resuscitation pass rate 99% after training, 81% at a mean 6.7 months. Knowledge stayed at 99%.
Draiko 2019 (South Sudan)	Health workers after Helping Babies Breathe	Knowledge 97% after training, 84.5% at 3 months, 69.4% at one year. Skills about 77% at one year (secondary) [VERIFY].
THRIVING library, SY-01	Lay first aiders (Cochrane 2025)	Gains lasted about a month
THRIVING library, FO-06	Ship officers (Oldenburg 2014)	Knowledge 70.7% with refreshers every 2 years

Four findings matter for the curriculum.

- **Hands forget before heads.** The Indian and Kenyan attendants kept their knowledge and lost their ventilation skill (Bang 2016), so written tests are a poor guide to whether a healer can still act.
- **Short, frequent practice holds what long refreshers do not.** At Haydom in rural Tanzania, Mduma and colleagues kept a newborn simulator on the labour ward. They ran three minutes of paired practice each week and a 40-minute retraining each month. In the year after compared with the year before (4,814 and 4,894 deliveries), 24-hour newborn mortality fell from 11.1 to 7.2 per 1,000 ($p = 0.040$). Stimulation rose from 14.5 to 16.3 per cent and bag-mask use fell from 7.3 to 5.9 per cent (Mduma 2015). This was a before-and-after study with no concurrent control, but it agrees with MA-05's finding that the gain came from drying and stimulating (THRIVING library, MA-05).
- **The habit holds the skill.** In Nepal, 137 health workers were followed for six months. Those who did a daily bag-and-mask skill check were five times as likely to keep the skill (relative risk 5.1, 95% CI 1.9 to 13.5). A self-evaluation checklist after each birth gave a relative risk of 3.8 (KC 2017).
- **Feedback helps.** In Uganda, adding video debriefing to standard training improved retention over six months in a cluster trial of 86 attendants in 26 facilities (Odongkara 2020, secondary summary).

The older programmes reached the same conclusion without the measurements.

Programme	Refresher schedule
Maradi, Niger	10 days a year (Lehmann and Sanders 2007)
Nigeria	Twice a year (Lehmann and Sanders 2007)
Nepal (Curtale 1995)	Three extra days a year improved quality and use (Lehmann and Sanders 2007)
BRAC	Monthly
Pakistan LHW	One day a month and 15 days a year
Jamkhed	Weekly, for decades
Alaska	Recertification every two years with 48 credits

The inference. The refresher cycle should mirror the decay curve: minutes of hand drill daily or weekly, a training day monthly, observed skill stations quarterly, a longer course yearly and recertification every two years.

1.10 Selection, examination, dismissal and attrition

Selection. WHO suggests four criteria: education suited to the task, membership of and acceptance by the community, gender equity (preferring women where that aids acceptability), and personal attributes such as integrity and a

public service ethos. It advises against age as a criterion, and strongly against marital status, all on very low certainty evidence (WHO 2018).

The record is less tidy. Lehmann and Sanders (2007) found "direct and meaningful participation" in selection rare. In India's Mitanin programme bureaucrats, chiefs and dignitaries usually decided, in a three-country study health staff did, and village committees were captured by elders and men. Literacy requirements make workers younger, while older ones are often more respected (Bhattacharyya 2001, cited in Lehmann and Sanders 2007). In the Solomon Islands those trained before 20 left more often, frequently on marriage (Chevalier 1993, cited in Lehmann and Sanders 2007). Jamkhed's near-illiterate, village-chosen women served for decades (Kaysin 2024), and Alaska's aides invited by a respected person outlasted those who answered an advertisement (Landon 2004).

Examination. Three models appear.

Model	How it works	Source
Gate examination	China's 1985 test divided the cadre into certified village doctors and uncertified health aides	NBS 2009
Continuous competency	Alaska's skills checklist, logged practicum, preceptorship and statewide exam, renewed every two years	UAF 2014, YKHC n.d.
Outcome audit	BRAC paid by results on a 10 per cent resample of households	THRIVING library, FO-04

WHO suggests competency-based formal certification for workers who have "demonstrated meeting predetermined competency standards", proven by practical skills rather than hours attended (WHO 2018).

Dismissal. I found no programme with a published rule for dismissing a lay health worker for unsafe practice. Alaska's two-year recertification is the nearest thing, since an aide who does not renew cannot practise. In the large national programmes, dismissal appears in the record mainly as attrition or as patronage replacement [VERIFY].

Attrition. Reported rates run from 3.2 to 77 per cent: 30 per cent over nine months in Senegal, 50 per cent over two years in Nigeria. Community-financed workers left at twice the rate of salaried ones (Bhattacharyya 2001, cited in Lehmann and Sanders 2007), and supervision can cost 40 per cent of the worker's own cost (Gilson 1989, cited there). WHO strongly recommends pay in proportion to the work, and advises against paying mainly by performance (WHO 2018).

The inference. For a village of 300, the choices that matter are these:

- Choose by open village assembly, not by the headman. [OWNER]
- Train two, not one. [OWNER]
- Prefer adults past the age of marriage and migration, rather than the brightest teenager. [OWNER]
- Pay in a form the village can sustain. [OWNER]
- Make recertification, not appointment, the licence to practise. [OWNER]

1.11 What must never be in the 300 hours

The record names the harms that a little training produces. SY-01 lists them in full (THRIVING library, SY-01). What follows is the consequence for the syllabus.

1. Injections of any kind, and intravenous lines.

- **Why not:** this is the best-documented lay harm and a professional one too (THRIVING library, SY-01). The Western China clinics injected in nearly a quarter of prescriptions (Dong 2011). FO-04 found that unpaid, unsupervised lay healers turn to selling injections (THRIVING library, FO-04).
- **When it may come in:** injection may be taught at the district (OR-07, forthcoming). Only after hygiene and sterilisation have been certified, and only for named drugs. [OWNER]
- **Order:** in no version of this curriculum does injecting come before clean hands, boiling and one syringe per person (THRIVING library, WO-12).

2. Surgery beyond simple wound care. This means no incision of deep abscesses, no amputations, no reduction under force beyond the book's named manoeuvres, no instrument delivery and no manual removal of the placenta, which belongs to the district (THRIVING library, SY-01) [OWNER].

3. The microscope. It is a district module of weeks, not hours (section 1.8).

4. Antibiotics outside the book's short list. Training does not fix overprescribing (THRIVING library, SY-01), and the stock is finite (THRIVING library, IN-05).

5. Diagnosis by disease name, and anatomy as a separate subject.

- Teach by sign and decision. Fold anatomy into the problems where it matters, as Helping Health Workers Learn advises (Werner and Bower 2026).
- A trainee who learns names learns to label. A trainee who learns danger signs learns to act.

6. Tight splints, snakebite cuts and tourniquets for bites, and burn pastes. These are the documented lay harms in SY-01. The syllabus teaches the safe act and names the harmful one only to forbid it.

7. Anything the village cannot supply. Teaching a skill that needs a drug, an instrument or a referral the village does not have breeds false confidence.

1.12 The proposed 300-hour syllabus

Design rules, each drawn from the record above: phased blocks with supervised village practice between them (Alaska, HHWL, WHO Recommendation 2). Hygiene and danger signs before any treatment. Recognise, then decide, then treat. At least half the hours hands-on, aiming at 60 per cent (WHO Recommendation 4, and the Ethiopian and Pakistani ratios). Prevention, treatment and community counted and balanced, classes of 12 to 15 (Werner and Bower 2026), and observed skill stations at the end of every block.

Pace and calendar. The pace is 8 hours a day, 6 days a week, as in Werner's worksheet (Werner and Bower 2026). Each 72-hour block is therefore 9 teaching days (1.5 weeks). Between blocks come 4 to 8 weeks of village practice with a log. The whole runs over 5 to 8 months [OWNER: season and harvest calendar].

Block	Subject	Hours	Library basis
1. The clean hand and the danger sign	The healer's role, limits, consent, confidentiality, the refusal list	6	SY-01, MI-12
	Hand washing, soap, water, latrines, food safety	8	HY-01
	Cleaning and sterilising instruments: boiling, pressure cooker, dry heat	10	WO-12

Block	Subject	Hours	Library basis
	Examination by hand: breaths, pulse, capillary refill, temperature, MUAC, weight	16	FO-07
	Danger signs in newborn, child, pregnancy and adult. Triage and the decision to move	12	MA-07, MA-01
	Records: case book, births and deaths, stock	6	FO-06
	First aid: pressure on bleeding, positioning, 20 minutes of cool water on burns, loose splints	10	SY-01
	Skill stations and review	4	
	Block total	**72**	
2. The killers of children	Diarrhoea: making, testing and teaching rehydration solution, feeding through illness	12	FO-04, MA-07
	Pneumonia: counting breaths for a full minute, chest indrawing, amoxicillin by weight	12	MA-07, IN-05
	Fever and malaria: recognition, rapid tests where salvaged, when to move	8	
	Malnutrition: MUAC, oedema, refeeding	8	MA-07
	Newborn: warmth, skin to skin, cord left clean and dry, breastfeeding, the seven signs	8	MA-05
	Medicines: dosing by weight, oral syringes, stock rotation, expiry	12	SY-01, FO-06, IN-05
	Home visits, household teaching, health talks	8	
	Skill stations and review	4	
	Block total	**72**	
3. Birth and wounds	Normal birth: clean kit, companion, upright positions, outer time limits, moving early	16	MA-01

Block	Subject	Hours	Library basis
	Newborn resuscitation: dry, stimulate, bag and mask, stop at about 20 minutes	10	MA-05
	Bleeding after birth: recognition, uterine massage, moving	6	MA-01
	Pregnancy visits and danger signs, family planning	10	MA-01
	Wounds: cleaning, irrigation, dressing, which not to close, delayed closure, stitching practised on tissue only	16	WO-03
	Fractures, sprains, splints and the gangrene check	6	SY-01
	Skill stations and review	8	
	Block total	**72**	
4. Adults, epidemics and the village	Adult fever, cough over two weeks, tuberculosis recognition and supervised treatment	8	
	Epidemics: counting cases, isolation, water treatment, cholera rehydration	10	
	Eyes, skin, teeth, pain	8	
	Mind and grief: the dying, the bereaved, the healer's own limits	8	MI-12
	Chronic illness, raised blood pressure where a cuff exists	4	
	The book's graded plant remedies, poisoning, and how to refuse	6	
	Teaching households, the healer as teacher	6	
	Referral notes, stock, records review	4	
	Integrated case simulations: mixed cases end to end	14	
	Review	4	
	Block total	**72**	

Block	Subject	Hours	Library basis
Final certification	Oral and picture test (2 h), 10 skill stations (6 h), observed real cases (4 h)	12	WHO Recommendation 5
Total		**300**	

Balance. Roughly 70 hours go to prevention and hygiene, 70 to recognition and examination, 100 to treatment and procedures, 30 to community, records and the healer's role, and 28 to assessment. This is my own allocation [VERIFY]. Hands-on hours should total at least 170 of the 300 [OWNER].

Village practice between blocks. Each interval requires a logged minimum before the next block opens:

After	Logged minimum
Block 1	20 examinations with breaths counted and danger signs checked
Block 2	40 encounters, of which at least 10 are sick children and 10 are household teaching visits
Block 3	60 encounters, including any births attended beside the senior attendant

These numbers echo Alaska's 20 encounters after Session I and about 60 after Session II (ANTHC 2020). They are not validated targets [VERIFY].

What follows certification (Protocols D and E): six months of supervised probation, weekly drills, a monthly day, quarterly skill stations, an annual week and recertification every two years.

2. Evidence grades

Curriculum element	Grade	Basis
Training lay workers for defined tasks, with supervision and supply, reduces child deaths	A	Lewin 2010 via FO-04, Rowe 2018 via SY-01
Competency-based training and certification	B	WHO 2018 (very low certainty), Gilroy and Winch via Lehmann and Sanders 2007
Longer pre-service training gives better outcomes	B against	WHO 2018 review: no consistent effect, one inverse finding
Hand skills decay within 3 to 6 months	A	Riggs 2019 (34 studies), Bang 2016
Brief, frequent on-site practice holds skills and may cut deaths	B	Mduma 2015 (before and after), KC 2017, Odongkara 2020
Monthly or weekly continuing training	B	Pakistan, BRAC, Jamkhed programme records
Community selection improves retention	C	Jamkhed, Landon 2004, consensus in Lehmann and Sanders 2007

Curriculum element	Grade	Basis
Salary rather than volunteering reduces attrition	B	Bhattacharyya 2001 via Lehmann and Sanders 2007, Landon 2004
Payment mainly by performance	D	WHO 2018 advises against it, BRAC used it successfully for one task (FO-04)
Printed manual alone, without training	X	Rowe 2018 via SY-01, FO-06
One-off training never refreshed	X	Lehmann and Sanders 2007, Riggs 2019, Bang 2016
Teaching injections to lay workers without sterilisation control	X	Dong 2011, SY-01
Microscopy in a short course	X at 300 hours	Nigeria 2024 secondary

3. Means ledger

Rung	What the curriculum can be	What it changes
Hands	An oral core: the danger signs, counting breaths, rehydration solution, warmth for the newborn, pressure on bleeding. Taught by a healer to every household in a few hours	The household recognises danger and calls early. The rehydration and newborn gains begin here (FO-04, MA-05)
Hearth	The household carer: rehydration solution measured with a marked vessel, wound washing with boiled water, a clean birth kit. About 6 to 12 hours of household teaching [VERIFY]	Prevention and first response. No diagnosis
Garden and still	A hamlet first-aider trained in Block 1 only (72 hours): sterilising by boiling or pressure cooker, first aid, danger signs, records	Clean technique and early recognition. Sends for the village healer
Village dispensary	The full 300-hour healer, two per village, with the manual, a log, a newborn mannequin and a short drug list	Treats the commonest killers of children, attends normal births, manages wounds, decides who must move
District infirmary	Trainers, examiners and the apprenticeship. Advanced modules: microscopy, injection, suturing alone, complicated birth (OR-07, forthcoming)	Certification, recertification, supervision, the referral end of every protocol
Hospital (before the Fall)	Combat medic 16 weeks, nurse years, physician over a decade, with full supply and evacuation	The reference: more hours buy invasive skills and a wider case mix, not better judgement at the bedside of the commonest cases

4. Harm test

How the curriculum itself can kill or maim:

- **The confident amateur.** A trainee taught to treat before being taught to recognise danger delays moving the patient who needed it. This is the commonest lay harm after unsafe injection (THRIVING library, FO-04). Remedy: sequence. Danger signs come in Block 1, treatment in Block 2.
- **Skill decay unnoticed.** Knowledge tests stay high while hand skills fall to about 80 per cent in six months (Bang 2016). Remedy: test hands, not heads, at each refresher.
- **Overprescribing.** Short training raised correct care in West Bengal by 7.9 points without reducing overuse (THRIVING library, SY-01). Remedy: a short drug list, stock counted against the case book, and a monthly review of every antibiotic course.
- **The needle.** Taught too early, or taught at all without sterilisation, it spreads blood-borne infection (THRIVING library, SY-01, WO-12). Remedy: exclusion (section 1.11).
- **Selection by patronage.** A headman's relative who cannot be dismissed. Remedy: assembly selection and recertification [OWNER].
- **The lone healer.** Burnout, error and departure follow isolation (THRIVING library, MI-12, Landon 2004). Remedy: train two, and keep a district peer group.
- **The examination as a gate.** A strict examination can leave a village with no healer at all. In China half the cadre was left uncertified in 1985 (NBS 2009). Remedy: a failed candidate keeps working within Block 1 tasks while retraining [OWNER].

Who must never be trained: a person the village does not trust, a person who sells medicines for profit, and a person who will not accept supervision [OWNER].

Signs that the programme is going wrong:

- rising use of the drug stock without rising case numbers
- deaths at home of patients who were seen and not moved
- failure at the quarterly skill stations
- a healer who stops writing in the case book.

What to do: retrain the failed skill, suspend that skill until retested, and review every death (THRIVING library, MI-12).

Historical cases of harm: injection overuse in China's village clinics (Dong 2011), reused needles and bonesetter gangrene (THRIVING library, SY-01), and unpaid workers turning to drug selling (THRIVING library, FO-04).

5. Red flags

These are the signs the syllabus must burn in, because each means death or disability without what the village cannot give. They are taught in Block 1 and repeated in every refresher.

- **Child:**
  - cannot drink or breastfeed
  - vomits everything
  - convulsions
  - unusually sleepy or limp
  - chest indrawing with a danger sign
  - MUAC under 115 mm, or oedema of both feet (THRIVING library, MA-07)
- **Newborn:** any of the seven signs. Not breathing after drying and stimulating, and not responding to ventilation (THRIVING library, MA-05).
- **Birth:**

  - labour past the outer limits
  - bleeding that does not stop with uterine massage
  - fits
  - the baby's arm or cord first (THRIVING library, MA-01)
- **Adult:**
  - capillary refill over 3 seconds with cold hands
  - no radial pulse
  - confusion with fever
  - a rigid abdomen (THRIVING library, FO-07)
- **Wound:**
  - spreading redness with fever
  - a crackle under the skin
  - a black or numb limb below a splint (THRIVING library, WO-03, SY-01)

What to do anyway. Send the runner or the radio call to the district at once. Do the safe first act from the protocol. Keep the patient warm, hydrated if able to swallow, and accompanied.

Where moving is impossible or futile, the curriculum must teach honest comfort:

- sit with the patient
- control pain with what the book allows
- keep the mouth moist
- let the family stay
- say plainly what is happening.

Block 4 gives 8 hours to this. It is not a lesser skill.

6. The case against

The romance of the lay healer. China's fall in infant mortality came with water, vaccination, mass campaigns and collective insurance, so the training cannot claim it [VERIFY]. Zhang Zikuan, cited by Lee and Kim (2018), held that barefoot doctors lacked "high-quality medical skills", and the injecting clinics that succeeded them support the worry (Dong 2011). Jamkhed's figures are its own monitoring (Kaysin 2024). Lehmann and Sanders (2007) warn that small projects succeed where national ones fail because the small ones can supervise.

Supervision is the hidden cost. Lehmann and Sanders (2007) report supervision as "among the weakest links" in national programmes, often irregular or absent. It can cost 40 per cent of each worker's cost (Gilson 1989, cited there). A 300-hour course without a district able to supervise will decay into the West Bengal pattern: more knowledge, unchanged overuse (THRIVING library, SY-01).

The romance of the hospital. The opposite critique holds that nothing short of a nurse's or medic's training is safe. The WHO review's finding that training length has no consistent effect on competence answers this in part (WHO 2018). The pre-antibiotic record of trained midwives halving maternal death answers it in part too (THRIVING library, MA-01). The counterfactual after the Fall is no care at all (THRIVING library, SY-01).

The evidence for refresher intervals is thin. Riggs and colleagues called their 3-to-6-month interval provisional (Riggs 2019). Mduma's mortality result has no concurrent control (Mduma 2015). No trial has compared refresher schedules for a generalist village worker.

Three hundred hours is my synthesis, not a tested course. No programme I found taught exactly this content in exactly these hours and measured the result. The syllabus is an inference from the programmes that ran [VERIFY].

7. 10-line summary

1. Training length alone does not predict competence. WHO's review found no consistent effect and one inverse finding.
2. Polyvalent workers in isolated places trained for 4 to 15 months, mostly as supervised practice between short classroom blocks.
3. Alaska trains its sole village providers in 16 weeks spread over 2 to 3 years while they already work, with 200 field hours after each session.
4. Hand skills decay within 3 months and fall to about 80 per cent passing by 6 to 7 months, while knowledge stays high.
5. Three minutes of weekly practice and 40 minutes a month coincided with fewer newborn deaths at Haydom.
6. Village-chosen, older, salaried and paired workers stay. Young, unpaid, solitary ones leave, at up to 77 per cent.
7. About half of China's barefoot workforce in post in 1985 passed the village doctor examination. The brief's "a third" was not confirmed.
8. Injections and microscopy do not belong in a 300-hour course: the first spreads harm, and the second is not learned in a week.
9. Sequence matters: hygiene and danger signs first, treatment second, procedures last.
10. A 300-hour course in four blocks, with logged practice, a final skill examination and a refresher cycle, is the defensible design.

8. Open questions

- How long was Jamkhed's first course, and what did Sidel report of barefoot doctor training? Arole and Arole (1994) and Sidel (1972) must be read in full.
- Did China's 1985 examination have a pass rate, or only a count of certificates?
- What refresher interval holds a generalist's whole skill set, not just resuscitation? No trial was found.
- How many hours does any village competency take? The record gives course lengths, not learning curves.
- How is an unsafe healer dismissed without leaving the village empty? No programme published a rule.
- Should the course assume literacy (Pakistan) or not (Jamkhed)? The answer shapes the manual (OR-09, forthcoming).
- Can a senior village healer run the apprenticeship, as Jamkhed's senior VHWs did?

9. Sources to read in full

1. Werner and Bower, Helping Health Workers Learn (1982, 2nd edition 2026), chapters 3 to 5.
2. WHO 2018 community health worker guideline, Recommendations 1 to 6 and their evidence.
3. Lehmann and Sanders 2007, Community health workers: what do we know about them?
4. Landon and colleagues 2004, retention and attrition of Alaska's health aides.
5. Arole and Arole 1994, Jamkhed (not read).
6. Bang and colleagues 2016, Helping Babies Breathe knowledge and skills over time.
7. Mduma and colleagues 2015, frequent brief on-site simulation at Haydom.
8. Sidel 1972, The barefoot doctors of the People's Republic of China (not read).
9. The Alaska Community Health Aide Manual and CHAPCB Standards and Procedures (not reached).

10. At the bedside after the Fall

The household.

- **Minimum:** one adult who knows the danger signs, can make rehydration solution in a marked vessel, keeps a newborn warm skin to skin, presses on bleeding and cools a burn for 20 minutes.

- **What it needs:** a few hours of teaching from the village healer, a marked litre vessel, salt, sugar, soap and a clean cloth.
- **Records:** none.
- **First failure to expect:** forgetting. Household knowledge fades as fast as the healer's. The healer reteaches at each visit.

The village of 300.

- **Minimum:** two people trained in the 300-hour course, chosen by assembly [OWNER], working from the book.
- **What it needs to start:**
  - one trainer who has done the course
  - a room
  - a newborn mannequin made of cloth and a bag-and-mask or a salvaged one
  - a timer for counting breaths
  - a MUAC strap
  - a pressure cooker or pot for sterilising
  - a case book and a stock book
  - the short drug list (THRIVING library, IN-05)
  - a weekly drill hour.
- **First failure to expect:** the second healer drifts away, and the first stops writing in the case book. Watch both monthly.

The district of 3,000.

- **Minimum:** one trainer-examiner and the advanced modules (OR-07, forthcoming).
- **What it runs:**
  - the four blocks once a year for new trainees from its ten villages
  - the quarterly skill stations
  - the two-yearly recertification
  - the death reviews.
- **What it needs:** a teaching room, two mannequins, wound and suture practice tissue (animal), the examination checklists and a register of certified healers.
- **First failure to expect:** supervision lapsing when the trainer is busy with patients. Make it a fixed day each month [OWNER].

11. Protocols

Protocol A. Choosing the trainees

1. Call an open village assembly. Not the council alone. [OWNER]
2. State the job:
   - two healers
   - about 2 hours a day plus calls at night
   - 300 hours of training over 5 to 8 months
   - weekly practice for life
   - the pay [OWNER].
3. Ask the assembly to name candidates. Each must:
   - be an adult resident with family ties in the village
   - be trusted with confidences
   - be patient

   - not sell medicines
   - be willing to be checked.
4. Prefer candidates who are past the age of marrying out and leaving. Age is not a bar in itself (WHO 2018) [OWNER].
5. Gender: at least one woman, because birth and child care dominate the work [OWNER].
6. Literacy: reading helps with the manual, but is not required if the manual is pictorial (OR-09, forthcoming) [OWNER].
7. Interview each candidate with the trainer: how would they refuse a neighbour demanding medicine?
8. Choose two and name a third as reserve. Record the decision in the village book.

Protocol B. Running a block

1. Group size 12 to 15. Never more than 20.
2. Teach 8 hours a day for 9 days. Day 10 is rest or travel.
3. Each subject follows the same pattern:
   - show the real case or a picture
   - demonstrate
   - every trainee practises
   - pairs check each other with the checklist
   - the trainer observes.
4. Plan at least 4 of every 8 hours as hands-on.
5. Start each morning with 10 minutes of the previous day's skill.
6. Close the block with skill stations (Protocol C). A trainee who fails a station repeats it before leaving, and again at the start of the next block.
7. Send each trainee home with a practice log and the logged minimum for the interval (section 1.12).

Protocol C. Skill station examination

1. Set up 5 stations per block and 10 at the final certification. Allow 8 to 10 minutes per station and use one examiner per station.
2. Each station has a written checklist of 6 to 12 steps. Mark each step done or not done. Critical steps are marked in red.
3. A pass needs every critical step and at least 80 per cent of all steps [OWNER].
4. Examples of critical steps:
   - washing hands before touching a wound
   - counting breaths for a full 60 seconds
   - checking all four danger signs
   - drying and stimulating before ventilating
   - dosing by weight from the chart
   - deciding to move a patient with a red flag.
5. The final certification adds:
   - an oral and picture test of 2 hours (pass at 80 per cent)
   - observation of 4 hours of real cases by the examiner.
6. Record each result in the district register, with the date and the examiner's name.

Protocol D. The apprenticeship after certification

1. The new healer works under probation for 6 months [OWNER].
2. Month 1: a senior healer or district visitor sits in on cases one day a week.
3. Months 2 to 6: one supervised day a month. The supervisor:

- reviews the case book entry by entry
- counts drug stock against cases
- watches at least 3 consultations.

4. The new healer keeps a log. Probation ends after at least 100 cases, including at least 20 sick children and any births attended alongside the senior attendant [VERIFY].
5. Stitching alone, any district-taught procedure and the microscope are not done alone until the healer has been signed off on them separately at the district.
6. At 6 months, the supervisor and the village assembly confirm or extend probation [OWNER].

Protocol E. The refresher cycle

Interval	What	Time	Tolerance
Daily or each shift	Check the bag and mask, the timer and the sterile pack	3 minutes	Never skip on a birth day
Weekly	Paired drill of one life-saving skill on the mannequin (newborn ventilation, breath count, bleeding control), rotating	3 to 10 minutes	Not more than 2 weeks between drills
Monthly	Training day with the other healers of the district or cluster: case review, one new or weak topic, stock check	1 day	Not more than 6 weeks apart
Quarterly	Skill stations on 5 core skills, observed by the trainer	Half a day	Any failed skill is suspended until retested within 2 weeks
Yearly	Refresher course on the year's weak points and on the book's new pages	10 to 15 days	Before the season of most illness [OWNER]
Every 2 years	Recertification: the full 10-station examination and review of the case book	2 days	Failure means retraining. Practice stays limited to Block 1 tasks until passed [OWNER]

Protocol F. Suspension and dismissal [OWNER]

1. Grounds for suspension of a skill: failing that skill at a station, or a death review that finds the skill was done wrongly.
2. Grounds for suspension from practice:
   - selling medicines
   - giving injections outside the rules
   - concealing a death or an error
   - working while drunk.
3. Grounds for dismissal: a second offence after retraining, or one act of deliberate harm.
4. Decide by the district trainer and the village assembly together. Never by one person alone.
5. Before dismissing, make sure the second healer or the reserve can cover the village.

12. Numbers to carry

1. **300 hours** = 4 blocks of 72 hours, plus a 12-hour final examination.
2. **12 to 15** trainees per class.
3. **Half or more of every hour** is spent with hands on.
4. **3 months:** hand skills start to fall. **6 to 7 months:** only about 80 per cent still pass.
5. **3 minutes a week** of drill and **1 day a month** of training keep the life-saving skills.
6. **2 healers** per village. Never one.
7. **2 years** between recertifications.
8. **Count breaths for 60 seconds:** 50 or more under 12 months, 40 or more from 1 to 5 years, is fast.
9. **0 injections** taught in the 300 hours.

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