

KWIKILA Care — TECHNICAL AND FINANCIAL PROPOSAL

Pilot phase: digitising patient follow-up in 3 partner hospitals (Democratic Republic of Congo)

Funding request: USD 41,400 — Duration: 3 months

Project lead: Paul Makwikila Pwadi, Founder & Director — KWIKILA Care

Website: <https://kwikilacare.com> — **Email:** contact@kwikilacare.com

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EXECUTIVE SUMMARY

KWIKILA Care is a web-based (SaaS) hospital management platform designed in the Democratic Republic of Congo for Congolese realities: patients are registered with their mobile phone number, automatic SMS reminders are sent in 5 national languages (French, Lingala, Swahili, Tshiluba, Kikongo), dedicated service modules cover emergency, maternity, paediatrics and pharmacy, epidemic alerts are transmitted in real time to the Provincial Health Division (DPS), and the weekly report is exported in the official SNIS/DHIS2 format.

The platform is **already built, operational and tested** (150+ automated tests, security audit completed). The requested funding is not for building software: it is for **deploying it on the ground in 3 partner hospitals** during an **accelerated 3-month pilot phase**, with a fully dedicated team present on site every day, to quickly produce the first evidence of impact and then move to scale.

Key pilot figures	3-month target
Partner hospitals equipped	3 (Kinshasa)
Patients registered and followed	4,500
Health workers trained and certified	90
Reminder / awareness SMS sent	25,000
Reduction in missed appointments (pregnant women, children 0-3)	-25 %
Average time to notify an epidemic alert to the DPS	< 2 hours (vs 3-7 days)
Weekly SNIS reports produced automatically	36 (3 hospitals × 12 weeks)
Cost per patient followed during the pilot*	~ USD 9

*Higher than the steady-state target (< USD 3/patient) because fixed team and infrastructure costs are amortised over a short period (3 months) and a still-limited number of patients; this cost falls mechanically once the project scales up (\$10.2).

1. CONTEXT AND PROBLEM

1.1 Health situation

The DRC has among the highest maternal (~ 547 deaths per 100,000 live births) and child mortality rates (~ 68 ‰ under five) in the world (sources: DRC DHS, WHO). A large share of these deaths is preventable through **regular follow-up**: antenatal care visits (ANC), Expanded Programme on Immunization (EPI) vaccinations, nutritional monitoring.

1.2 Problems observed in hospitals

1. **Paper registers**: lost files, no way to retrieve a patient's history, no reliable statistics.
2. **Missed appointments**: 30-50 % of ANC and vaccination appointments are not honoured, for lack of reminders.
3. **Slow epidemiological surveillance**: notification of a suspected case (cholera, measles, mpox, Ebola) reaches the Health Zone and then the DPS after several days, on paper or by phone.
4. **Tedious SNIS reporting**: the weekly report is compiled by hand, often late or incomplete.
5. **Untracked pharmacy**: stock-outs and expired medicines go undetected.

1.3 Why existing solutions are not enough

Foreign hospital software is expensive (tens of thousands of dollars), in English, requires on-site servers and ignores national languages and the Congolese SNIS/IDSR circuit. KWIKILA Care is designed locally, runs from any browser (computer, tablet or phone), in French and 4 national languages, for USD 80-400 per hospital per month.

2. THE SOLUTION: KWIKILA Care

2.1 Operational features (already developed)

Module	Features	Beneficiaries
Reception & patient record	30-second registration by phone number, categories (pregnant woman, child 0-3, elderly), attachments, medical notes, inter-hospital transfers	Reception, doctors
Automatic SMS reminders	D-15, D-3 and 45 min before each appointment, in the patient's language	Patients
Campaigns & health advice	Vaccination campaigns targeted by category / commune, periodic health advice	Patients, Health Zone
Emergency	4-level triage (red/orange/yellow/green), queue, care outcome	Emergency department
Maternity	Pregnancy follow-up (LMP, automatic due date, risk), antenatal visits, delivery and maternal death register	Midwives, obstetricians

Module	Features	Beneficiaries
Paediatrics	DRC EPI vaccination card (17 antigens), dose reminders, growth and malnutrition screening (MUAC)	Paediatricians, nurses
Pharmacy	Batch-level stock, FEFO rule (first expired, first out), stock-out/expiry alerts, suppliers, purchase orders, audit log	Pharmacists, management
Epidemic alerts	One-click declaration of 16 epidemic-prone diseases -> DPS/Ministry dashboard + immediate email, acknowledgement, follow-up	Health Zone, DPS, Ministry
SNIS/DHIS2 report	Weekly report (12 indicators + IDSR diseases) exported in DHIS2 format (JSON/CSV) in one click	Health Zone office, DPS
Ministry dashboard	National and provincial view, read-only, aggregated data (medical confidentiality preserved)	Ministry of Public Health
Built-in training	Multilingual guide, role-based quizzes, certificates	All staff
Backup	Automatic weekly CSV export emailed to each hospital	Hospital management

2.2 Technical architecture

- **Web application** accessible from any browser; no server to install in the hospital.
- **Backend** Python/FastAPI (modular), MongoDB database.
- **Hosting of your choice:** secure managed cloud (HTTPS, automatic backups) **or local hosting in a datacenter located in the DRC** (Docker + MongoDB + MinIO, automatic SSL certificate) — ready-to-use deployment package, see `DEPLOIEMENT_LOCAL_RDC.md`. This second mode guarantees that no health data ever leaves national territory.
- **Multi-tenant:** each hospital's data is strictly isolated; 7 access levels (founder, hospital admin, doctor, nurse, care assistant, reception, ministry).
- **Security:** password hashing (bcrypt), JWT tokens, login rate limiting, full audit log, security audit completed (5 vulnerabilities fixed), CSV-injection protection, HMAC verification of payments.
- **Interoperability:** DHIS2 export (dataValueSet), SNIS CSV format, documented REST API.
- **Low connectivity:** lightweight interface; read-only mode and weekly CSV backup; roadmap: offline mode (see § 9).
- **Local payments:** subscriptions via Mobile Money (M-Pesa, Orange Money, Airtel Money) — already integrated.

2.3 Current status

- Platform version 3.14, live at <https://kwikilacare.com>.
- 20 backend modules, 150+ automated tests passed, 16 functional test campaigns.

- Local deployment package (Docker + MinIO) ready, for immediate data-sovereignty compliance should the Ministry or a funder require it.
- Live demonstration available at any time (demo account provided on request).

3. PILOT OBJECTIVES

Overall objective: quickly demonstrate, with data, that an affordable Congolese digital tool improves follow-up of vulnerable patients and epidemiological surveillance in DRC hospitals — in just 3 months, thanks to a fully dedicated team present on site from day one.

Specific objectives (SO)

- **SO1** — Equip 3 partner hospitals and make them autonomous (staff trained within the first 2 weeks, data entered daily).
- **SO2** — Reduce missed appointments of pregnant women and children 0-3 by 25 % through SMS reminders, from the first month of live operation.
- **SO3** — Bring epidemic alert notification time to the DPS below 2 hours, demonstrated through a real-condition simulation.
- **SO4** — Automatically produce 100 % of the 3 hospitals' weekly SNIS reports in DHIS2 format, from week 3.
- **SO5** — Eliminate dispensing of expired medicines and cut stock-outs by 30 % in pilot pharmacies.
- **SO6** — Document, by the end of the pilot, a sustainable business model (subscription) and a scale-up plan to 30 hospitals, for a possible extension of funding.

4. PARTNER HOSPITALS AND BENEFICIARIES

Pilot hospital	Type	Services covered	Staff to train	Est. patients/year
[HOSPITAL 1 — e.g. Kinshasa University Clinics (CUK)]	Public university hospital	Maternity, paediatrics, emergency, pharmacy	40	8,000
[HOSPITAL 2 — e.g. Hôpital du Cinquantenaire]	Modern public hospital	Maternity, paediatrics, emergency, pharmacy	30	5,000
[HOSPITAL 3 — e.g. Monkole Hospital Centre]	Private, social mission	Maternity, paediatrics, pharmacy	20	2,000
Total			90	15,000

Signed letters of intent from the hospital managements are attached as annexes (or being signed — to be specified). As committed (clause 1 of the letter of intent, see `LETTRE_INTENTION_TEMPLATE.md`), **each hospital provides its own computer equipment and internet connection**: this line therefore does not need to be funded by this request. The 15,000 patients/year figure is the estimated annual volume at steady state; over the 3-month pilot, about 4,500 patients will actually be registered and followed (see Executive Summary).

Direct beneficiaries: 4,500 patients followed during the pilot (incl. ~ 1,500 pregnant women and 1,800 children 0-3), 90 health workers, 3 hospital managements, 3 Health Zone central offices, the Kinshasa DPS.

Indirect beneficiaries: patients' families, Ministry of Public Health (real-time data), the community (early outbreak detection).

5. DETAILED BUDGET — USD 41,400 (3 MONTHS)

5.1 Budget by line item

#	Line item	Detail	Monthly cost (USD)	3-month amount (USD)	%
1	Operational office	KWIKILA Care headquarters in Kinshasa: rent, utilities, security, backup power (generator/UPS)	1,200	3,600	8.7 %
2	ARPTC licence	Regulatory fees with the Postal and Telecommunications Regulatory Authority, legal support for commercially operating the digital health service	1,700	5,100	12.3 %
3	Hosting & digital infrastructure	Servers, database, object storage (MinIO), SMS gateway (120,000+ SMS over the period), SSL certificate, domain name, backups	2,000	6,000	14.5 %
4	Field deployment team	3 full-time deployment technicians (1 per partner hospital), salary + social charges: 3 × 1,300	3,900	11,700	28.3 %
5	Full-time developer	Application maintenance, technical support, SMS/DHIS2/Mobile Money integrations, salary + social charges	3,000	9,000	21.7 %

#	Line item	Detail	Monthly cost (USD)	3-month amount (USD)	%
6	Full-time trainer	On-site training and certification of hospital staff, teaching materials, salary + social charges	2,000	6,000	14.5 %
	TOTAL		13,800 / month	41,400	100 %

5.2 Breakdown by category

Category	Amount (USD)	%
Human resources (technicians, developer, trainer)	26,700	64.5 %
Infrastructure, compliance & operations (office, ARPTC, hosting)	14,700	35.5 %

Hospital equipment and connectivity: covered directly by the partner hospitals (contractual commitment, see § 4) — no cost to this budget.

Monitoring & evaluation: carried out internally by the project team (technicians + trainer) as part of their regular duties, at no additional cost — no paid external evaluator during this accelerated pilot phase.

5.3 Proposed disbursement schedule

Tranche	Timing	Amount (USD)	Condition
Tranche 1	Signature of the agreement (M0)	20,700 (50 %)	Agreement signed, letters of intent from the 3 hospitals, team in place
Tranche 2	End of month 1	12,420 (30 %)	Progress report no. 1: 3 hospitals trained and in live operation
Tranche 3	End of month 2	8,280 (20 %)	Progress report no. 2: mid-term indicators achieved at ≥ 70 %

5.4 KWIKILA Care's own contribution (outside the grant)

- Software platform already developed: estimated value **USD 35,000** (18 months of development).
- Subscriptions offered to the 3 hospitals during the 3-month pilot: $3 \times 3 \times 200 =$ **USD 1,800**.
- Founder's time (management, partnerships, Ministry relations): not charged.

Leverage: for USD 41,400 of grant, the project mobilises more than USD 78,000 in value.

6. DEPLOYMENT TIMELINE (3 MONTHS — ACCELERATED PILOT)

Phase	Period	Main activities	Deliverables
Phase 0 — Preparation	Month 1, weeks 1-2	Signature of the agreement; agreements with the 3 hospitals; team assignment (3 technicians, developer, trainer); opening of the operational office; ARPTC process initiated; verification of hospital-provided equipment; baseline survey; SMS gateway contract; hosting go-live (cloud or local DRC)	Signed agreements; baseline report; team operational on all 3 sites
Phase 1 — Set-up & training	Month 1, weeks 3-4	Configuration of each hospital (services, staff, DHIS2 identifiers with the DPS); intensive on-site training session 1 (reception, patients, appointments) and session 2 (services, pharmacy, alerts); staff certification; import of existing registers (CSV)	90 staff trained and certified; 3 hospitals configured; SMS live
Phase 2 — Live operation	Month 2	Daily entry of all new patients; active SMS reminders; weekly SNIS reports; daily on-site presence of technicians; review workshop no. 1 and progress report no. 1 (end M1 -> start M2)	Progress report no. 1; ~ 2,500 patients registered; first DHIS2 reports sent to the Health Zone
Phase 3 — Consolidation, evaluation & hand-over	Month 3	Improvements from field feedback; epidemic alert simulation exercise with the DPS; light endline survey (100 patients); progress report no. 2 (end M2); final report and official hand-over to the Ministry and the funder; 30-hospital scale-up plan	Final report; ~ 4,500 cumulative patients; documented IDSR simulation; scale-up plan

Decision milestones: end of M1 (go/no-go after report no. 1), end of M2 (validation of mid-term indicators), end of M3 (final hand-over and scale-up decision).

7. EXPECTED RESULTS

7.1 Results chain

- **Outputs:** 3 hospitals equipped and connected; 90 staff trained and certified; 4,500 digital patient records; 25,000 SMS sent; 36 weekly SNIS reports generated; 100 % of epidemic alerts transmitted to the DPS in under

2 hours.

- **Outcomes:** -25 % missed appointments (ANC and vaccination); +15 % complete ANC coverage (4+ visits) among followed women; 0 expired medicines dispensed; -30 % stock-outs; SNIS reports submitted on time 100 %.

- **Impact (medium term, measured beyond the pilot):** reduction of preventable maternal and child mortality in equipped hospitals; early detection of outbreaks; reliable data for provincial health planning — to be confirmed at scale-up (12-24 months).

7.2 Indicator table

Code	Indicator	Baseline (M1, week 1)	Target end M2	Target end M3	Means of verification
I1	Hospitals in daily operation (≥ 15 new patients/week)	0	3	3	Platform audit log
I2	Staff trained and certified	0	90	90	Certificates issued by the platform
I3	Patients registered (cumulative)	0	2,500	4,500	Database (monthly export)
I4	Missed appointment rate (pregnant women, children 0-3)	To be measured (~ 40 %)	-15 %	-25 %	Appointment status in the platform
I5	Reminder SMS delivered	0	14,000	25,000	SMS log + operator reports
I6	Average time to notify an epidemic alert to the DPS	3-7 days (paper)	< 4 h	< 2 h	Timestamp declaration -> DPS acknowledgement
I7	Weekly SNIS reports produced on time	~ 60 % (manual)	90 %	100 %	DHIS2 export log
I8	Expired medicines dispensed	Not measured	0	0	Pharmacy log (FEFO)
I9	Stock-out episodes (tracer medicines)	To be measured	-15 %	-30 %	Platform stock alerts
I10	Health-worker satisfaction (score /5)	—	≥ 3.5	≥ 4	Light internal survey
I11	Satisfaction of patients who received SMS (score /5)	—	≥ 3.5	≥ 4	Internal endline survey, 100 patients
I12	Hospitals committing to continue after the pilot	—	—	3/3	Signed agreements / subscriptions

8. MONITORING AND EVALUATION MECHANISMS

8.1 Monitoring system

1. **Real-time dashboard:** the platform itself measures almost all indicators (I1, I3-I9). **Read-only access** will be opened to the funder and the DPS for full transparency, with no exposure of personal data.
2. **Bi-weekly activity report** (2 pages): indicators, difficulties, corrective actions — sent every 15 days, given the pilot's short duration.
3. **Progress report no. 1** (end M1), **progress report no. 2** (end M2) and **final report** (end M3), including the financial report (spending per line item vs budget, supporting documents).
4. **Review workshops** at the end of each month, bringing together the 3 hospital managements, the Health Zone chief medical officers, the DPS and the funder (in person or by video call).
5. **Field visits:** the 3 technicians are present **daily** in their respective hospital throughout the pilot (this is their full-time assignment).

8.2 Evaluation system (carried out internally, at no additional cost)

- **Baseline (week 1) and endline (M3) surveys**, conducted by the trainer and the technicians, of 100 patients (~ 33 per hospital) and all trained staff: appointments honoured, understanding of SMS, satisfaction, waiting time.
- **Structured self-assessment** at the end of the pilot by the project team, following a simplified grid inspired by OECD-DAC criteria (relevance, effectiveness, efficiency), presented to the funder and the Ministry at the hand-over.
- **Before/after comparison** with the previous months' paper registers for I4, I7 and I9.
- **Epidemic alert simulation exercise** (Month 3) with the DPS to measure I6 under real conditions.
- *An independent external audit may be funded separately at scale-up (Year 1), once the model has been validated.*

8.3 Financial management and accountability

- Dedicated project bank account; accounting by budget line; all supporting documents retained.
- Financial report with each progress report.
- Procurement rule: 3 quotes for any purchase above USD 500.
- Any reallocation above 10 % between line items subject to the funder's written approval.

8.4 Project governance

Body	Composition	Frequency	Role
Steering committee	Funder, KWIKILA Care, 3 hospital directors, DPS representative	Monthly (3 meetings over the pilot)	Direction, validation of reports, arbitration
Project team	Founder, developer, trainer, 3 technicians	Weekly	Execution, indicator tracking
Hospital focal points	1 focal point per hospital (appointed by management)	Daily	Field relay, escalation of issues

8.5 Data protection and ethics

- Patient consent to receive SMS collected at registration; opt-out possible at any time.
- Encrypted hosting (managed cloud or local DRC datacenter, see § 2.2); role-based access; audit log of all actions; no personal data visible to the Ministry or the funder.
- Compliance with Congolese personal-data regulations and medical confidentiality; data-processing agreement signed with each hospital (see `CONVENTION_TRAITEMENT_DONNEES.md`).

9. RISKS AND MITIGATION

Risk	Likelihood	Impact	Mitigation
Very short pilot duration (3 months), little room for adjustment	High	Medium	Fully dedicated team, on site daily from Day 1; strict prioritisation of key indicators; possible extension if interim results satisfy the funder
Unstable internet connection	High	Medium	Lightweight interface; weekly CSV backup; read-only mode during outages
Power cuts	High	Medium	Backup power at the office (budget line 1); UPS units provided by hospitals; deferred data entry
Low staff adoption	Medium	High	Intensive on-site training from week 3, hospital focal points, valued certificates, daily presence of technicians, interface in national languages
Delay in DHIS2 identifier validation by the DPS	Medium	Medium	Process started in Month 1; meanwhile, CSV report emailed to the Health Zone office

Risk	Likelihood	Impact	Mitigation
Delay in obtaining the ARPTC licence	Medium	Medium	Process started at signature of the agreement; the service can run in non-commercial pilot mode while the formal licence is pending
Data security	Low	High	Security audit already completed; backups; strict access rights

10. SUSTAINABILITY AND SCALE-UP

10.1 Business model

After the pilot, each hospital chooses a monthly subscription suited to its size — **Basic USD 80, Pro USD 200** or **Premium USD 400** — payable by Mobile Money. A mid-sized hospital saves far more (registers, report-compilation time, avoided expired medicines, honoured appointments). The 3 pilot hospitals will receive a preferential -30 % rate in the first post-pilot year.

10.2 Growth path

Horizon	Hospitals	Patients followed	Funding
Pilot (3 months)	3	4,500	USD 41,400 grant
Year 1 (12 months, post-pilot)	10	50,000	Subscriptions + donor co-funding
Year 2	30 (Kinshasa, Lubumbashi, Goma)	150,000	Subscriptions (pooled team costs -> cost/patient < USD 3)
Year 3	100	500,000	Subscriptions (> 70 % self-funded) + Ministry partnership

10.3 Institutional anchoring

- Institutional partnership request submitted to the Secretariat-General for Health (see [DOSSIER_PARTENARIAT_SECRETARIAT_GENERAL_SANTE.md](#)), with a view to a future framework agreement with the Ministry of Public Health, Hygiene and Prevention (Ministry dashboard already developed).
- Alignment with the National Health Development Plan and the national digital-health strategy (DHIS2 interoperability).
- Contribution to SDGs 3 (health), 5 (gender equality), 9 (innovation) and 17 (partnerships).

11. TEAM

Role	Profile	Time
Founder & Director — Paul Makwikila Pwadi	Vision, hospital and institutional partnerships, funder relations, overall coordination. [Add 2-3 lines of background]	Full-time (not funded by the grant)
3 Deployment technicians (1 per hospital)	Technical/health background, daily on-site presence, first-line support, indicator collection	Full-time — funded
Developer / technical support	Web development, maintenance, user support, SMS/DHIS2/Mobile Money integration	Full-time — funded
Trainer	Experienced nurse or trainer, on-site training and certification of hospital staff	Full-time — funded

An independent external evaluator may be mobilised at scale-up (Year 1), once the corresponding budget is available — not included in this 3-month pilot budget.

12. ANNEXES (to be attached)

1. Letters of intent / agreements from the 3 partner hospitals (`LETTRE_INTENTION_TEMPLATE.md`)
2. Hospital partnership framework agreement (`CONVENTION_CADRE_HOPITAL_PARTENAIRE.md`)
3. Data processing agreement (`CONVENTION_TRAITEMENT_DONNEES.md`)
4. Institutional partnership dossier — Secretariat-General for Health (`DOSSIER_PARTENARIAT_SECRETARIAT_GENERAL_SANTE.md`)
5. Local DRC deployment guide — Docker/MinIO (`DEPLOIEMENT_LOCAL_RDC.md`)
6. Company statutes and trade register (RCCM) number, national ID
7. CVs of the founder and the team
8. Screenshots and demo access to the platform (<https://kwilacare.com>)
9. Training and access-rights guide
10. Security audit report (summary)
11. Monthly and progress report templates
12. Bank details of the project account

Conclusion

KWIKILA Care provides a concrete, Congolese and immediately deployable answer to three major challenges of the health system: follow-up of vulnerable patients, epidemiological surveillance and reliable health data. The platform exists; the requested USD 41,400 will allow it to be rapidly proven in 3 hospitals in just 3 months, thanks to a fully dedicated team on the ground from day one, with measurable indicators, transparent

monitoring open to the funder and a clear scale-up plan.

We remain at the funder's disposal for a live demonstration, a visit to the partner hospitals and any adjustment of this proposal to the collaboration terms it wishes to define.

Paul Makwikila Pwadi

Founder & Director — KWIKILA Care

contact@kwikilacare.com — <https://kwikilacare.com>