SY-07 The red-flag list: signs that need what the village cannot give, and what to do anyway

HEALING after the FALL, research library, SY-07

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

RELATED PROMPTS: FO-07, FO-08, NU-06, MA-07, IN-04. Forthcoming: SY-10.

How to read this document. This synthesis gathers the library's red flags into one list by age group, with recognition, time window, what each rung can still do and the comfort owed, then the opposite list of frightening signs that are usually benign. Library reports are cited as (THRIVING library, XX-00). Outside sources carry a number pointing to the References. Where two reports set different thresholds for the same sign, both are given. [OWNER] marks a village rule the owner must decide. [VERIFY] marks an unverified claim or my own inference.

1. Findings by section

1.1 What a red flag is, and why the lists agree

A red flag is a sign a lay person can find with hands, eyes, a watch and a tape, which says the person will probably die or be harmed without something the village lacks. The library's 150 reports carry about 400 such signs [VERIFY, my count]. They collapse into few, because the body has few ways of saying it is failing.

Four independent lists converge on the same core.

1. **IMCI general danger signs** for a child of 2 months to 5 years: cannot drink or breastfeed, vomits everything, convulsions, lethargic or unconscious, convulsing now (WHO 2014 [1]). Each carries odds of death of roughly 5 to 10 (inability to drink OR 8.9, Clifton 2012 [2], THRIVING library, FO-07).
2. **The seven young-infant signs** (Section 1.3.1). They caught 85% of severe illness at 0 to 6 days with 75% specificity, and 74% and 79% at 7 to 59 days (Young Infants Clinical Signs Study Group 2008 [3]).
3. **ETAT emergency signs**: obstructed breathing, central cyanosis, severe distress, cold hands with refill over 3 seconds and a weak fast pulse, coma or convulsions, diarrhoea with sunken eyes (THRIVING library, IN-04).
4. **Werner's signs of dangerous illness** [4], adapted as 21 signs (THRIVING library, FO-06), plus qSOFA for adults: breathing 22 or more, new confusion, systolic 100 or less (THRIVING library, IN-04).

Under them sit six bodily facts: the **brain** is failing (will not wake, fits, new confusion, one pupil wide), the **circulation** is failing (cold hands, fast weak pulse, slow refill, mottling, no urine), **breathing** is failing (too fast, indrawing, grunting, blue), **fluid cannot get in** (cannot drink, vomits everything, silent swollen belly), **bleeding hands cannot reach** (chest, belly, pelvis, womb), and **infection has left its place** (spreading redness, crackling, rigid belly, stiff neck, a rash that does not fade).

A red flag is a statement about means, not a verdict: "expectant describes the resources, not the patient" (THRIVING library, FO-08). Several are chances of cure if acted on in hours: a tension pneumothorax decompressed with a finger

(THRIVING library, WO-07), a newborn given antibiotics at home (THRIVING library, FO-02), paralysis bridged by relay hand ventilation (THRIVING library, IN-16, WO-13).

1.2 How often each will come: a village of 300 and a district of 3,000

Most figures are scaled from rates elsewhere [VERIFY]. The birth rate, 1% (Europe) to 4% (tropics), moves every obstetric line threefold.

Event	Village of 300, per year	District of 3,000, per year	Source
All deaths	3 to 11	30 to 110	FO-01, IN-01, NU-07
Births	3 (European rate) to 12 (tropical)	30 to 120	FO-01, FO-11, OR-07
Child pneumonia episodes (tropical)	about 12 to 13	about 130	IN-01, FO-11
Child diarrhoea episodes (tropical)	about 3 a week	about 30 a week	FO-11
Septic newborn	under 1	about 8	IN-01
Postpartum haemorrhage	1 every 2 years, severe 1 every 6	about 5, 1 or 2 severe	MA-02
Pre-eclampsia	1 every 1 to 3 years	3 to 10	MA-04
Obstructed labour	1 every 2 to 4 years	3 to 6	MA-03
Ectopic pregnancy	1 every 5 to 10 years	about 1	MA-09
Maternal death	about 1 in 20 years	1 every 2 years (tropical: nearly 1)	IN-01, FO-11
People with epilepsy	about 2	20 to 30	CH-04
Anaphylaxis	rare	1 to 3	CH-13
Fallers over 65	about 15, a hip fracture every 1 to 2 years	about 150	CH-12
Suicide	about 1 in a generation	about 1 every 3 years at 11.4 per 100,000	MI-08

Weekly in a tropical village: a child with fever, fast breathing or diarrhoea. **Monthly**: a wound going bad, a fall, a death. **Yearly**: a birth gone wrong, a septic newborn, a fit. **Once in some years**: haemorrhage, obstruction, ectopic, meningitis, suicide. The rare flags kill most and are met unrehearsed, hence the drill in Protocol 2.

1.3 The master list by age group

"Hearth" is hands, warmth, water and food. "Dispensary" is the village stock. "Infirmary" is the district's ten beds and one or two operators (THRIVING library, OR-07). "Owed" is the comfort due if measures fail.

1.3.1 The newborn, birth to 2 months

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Any of the 7 signs (above)	Sepsis, pneumonia, meningitis	Hours to 2 days	Skin to skin, cup feeds, warmth	Gentamicin 3 mg/kg under 2 kg, 5 mg/kg at 2 kg or more, plus amoxicillin. Case fatality 16.6% fell to 2.8% at home (Bang 1999 [5])	Same, with nursing	Keep baby with mother, record the death (MA-05)
No breathing at birth	Asphyxia	Minutes	Dry, warm, open airway, 30 cheek-puff breaths a minute	Bag and mask, 40 to 60 a minute	Same	Stop at 15 minutes with no heart, or 20 if only gasping (MA-05, ILCOR "around 20")
Yellow on day 1, or reaching palms and soles, or pale stools	Haemolysis, kernicterus, biliary atresia	Day 1 to 7	Feed often, daylight	Refer	Exchange transfusion not available [VERIFY]	Say what is not known (FO-07)
Red skin spreading from the cord onto the belly	Omphalitis	Hours to a day	Clean, dry cord	Antibiotics as sepsis	Same	
Sucked well for 2 days, then cannot, stiffens	Neonatal tetanus	Days, near 100% fatal	Dark, quiet room, milk by tube or cup	Diazepam if held	Same	Record it: birth hygiene failed (IN-01). A single case is an alert (OR-05)
Pus from swollen lids in the first 5 days	Gonococcal ophthalmia	Days to perforation	Irrigate hourly with boiled water	Ceftriaxone 50 mg/kg, maximum 125 mg	Same	Say the eye may be lost (IN-07, CH-08)
Mother dead or without milk, baby under 2 months	Starvation, infection	"An emergency of hours"	Wet nurse, relactation (works in about 79.5%)			MA-06

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Cough with pauses, going blue, under 3 months	Pertussis apnoea	Hours	Hold semi-upright at 30°, small feeds after each fit	Azithromycin. Never sedatives or cough medicines	Oxygen 0.5 L/min if any	Never sedate a dying infant (IN-12)

1.3.2 The child, 2 months to 5 years

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Cannot drink, vomits everything, fits, will not wake	Any severe illness	Hours	Warmth, sugar under the tongue (2.5 g, or 3.5 g over 15 kg, every 20 minutes)	First dose before referral (FO-04)	Ceftriaxone 50 mg/kg, glucose 10% 5 mL/kg	Stay with the mother
Breathing 50 or more (2 to 12 months), 40 or more (1 to 5 years), indrawing, grunting, head nodding	Pneumonia, hypoxaemia	Days, crisis day 5 to 10	Upright, warm, drinking	Amoxicillin 40 mg/kg twice daily for 5 days, review at 48 to 72 hours	Oxygen if salvaged	"Without oxygen some will die whatever is done" (IN-01)
Sunken eyes, very slow skin pinch, drinks poorly	Severe dehydration	Hours (cholera median death 12 hours)	Plan B 75 mL/kg over 4 hours by cup	Nasogastric ORS 20 mL/kg an hour for 6 hours	Plan C, Ringer's 100 mL/kg	MA-07
MUAC under 115 mm or both feet swollen	Severe acute malnutrition	Days. A third of Kilifi deaths in 48 hours	Small frequent feeds	Therapeutic feeding, antibiotics. 4.1% died against 20 to 30% untreated (Collins 2006 [6])	Admission if danger signs or fails appetite test	Feed, do not force

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Stiff neck, bulging fontanelle, purple rash that does not fade under a glass	Meningitis, meningococcal sepsis	Hours: leg pain and cold hands at about 8 hours, rash at 13 to 22 (Thompson 2006 [7])	Nothing effective	Ceftriaxone at once	Same	Untreated 70 to 100% died (IN-02)
Malarial fever with deep breathing, pallor, fits or coma	Severe malaria	Three quarters of deaths in 48 hours	Side position, sugar	Rectal artesunate 10 mg/kg (2 months to under 6 years). Deaths or disability halved when transfer took over 6 hours (Gomes 2009 [8])	Injectable artesunate	Name the illness, not the care, as the failure (IN-09)
Stridor at rest, grey membrane, bull neck	Diphtheria, croup	Antitoxin works in the first 2 days	Upright in a parent's arms	Macrolide 14 days	Antitoxin if any	Do not say a cut in the neck would have saved the child (IN-12)
White pupil in a photograph or lamplight	Retinoblastoma	Weeks		Refer the same week	Enucleation if anyone trained [OWNER]	The one red flag that is also a chance of cure (CH-06)

1.3.3 Pregnancy, birth and the six weeks after

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Bleeding that soaks a cloth in minutes, pulse over 100, faint	Postpartum haemorrhage	2 to 6 hours [VERIFY]. 77% of deaths within 24 hours (WOMAN [10])	Rub the womb, baby to breast, bimanual compression, flat, warm	Misoprostol 800 μg under the tongue (stopped bleeding in 90%), condom tamponade 250 to 500 mL	Tranexamic acid 1 g within 3 hours, manual placenta, transfusion from walking donors, laparotomy	Stop painful steps when hope is gone, let her hold her baby, family present (MA-02 Protocol 8)

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Placenta not out at 30 minutes	Retained placenta, accreta	Act by 60 minutes. Up to 10% fatal	Empty bladder, breastfeed		Manual removal	
Strong contractions, no progress, caput, ballooning lower womb, constant new pain	Obstruction, rupture	Hours to a day	Drink, upright, empty bladder, carry with four bearers		Caesarean. Malawi district maternal mortality 1.3% (Fenton 2003 [11])	A dead baby is named and held. The attendant needs support too (MA-03)
Cord seen before full dilatation	Cord prolapse	Minutes	Knees to chest, hand holding the head off the cord	Fill the bladder with 500 to 750 mL	Caesarean within about 2 hours	
Head born, shoulders stuck	Shoulder dystocia	Under 5 minutes: injury 0.5%. Over 5: acidosis 5.9%, brain injury 23.5% (Leung 2011 [12])	All fours resolved 83%, posterior arm 84%			
Fit, or BP 160/110, or 140/90 with headache, blurred vision or upper belly pain	Eclampsia, severe pre-eclampsia	Hours. Untreated 20 to 30% die	Side position, keep safe	Magnesium if held (Pritchard regimen), else diazepam	Delivery is the cure	Never injectable magnesium made from Epsom salt (MA-04)
Fever 38°C twice or 38.5°C once, foul lochia, pulse over 100 with cold hands	Puerperal sepsis, group A strep	Half begin within 2 days. A quarter die even now	Fluids, warmth	Antibiotics until 48 hours without fever	Same	After a second case, stand the attendant down (MA-04, FO-05)
Late period with one-sided pain, shoulder-tip pain or fainting	Ruptured ectopic	Hours	Flat, legs raised	Never misoprostol with a closed cervix	Laparotomy	“Only an operation stops the bleeding.” Pain relief, fluids, company (MA-09)

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Fever beyond 24 hours after miscarriage, foul discharge, tender womb	Septic abortion	Days. Napier: 24.4% died before antibiotics	Count pads and pulse	Amoxicillin with metronidazole, tetanus toxoid	Ampicillin, gentamicin, metronidazole, evacuation	Do not blame her (MA-09)
Any leak of urine or stool after a long labour	Obstetric fistula	Catheter within 6 to 12 weeks	Skin care	Indwelling catheter (closes 11 to 15%)	Refuse repair unless trained [OWNER]	"Many are healed, some by the catheter alone" (MA-11)

1.3.4 Adults: infection

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Two of: breathing 22 or more, new confusion, weak wrist pulse. Shaking chills, mottling from the knees	Sepsis	Survival falls 7.6% per hour of delay in shock (Kumar 2006 [13])	Sugar water, warmth, sips	Ceftriaxone, or ampicillin with gentamicin, plus metronidazole for belly or womb	Source control within 6 hours	Recognise the last 3 days, stop pushing fluid (IN-04)
Breathing over 30, pulse over 120 to 125, blue lips, confusion, age over 60	Severe pneumonia	Crisis day 5 to 10	Upright	Amoxicillin	Oxygen if any	Morphia for the dying adult is defensible (IN-03)
Week 2 or 3 of fever, sudden belly pain, hard belly, falling temperature	Typhoid perforation	Delay over 72 hours raised mortality sixfold	Propped, nil by mouth	Antibiotic if held [VERIFY]	Laparotomy if anyone can	Nothing the family did caused it (IN-11)
Profuse watery diarrhoea in anyone 5 or over, no wrist pulse	Cholera	Hours	ORS by cup	Nasogastric ORS. Doxycycline 300 mg once halves stool	Drip	A single death is an alert (OR-05)

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Pain out of proportion to a wound, crackling, bronze skin, sweet rotten smell	Gas gangrene	Hours to a day	Open the wound, remove stitches	Penicillin with metronidazole	Excision or amputation the same day	"Say the true thing once, clearly, and then stay" (WO-09)
Stiff jaw or spasms within 3 weeks of a wound	Tetanus	Days	Dark quiet room	Diazepam, metronidazole	Magnesium. Without antitoxin about 4 in 10 die	Quiet, darkness, fluids (WO-03, WO-14)
Tingling at a healed bite, fear of water	Rabies	Death in about 9 to 17 days	Dark draught-free room, no sound of running water	Sedation to calm, not to apnoea (Warrell 2017, via IN-15)	Same	Tell early. Euthanasia is [OWNER] (IN-15)
Drooping lids, double vision, cannot swallow saliva, after preserved food or snakebite	Botulism, neurotoxic envenoming	Hours to days	Count to ten in one breath. Act when they cannot	Relay hand ventilation in 6-hour shifts	About 24 trained people for six weeks	They hear everything. Talk to them (WO-13, IN-16)

1.3.5 Adults: belly, bleeding and injury

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Rising pulse, pale cold skin, confusion, no wound to press	Internal bleeding	Hour	Flat, warm, still	Tranexamic acid within 3 hours	Laparotomy	Thirst eased with a wet cloth, a held hand (WO-01)
Limb bleeding not stopped by pressure	Arterial bleeding	Minutes. Tourniquet before shock 90% survival, after shock 10% (Kragh 2009 [14])	Tourniquet at least 4 cm wide with a windlass, time written	Reassess by 2 hours, 6 hours outer limit	Surgery	

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Board-hard belly, patient lying still, pulse over 120	Peritonitis	Appendix: rupture risk 2% or less in the first 36 hours, then about 5% each 12 hours (Bickell 2006 [15])	Propped, nil by mouth	Antibiotics spared 71% from surgery at 90 days (CODA, via FO-02)	Laparotomy	WO-08 disagrees with FO-02: diffuse peritonitis is not always fatal
Hard, tender groin lump that will not go back	Strangulated hernia	Taxis within about 24 hours, or 6 hours for operation (conflict, CH-11)	Lie with hips raised, one gentle push		Operation, on the may-attempt list	
One silent hyper-resonant side, rising breathlessness	Tension pneumothorax	Minutes	Finger decompression	Chest drain	Same	Never on the comfort list: it is reversible (WO-07)
GCS falling, one pupil widening	Head injury with clot	Hours	Head up, airway clear		No one trained to open a skull	GCS 3 to 5 with fixed pupils: about 98% die. Nurse, stay (WO-07)
Burn over about 40% in a young adult, 20% deep over 60, or age plus burn near 100	Lethal burn	Days	Cool 20 minutes within 3 hours, oral fluids			Full pain relief, never withheld for fear of shortening life (WO-04)
Cold, pulseless or pale limb, pain on stretching the toes	Arterial injury, compartment syndrome	Hours	Remove all bandages, split the cast		Fasciotomy, amputation	Tell the family on the first day (WO-06)
Saddle numbness, new bladder failure, with back pain	Cauda equina	Decompression within 48 hours is the benchmark, after 24 raised risk 54%			Not on the infirmary list	Start nursing for paralysis (CH-05)

1.3.6 Adults: heart, brain, breath, metabolism and poison

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Chest pain at rest over 20 minutes with sweating	Heart attack	Hours	Rest, upright	Chewed aspirin cuts deaths 23% (CH-02)		
Face droop, arm weakness, speech loss. Note the time	Stroke	Hours	Nothing by mouth until swallow tested	No aspirin if worst-ever headache		CH-02
Cannot finish a sentence, silent chest, blue	Severe asthma	Hours	Upright, steam, pursed lips	Reliever, ephedra if held [VERIFY]		CH-03
Swelling of lips or throat, collapse after sting, drug or food	Anaphylaxis	Arrest in a median 5 to 30 minutes	Flat, legs up	Adrenaline 1 mg/mL IM: 0.5 mL adult, 0.01 mL/kg child, every 5 minutes	Same	With no adrenaline, stay with them (CH-13)
Deep sighing breath, acetone smell, no insulin	Diabetic ketoacidosis	Hours to days	Salted fluid by mouth	Subcutaneous saline	No insulin	Say the date honestly (CH-01)
Fit lasting 5 minutes, or a second before waking	Status epilepticus	Brain injury likely past 30 minutes	Side, time it, nothing in the mouth	Buccal midazolam 10 mg adult or rectal diazepam, two doses at most	Phenobarbital	"Nothing they did caused it" (CH-04)
Deep breathing and blurred vision a day after traded spirit	Methanol	6 to 30 hours		Ethanol as antidote (ME-14)		
Pinpoint pupils, sweating, drooling after spraying	Organophosphate	Hours		Atropine by rota		"The one red flag a village can win" (ME-14)
Over 40°C with confusion after heat	Heat stroke	Cool to 39°C within 30 minutes	Cold-water immersion (about 0.2°C a minute)			33% die if pressure stays low after cooling (HY-11)

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Talk of death, a plan, a past attempt	Suicidal crisis	Minutes to weeks. A quarter of near-lethal attempts were decided within 5 minutes (Simon 2001 [16])	Ask plainly, put distance between the person and lethal means, stay	Safety plan, contact schedule		See 1.7 (MI-08)
Red, painful eye, mid-dilated pupil, hard globe	Acute glaucoma	Hours to blindness	Upright, lit room			“Blindness is not death” (CH-08, WO-16)
Swelling under both sides of the jaw, tongue pushed up	Ludwig’s angina	Hours	Upright	Antibiotics, extract the source	Drain before stridor	Morphine, the truth (CH-07, WO-16)

1.3.7 The old

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
Fall, cannot bear weight, leg short and turned out	Hip fracture	Weeks. 60% die without surgery, 83% of frail residents within a month	Traction, turning, pain relief		Fixation only if trained [OWNER]	Nurse at home, say what is likely (CH-12)
New confusion over hours, worse at night	Delirium	Days	Find bladder, bowel, pain, thirst, infection, the frightening room	No antipsychotic (Agar 2017 [17])		Recheck every 4 hours for 48 hours (CH-12)
Cold, slow, confused, living alone	Hypothermia	Hours	Insulate, warm drinks, heat to trunk never limbs			“Not dead until warm and dead” (HY-11)
No urine for 12 hours with a tense lower belly	Retention	Hours		Catheter	Suprapubic catheter	NU-01

Sign by hand	Condition	Window	Hearth	Dispensary	Infirmary	Owed
A carer who has not slept for 3 nights	Carer collapse	Days	Rota			"The patient is now in more danger from the carer than from the disease" (NU-01)

1.3.8 The village itself, and the dying Some red flags belong to the village: silence in the register ("Silence is not health. Visit", OR-05), the rule of two (two deaths alike in a fortnight, or three ill alike from one house, water source or gathering, OR-05), a person chained or locked away ("the village's red flag, not the patient's", MI-05), a sickroom no one has entered since yesterday (NU-03), treatment failed twice (FO-06), and a patient who feels better while the measures are worse (FO-10).

The last red flag is that someone is dying. In 357 patients with advanced cancer, five signs each predicted death within 3 days with specificity above 95%: no radial pulse (LR+ 15.6), falling urine (15.2), Cheyne-Stokes breathing (12.4), jaw breathing (10) and death rattle (9). Each was present in fewer than 60% of those who died, so absence rules nothing out (Hui 2014 [18], THRIVING library, NU-06). With two or more, NU-06 says: tell the family death is likely within days, call those who should come, stop feeding and fluids, keep a continuous watch.

1.4 Where the library's thresholds disagree

Both thresholds are given. The card takes the more cautious figure unless caution would itself harm.

Sign	Threshold A	Threshold B	Card uses
Labour too long	"Longer than a day" (FO-01, FO-04, FO-10, OR-07 household list)	Active first stage over 12 hours in a first birth, 10 in a later one, or no change in 4 hours. Pushing over 1 hour with no descent (MA-01, OR-05)	12 and 10 hours, with "a day" as the outer limit for those far from help
Postpartum haemorrhage	500 mL, or "soaks cloths" (FO-01, MA-02 classical)	300 mL plus pulse over 100 or shock index over 1, or 500 mL regardless (WHO, FIGO and ICM 2025, MA-02)	A cloth soaked in minutes, or any bleeding with pulse over 100
Puerperal fever	38°C once, or 37.5°C twice an hour apart (NICE, MA-01)	38.0°C twice 4 hours apart or 38.5°C once (WHO, MA-04). 38.5°C as one of two criteria (IN-02)	38°C once with any other sign
Child fast breathing, age band	50 or more at 2 to 11 months (IN-01, IN-02, IN-05, FO-11)	2 to 12 months (IN-03, MA-07)	Either. Count a full minute and recount if within 5

Sign	Threshold A	Threshold B	Card uses
Infant fast breathing	Above 70 (IN-01)	70 or more (IN-03). 60 or more under 2 months (WHO)	60 under 2 months
Adult breathing	Over 30 (Werner, FO-05, IN-03, MSF)	22 or more with confusion (qSOFA, FO-07, IN-04)	22 with confusion, 30 alone
Capillary refill	Over 2 seconds is red (START in FO-08)	Over 3 seconds with cold hands (FO-07, IN-04, ETAT). Normal upper limit 2.9 seconds in women and 4.5 in the old (IN-04)	3 seconds in a warm room. Cold slows it
Newborn cold	Below 35.5°C (YICSS)	Below 36°C (Werner, NICE)	36°C on the touch test (cold belly and cold feet)
Burns beyond the village	About a quarter of the body in an adult (FO-02)	40% in a young adult, 20% deep over 60, or age plus burn near 100 (WO-04). ICRC Category IV over 50%, or 40% in the New York rules (FO-08)	WO-04's age-adjusted rule
Tourniquet	Reassess by 2 hours, outer limit 6 (FO-06, WO-01)	4 hours or more: compartment syndrome in all 74 analysed Ukrainian limbs [VERIFY] (FO-09)	2 hours to review, 6 hours outer
Opioid breathing hold	Below 10 a minute (ME-05)	Below 12 (NU-06, CH-06). Below 8 for benzodiazepines (CH-04), 10 (MI-06)	12 for opioids
Alcohol withdrawal fits	1 to 2 days after the last drink (CH-04)	6 to 48 hours (MI-06)	6 to 48 hours

1.5 What can still be done: partial measures that work

These change outcomes when the full answer is absent.

- **Relay hand ventilation** for botulism or snakebite paralysis. In Copenhagen in 1952 polio deaths fell from about 90% to 15 to 20% [VERIFY] (THRIVING library, IN-16).
- **Oral and nasogastric rehydration.** At Bongaon in 1971, 96 of 100 cholera patients survived on mostly oral fluid. A tube at 20 mL/kg an hour for 6 hours replaces a drip (THRIVING library, HY-03, NU-02).
- **Sugar under the tongue.** Hypoglycaemia in malnutrition raised deaths from 3.8% to 20.2% (THRIVING library, MA-07).
- **Misoprostol by mouth.** 600 μg cut postpartum haemorrhage from 12.0% to 6.4% (Derman 2006 [19]).
- **Home antibiotics for newborns** [5], **rectal artesunate before transfer** [8], **contact after a suicide attempt** (deaths 2.2% to 0.2%, Fleischmann 2008 [20]).
- **Hands:** finger thoracostomy, bimanual and aortic compression, all-fours for shoulder dystocia, a filled bladder for cord prolapse, cold-water immersion for heat stroke (274 of 274 survived at Falmouth), 15 minutes of

washing a bite (THRIVING library, WO-07, MA-02, MA-03, HY-11, IN-15).

- **Cheap drugs:** vitamin A for measles eyes, chewed aspirin for a heart attack, thiamine before food, atropine by rota for organophosphates (THRIVING library, CH-08, CH-02, HY-08, ME-14).

Three apparent helps harm: fluid boluses in shocked children (deaths 7.3% to 10.5%, FEAST [9]), antipsychotics in delirium (survival HR 1.73, Agar 2017 [17]), and fluids in the last days (a litre a day no better than 100 mL, Bruera 2013 [21]).

1.6 The opposite list: frightening signs that are usually benign

A card without its opposite produces overtriage, fear and harmful action. The third column, the dangerous action each sign provokes, is the reason for the list.

Frightening sign	Why it is usually benign	Dangerous action it provokes	Source
A short fit with fever in a child of 6 months to 5 years	2 to 5% of children have one. Epilepsy after a simple febrile fit is about 2%. No lasting harm, no rise in mortality in 1.6 million Danish children. Fever drugs do not prevent recurrence	Object in the mouth, restraint, cold baths, fever drugs given for fear	Graves 2012 [22], IN-02
A child who cries, holds the breath, goes blue or limp	Breath-holding spells, 0.1 to 4.6% of children, gone by about 5. Often iron deficient [VERIFY]	Treating as epilepsy	Secondary review [VERIFY]
Fever itself	Lowering it does not change sepsis mortality (RR 0.93). Sponging brings shivering	Sponging a dying child, guilt over a number	IN-02, FO-02
Yellow newborn after 24 hours, only to the belly, feeding well	Physiological jaundice in 50 to 60% of term babies, peaks day 3 to 5	Stopping breastfeeding	MA-05, FO-07 (danger is day 1, palms and soles, pale stools)
Fainting when standing, frightened or bled	Vasovagal syncope, 21% of faints, no excess mortality. Cardiac syncope doubled the risk	Missing the faint during exertion or with palpitations	Soteriades 2002 [23]
Severe headache	80 to 90% primary. Red flags are sudden worst-ever onset, fever, new neurology, over 50, pregnancy (SNNOOP10)	Opioids, bleeding, trephining	Do 2019 [24]
Acute low back pain	0.9% serious (Henschke 2009 [25]). Pain score fell from 52 to 12 on 100 by 26 weeks	Bed rest, which “in the old can kill”	CH-05

Frightening sign	Why it is usually benign	Dangerous action it provokes	Source
Face drooping on one side without other weakness	Bell's palsy: 71% recover fully untreated, 94% if incomplete (Peitersen 2002 [26])	Treating as stroke and stopping food	Secondary only
A toddler who will not use an arm after being pulled by the hand	Pulled elbow. About 9 in 10 reduce at the first gentle turn of the palm down	Forceful manipulation	WO-06
Restlessness after a head injury	Usually a full bladder	Sedation or morphine, which hide a falling GCS	WO-07
Snakebite	About half of venomous bites are dry	Cutting, suction, tourniquets	WO-13
Death rattle, jaw breathing	Signs that the end is near "and nothing has gone wrong"	Deep suction, fluids, panic	NU-06
Not eating in the last days, or in advanced dementia	Part of dying	Force-feeding, tubes	NU-06, CH-12
Cloudy urine in a confused old person	25 to 50% of women in long-term care carry bacteria without disease	Antibiotics that miss the real cause	CH-12
A survived suicide attempt	More than nine in ten do not later die by suicide (Owens 2002 [27])	Treating the person as lost, or relaxing contact too soon	MI-08
The apparently dead after cold or lightning	Survival recorded at 13.7°C and after 6.5 hours of CPR. Lightning victims may be in respiratory arrest only	Stopping too early	FO-09

Some signs mislead the other way. A radial pulse does not prove a safe pressure: 10 of 12 shocked patients with all pulses present had a systolic below 80 (THRIVING library, IN-04, WO-01). In Sierra Leone 94 of 100 surveillance alerts were false (THRIVING library, OR-05). A flag raised and found false is the system working.

1.7 What is owed when nothing more can be done

The wording differs across some 40 reports but the core is the same:

1. **Stay.** "The healer's task is to stay, to keep them warm and to make sure they are not alone" (THRIVING library, WO-01). The cruelty of an epidemic death "is the loneliness" (THRIVING library, HY-07).
2. **Tell the truth early, once, plainly,** with FO-10's five sentences (Protocol 3). Name the cause as lack of means, "we do not have enough", not "nothing can be done" (THRIVING library, FO-08). Say what will be done, since a prognosis without a care plan is abandonment (THRIVING library, IN-15).
3. **Relieve pain and breathlessness by the clock.** The WHO ladder gave good relief in 76% and satisfactory relief in a further 12% (Zech 1995 [28]). Titrated opioids did not shorten life (Sykes and Thorns 2003 [29]). A fan across the face eases breathlessness (Galbraith 2010 [30]), and oxygen does no better than room air (THRIVING library, NU-06). Whether opium is held is [OWNER].
4. **Free the family from blame.** The virus killed the child, not the mother's care (THRIVING library, IN-12).

5. **Mouth care, turning, warmth, dark cloths for bleeding, someone always in the room** (THRIVING library, NU-06).
6. **Never a hastened death presented as care.** FO-08 rules out pain relief given with intent to shorten life. NU-06 leaves hastened death and palliative sedation to the owner [OWNER], and warns that a village that has not done the nursing "is not facing a case for hastening death" (THRIVING library, NU-06).
7. **Re-examine every expectant label.** The not-chosen get one named carer, family present, last wishes written down, and a second look later (THRIVING library, FO-08). WHO calls failure to relieve suffering in emergencies abandonment (WHO 2018 [31]).

The frame is Cicely Saunders' "total pain", physical, psychological, social and spiritual (Clark 1999 [32]). Kerala shows the village form: volunteers giving 2 hours a week, backed by a doctor and nurses (Kumar 2007 [33]).

Suicide and self-harm. This entry follows safe-messaging practice (WHO 2023 [34]) and contains no detail of method. The library's position (THRIVING library, MI-08, MI-05, MI-06):

- **Ask plainly.** Ask in private, using the word: "Are you thinking about suicide?" Asking does not plant the idea (Dazzi 2014 [35], secondary).
- **Put distance between the person and lethal means.** This is the best-evidenced prevention. When Sri Lanka removed the most toxic pesticides, suicides fell by about 70%. A quarter of near-lethal attempts were decided within 5 minutes (Simon 2001 [16]), so means out of reach in those minutes often let the crisis pass.
- **Stay in contact.** Brief contact after an attempt cut suicide deaths from 2.2% to 0.2% at 18 months (Fleischmann 2008 [20]). The first three months after a crisis are the riskiest. MI-08's visit schedule is days 1, 3 and 7, then weeks 2, 4, 8 and 12 [VERIFY, adaptation].
- **Tell stories of people who came through.** Such stories are protective (WHO 2023 [34]).
- **Speak without moral judgement.** Treating suicide as sin or crime breeds secrecy. "Care must not be conditional on approval" (MI-08).
- **Who holds the means.** Who holds stored poisons and spirits during a watch is [OWNER].

1.8 The infirmary's limits, and triage

The district infirmary is a WHO Level 1 unit asked to do Level 2 work. A year brings about 90 to 120 births, 1 to 7 caesareans, 30 major operations and 100 to 150 other admissions (THRIVING library, OR-07).

May attempt, with two trained people: caesarean (decision to incision within 1 hour [VERIFY]), manual placenta and evacuation, laparotomy for ectopic, rupture or bleeding, strangulated hernia, debridement with delayed closure, amputation, chest drain, suprapubic catheter and abscess drainage.

Must refuse: bowel resection unless trained [OWNER], infant surgery beyond drainage, chest surgery beyond a drain, fistula repair, cataract, elective operations, intubation or relaxants without an anaesthetist, and operations on the dying.

Blood. Half the mothers who died at caesarean in Malawi had a deficit of 2 or more units (Fenton 2003 [11]). A walking donor panel of 30 to 50 is proposed. Whether to transfuse unscreened blood is [OWNER].

Appendicectomy is not on the may-attempt list. CODA's 71% non-operative success therefore matters more after the Fall than before it.

When many arrive at once, FO-08 uses the ICRC's four categories (Giannou and Baldan 2009 [36]):

I, surgery now with a good chance. II, surgery can wait. III, walking wounded. IV, supportive care only, such as a penetrating head wound with GCS below 8, burns over 50%, or massive bleeding with no blood. Category IV is re-examined. Two facts should temper every triage.

- **Natural triage.** Hospital mortality fell from 5.5% for arrivals within 6 hours to 2.3% after 72 hours, because the dying die before they arrive (THRIVING library, FO-08, FO-11).
- **Mis-sorting.** 38.6% of New York's lowest-priority ventilator patients survived with full care (THRIVING library, FO-08).

Overtriage kills too. Critical mortality rose with overtriage, r^2 0.845 (Frykberg 2002 [37]).

2. Evidence grades

A is trial or strong cohort evidence, B consistent observational evidence, C consensus or one study, X evidence of harm.

Claim	Grade	Basis
IMCI and young-infant danger signs predict severe illness	A	YICSSG 2008, Clifton 2012
Home neonatal antibiotics cut sepsis deaths	A	Bang 1999 (controlled field trial)
qSOFA flags sepsis deaths	B	Sensitivity about 51 to 61%, misses about half (IN-04)
Capillary refill over 3 seconds predicts death in children	B	OR 9.0
Misoprostol prevents postpartum haemorrhage	A	Derman 2006
Rectal artesunate before transfer	A	Gomes 2009
Late signs of dying	B	Hui 2014, single centre
Back-pain red flags are informative	C, mostly not	Downie 2013 [38]
Fluid bolus in shocked children	X	FEAST
Antipsychotics in palliative delirium	X	Agar 2017
Means restriction prevents suicide	B	Natural experiments
Asking about suicide is safe	B	Dazzi 2014
Village triage by lay sorters	C	Exercises, 52 to 79% accurate

3. Means ledger

Rung	What it holds for red flags	What it cannot do
Hands	Counting breaths and pulse, capillary refill, MUAC tape, pressure on bleeding, positioning, compression of womb and aorta, finger decompression, hand ventilation in relays	Anything inside the chest, skull or belly
Hearth	ORS, sugar, warmth, skin to skin, cold water, dark quiet room, company	Drugs, sterile fluids
Garden and still	Ethanol as methanol antidote, honey and sugar for wounds, ephedra, opium if grown [OWNER]	Reliable dose without assay

Rung	What it holds for red flags	What it cannot do
Village dispensary	Amoxicillin, gentamicin, ceftriaxone if held, misoprostol, rectal artesunate, diazepam or midazolam, adrenaline, atropine, ORS, zinc, vitamin A, nasogastric tubes	Surgery, blood, oxygen, insulin once gone
District infirmary	Caesarean, laparotomy for bleeding, hernia, amputation, chest drain, walking blood bank, magnesium, injectable drugs, isolation, hourly observation	Bowel resection, neurosurgery, ventilation beyond relays, dialysis, infant surgery
Hospital before the Fall	Imaging, ventilation, dialysis, transfusion, intensive care, neurosurgery, insulin, antivenom, antitoxin	(The reference against which every red flag is set)

4. Harm test

A red-flag list can cause harm in six ways.

1. **Despair.** A healer who reads "will probably die" may stop, so every row carries a partial measure.
2. **Overtriage.** Sending every febrile child uses up bearers, beds and trust. The benign list is the counterweight.
3. **False reassurance from absent signs.** No red flag rules out death. qSOFA misses about half of sepsis deaths (IN-04). A stiff neck is only 30% sensitive for meningitis (FO-07). The absence of Hui's signs does not mean someone has longer.
4. **Nocebo.** Careless words worsen pain and drive refusal of care (FO-10). Protocol 3 guards against this.
5. **Abandonment** of the person labelled expectant. Comfort is never "nothing" (FO-08).
6. **Hastened death under the name of care.** This is excluded except where the owner decides otherwise [OWNER]. Doses are recorded and decided by two people (NU-06).

5. Red flags of the process

These signs show that the red-flag system itself has failed.

- No one in the village can name three danger signs. Only 52% of rural Ugandan women could name one (Kabakyenga 2011, via MA-10).
- No one counts breaths for a full minute, or there is no checked MUAC tape.
- Danger signs are known, but no plan exists for the four bearers.
- The infirmary keeps no count of operations and deaths.
- Every alert is followed by nothing, so alerts stop.
- The healer has stopped telling families the truth.
- Two people read the same sign against different thresholds (adopt Section 1.4).
- A rule was changed on the night (FO-08).

6. The case against

Red flags are less informative than they look.

Of the back-pain red flags in 14 studies, only a history of cancer moved the probability of spinal malignancy (Downie 2013 [38]). qSOFA misses 39 to 49% of deaths (THRIVING library, IN-04), and the 7 infant signs miss 15 to 26%

of severe illness [3]. A list memorised as certainty will both miss deaths and frighten families.

Lay triage has never been validated. No triage system has been shown to improve outcomes in a mass-casualty event. START overtriaged 53% in one train crash (FO-08). Jenkins and colleagues found no validated triage system (via FO-08) [VERIFY].

Philosophers object to allocation. Taurek argued that numbers should not count, which favours a lottery, and disability advocates show that triage scores carry disability bias (via FO-08). The card sorts on need and likely benefit only, with a witnessed lottery when they tie.

The romance of the hospital. "Send to the district" assumes the district can help, yet it can do perhaps a dozen operations well (THRIVING library, OR-07). Its in-hospital mortality at Kilifi was 10.3%, and admissions fell 21% for each hour of walking. Carrying a dying person four hours to die among strangers is not always kinder, and the household should decide [OWNER].

The romance of the community. The Liverpool Care Pathway was abolished after Neuberger's review of 2013 found that dying protocols had been applied to people who were not dying [39]. A village could misuse Hui's signs the same way. NU-06's warning applies: the protocols "become dangerous the moment anyone starts them without first being sure".

The objection from frequency. A card built for rare events may crowd out the common one, so it leads with children's fever and diarrhoea.

7. 10-line summary

1. About 400 library red flags collapse into six patterns: brain, circulation, breathing, intake, hidden bleeding, spreading infection.
2. IMCI, ETAT, the 7 young-infant signs and Werner agree on the core.
3. A tropical village of 300 meets child danger signs weekly, a birth emergency yearly, a haemorrhage or meningitis once in some years.
4. Almost every flag keeps a partial measure: misoprostol, home antibiotics, rectal artesunate, relay ventilation, finger decompression, sugar under the tongue.
5. Three apparent helps harm: fluid boluses in shocked children, antipsychotics in delirium, and fluids in the last days.
6. Library thresholds disagree on labour, bleeding, breathing, refill and burns. The card takes the cautious figure.
7. The benign list matters as much, because febrile fits, newborn jaundice, faints and the death rattle provoke dangerous action.
8. What is owed is constant: stay, tell the truth, relieve pain by the clock, lift blame, never abandon.
9. Suicide is met by asking plainly, putting distance from means, and staying in contact. Most crises pass.
10. Red flags are probabilities, not verdicts, and "send" assumes a district that can help.

8. Open questions

1. What is the case fatality of a ruptured ectopic pregnancy with no surgeon? No source was found (MA-09).
2. What share of village deaths are expected rather than sudden? This decides how much of the healer's time is palliative (NU-06).
3. Do lay healers count breaths and capillary refill accurately enough to use these thresholds? Kappa 0.41 to 0.49 suggests not without practice (FO-07, IN-04).
4. What is the right threshold for a village to carry a patient for four hours or more, given Kilifi's 21% fall in admissions per hour walked?
5. Can Hui's late signs be used safely by lay carers without the overreach that ended the Liverpool pathway?

6. Which of the library's [VERIFY] thresholds (no urine for 12 hours, the dysreflexia 30 minutes, delirium recheck intervals) can be confirmed from primary sources?

9. Sources to read in full

1. WHO 2014, IMCI chart booklet [1].
2. Young Infants Clinical Signs Study Group 2008 [3].
3. Werner, *Where There Is No Doctor* [4], the chapter on signs of dangerous illness.
4. Giannou and Baldan 2009, *War Surgery* vol 1 [36], the triage chapters. Not parseable here.
5. Hui 2014 [18].
6. WHO 2018, palliative care in humanitarian emergencies [31].
7. WHO 2023, preventing suicide: a resource for media professionals [34].
8. Downie 2013 [38].
9. Fenton 2003 [11]. What district caesarean costs without blood.
10. FEAST, Maitland 2011 [9].

10. At the bedside after the Fall

The household. *Needs to start:* one adult per house who knows the five child danger signs and the four for a mother (heavy bleeding, fits or headache, fever, labour too long), a watch with a second hand, a MUAC tape, ORS ingredients with a measured litre jug, a cloth and stick for a tourniquet, and the names of the healer and four bearers. *First failure to expect:* waiting overnight to be sure, because being wrong is shameful (IN-13). The card says send on suspicion.

The village of 300. *Needs to start:* a healer and deputy trained on the card who count breaths against each other until they agree within 5, the dispensary stock in the means ledger, a register of every flag raised with action and outcome, a stretcher and bearer rota, a planned route to the district with a halfway rest, and a monthly death review [OWNER]. *First failure to expect:* the rare emergency met unrehearsed. A haemorrhage comes once in two years, and by then the misoprostol dose and its shelf are forgotten.

The district of 3,000. *Needs to start:* two people able to do a caesarean and a laparotomy, a walking donor panel of 30 to 50, ketamine with a second person who can hold an airway, ten beds, a waiting home for women from far villages [OWNER], a count of operations and deaths, and a way for villages to send word ahead. *First failure to expect:* one operator with no successor. When that person falls ill, every "send" on the card becomes "stay and comfort" overnight (OR-07).

11. Protocols

Protocol 1. The healer's one-page card

Act on any one sign. Start the measure and send word at once.

Child under 2 months. - not feeding - a fit - moves only when touched - breathing 60 or more in a full minute - deep indrawing - 37.5°C or more, or belly and feet both cold - yellow on day 1 or reaching the soles - red skin spreading from the cord - stiff jaw

Do: warmth, skin to skin, milk by cup, first antibiotic dose, send.

Child 2 months to 5 years. - cannot drink - vomits everything - a fit - will not wake - breathing 50 or more (under 1 year) or 40 or more (1 to 5 years) with indrawing - grunting or blue - sunken eyes with a skin pinch slower than 2 seconds - MUAC under 115 mm or both feet swollen - stiff neck or a rash that does not fade under glass - cold hands with refill over 3 seconds

Do: sugar under the tongue (2.5 g every 20 minutes), ORS 75 mL/kg over 4 hours if dehydrated and able to drink, first dose of antibiotic or rectal artesunate, send.

Pregnancy and birth. - bleeding that soaks a cloth in minutes, or with pulse over 100 - placenta not out at 30 minutes - active labour over 12 hours (first birth) or 10 (later), or no change in 4 hours - pushing over 1 hour with no descent - a fit, severe headache or blurred vision - fever 38°C with foul discharge - late period with one-sided or shoulder pain and fainting - leaking urine after a long labour

Do: rub the womb, baby to breast, misoprostol, flat and warm, send.

Adult. - breathing 30 or more, or 22 or more with new confusion - pulse over 120 - cold grey skin and a weak pulse - a board-hard belly - a rising pulse with no wound to press - one pupil wide after a head blow - one side weak - crackling or bronze skin round a wound - stiff jaw after a wound - swelling of the throat after a sting or drug - deep sighing breath with acetone - a fit past 5 minutes - no urine for 12 hours - talk of suicide

Do: the measure in Section 1.3, send.

Old person. - cannot bear weight after a fall - confusion new today - cold and slow - no urine with a tense belly - a carer who has not slept for 3 nights

Protocol 2. The escalation checklist

1. **Minute 0.** Name the sign aloud and write the time.
2. **Minutes 0 to 5.** Start the hands and hearth measure: pressure, position, warmth, sugar, ORS.
3. **Minutes 5 to 15.** Give the first dispensary dose the card names. Record dose and time.
4. **Minute 15.** Send a runner with a note (age, sign, time, what was given). Call the four bearers.
5. **Every 15 minutes while waiting:** breathing, pulse, refill, AVPU, written down.
6. **Hour 1.** Decide with the family whether to carry. Carry if the district can do what is needed, the patient can survive the journey, and the family wishes it. If not, move to Protocol 4 and say so.
7. **Within a week.** Review every death and every carried patient with the family, without blame (OR-05).

Tolerance: two counts must agree within 5 breaths and 10 beats, otherwise use the worse. Drill every three months against the clock, rotating haemorrhage, eclamptic fit, anaphylaxis, shoulder dystocia and tension pneumothorax.

Protocol 3. The honest conversation

1. Sit down. Ask who should be present and how much the patient wishes to know [OWNER on telling family first].
2. Say what is happening in one plain sentence.
3. Name the missing means: “We do not have the operation that would stop this.”
4. Say what will be done, hour by hour, and use the FO-10 words: “This is serious. We are doing everything we can. I will stay with you. We will keep the pain down. You are not alone.”
5. Give a time only if asked, as a range. Never “you will be fine” unless believed. Never “nothing can be done”.
6. Return when promised.

Protocol 4. Care of the dying (NU-06, FO-08, IN-04)

1. Two people confirm two or more late signs (no wrist pulse, falling urine, Cheyne-Stokes or jaw breathing, rattle) after ruling out bladder, bowel, pain, thirst, drug toxicity and a frightening room.
2. Tell the family and call those who should come. Stop measurements that only distress, and fluids beyond mouth care.
3. Moisten the mouth every 30 to 120 minutes, fat on the lips. Turn every 2 hours, onto the side for the rattle, no deep suction. Say: “It does not mean he is drowning.”

4. If opium is held [OWNER]: 5 mg oral morphine equivalent for an opioid-naive adult (2.5 mg if old or frail) every 4 hours by the clock, held if breathing is below 12, laxative from day 2, every dose recorded.
5. For breathlessness: upright, window open, a fan about 15 cm from the face for at least 5 minutes.
6. One named carer, someone always in the room, last wishes written down. After death, care for the body and family, and record the cause.

Protocol 5. The benign check

1. Is the person well between episodes, feeding, alert and pink? If not, stop here.
2. Does the sign match a row in Section 1.6 exactly, in age and timing? (A fever fit under 15 minutes, age 6 months to 5 years, awake within an hour.)
3. Is any Protocol 1 sign also present? If so, the danger sign wins.
4. Tell the family what it is, how long it lasts, the one sign that would change your mind, and the dangerous action to avoid.
5. Set a recheck: 24 hours for a fever, 1 week for jaundice.

12. Numbers to carry

Figure	Meaning
60 / 50 / 40	Fast breathing under 2 months / 2 to 12 months / 1 to 5 years, counted for a full minute
37.5 and 35.5°C	Infant fever and infant cold (YICSS). Werner and NICE use 36°C for cold
3 seconds	Capillary refill limit in a warm room
115 mm	MUAC for severe malnutrition
12 / 10 hours	Active labour limit, first and later birth
30 / 60 minutes	Worry and act for a retained placenta
5 minutes	A fit becomes status. Shoulder dystocia injury rises. Adrenaline repeats
3 hours	Tranexamic acid window. Burn-cooling window
2 / 6 hours	Tourniquet review and outer limit
3 days	Late signs of dying (LR+ 9 to 15.6)

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