Knowmyrisk.ai Product page and White Paper

Contents

1. Executive Summary

KnowMyRisk.ai is a direct-to-consumer (DTC) AI platform that empowers individuals to upload medical records, enter personal health data, or use guided forms to receive personalized, explainable health risk assessments. It is built on advanced AI (OCR, NLP, predictive modeling), requires no medical knowledge to use, and delivers value immediately—whether for chronic illness, surgical clearance, or mental health evaluation.

The platform is free for end users at the base level, with revenue generated through a combination of targeted advertising, upsell services, and enterprise-level licensing. KnowMyRisk.ai democratizes access to predictive healthcare insights and unlocks long-tail monetization through consumer engagement, data intelligence, and integrated partnerships.

2. Problem Statement

The Global Health Literacy Crisis and the Access Gap

In today's healthcare landscape, billions of individuals worldwide struggle to understand their own health risks due to fragmented systems, inaccessible medical jargon, and an overreliance on provider-led assessments. Despite the explosion of digital health records and wearable data, there is a growing disconnect between health information and patient comprehension.

Key challenges include:

🧩 **1. Inaccessibility of Risk Insight from Personal Health Data**

Patients are routinely discharged with complex documents such as:

- Lab reports filled with abbreviations and reference ranges
- Radiology summaries with unstructured text
- Medication lists that include potential interactions or dosing risks

Yet, these documents offer little to no guidance unless interpreted by a clinician. Most consumers are unable to:

- Understand the implications of a single abnormal lab result
- Determine the risks of continuing or stopping a medication
- Recognize early warning signs of chronic conditions
- Prepare adequately for surgery, mentally or physically

This creates anxiety, information overload, and health management paralysis.

🧩 2. Episodic, Reactive Healthcare Systems

Traditional risk assessments only occur:

- When initiated by a physician visit
- After disease onset
- During annual wellness checks or pre-op visits

This reactive approach misses critical windows of prevention. For example:

- Early-stage diabetes, kidney disease, or hypertension are often detectable in routine bloodwork years before diagnosis
- Drug interactions are often flagged only *after* adverse events
- Mental health deterioration may go unnoticed until acute crises arise

A proactive, consumer-accessible system for risk prediction and triage is urgently needed.

🧩 3. Lack of Affordable, Personalized, and Scalable Tools

While high-income individuals may have concierge care or access to advanced testing, the majority of the global population cannot:

- Afford continuous physician-led reviews of test results
- Schedule frequent in-person visits for minor but escalating concerns
- Pay for bundled preventive services out-of-pocket

The lack of a **free or low-cost digital front door** to intelligent health risk interpretation excludes the very populations most in need of early intervention — including:

- The underinsured and medically underserved
- Non-English speaking patients
- Mental health sufferers wary of stigma
- Caregivers managing elderly family members across geographies

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🧩 4. Overburdened Providers and Burnout Risks

Even when patients do seek answers, providers are overwhelmed:

- Primary care physicians are limited to ~15-minute visits
- EMR inboxes are overflowing with patient queries about labs, meds, or symptoms
- Mental health professionals are in short supply, with wait times extending into months

A self-serve AI layer that can handle first-pass triage and risk stratification reduces cognitive load for clinicians, improves patient satisfaction, and enables more meaningful care when face-to-face interactions occur.

🧩 5. Health Data Without Intelligence

We live in an era where:

- Health data is increasingly digital
- Patients are capturing their own biometrics and labs (via wearable, lab APIs, etc.)
- Portals and PDFs are abundant

Yet, **intelligence is missing**.

There is no consumer-grade, explainable, AI-driven solution that:

- Analyzes both structured and unstructured health data

- Presents risk findings in an intuitive, actionable format
- Works without requiring a clinical appointment or subscription
- Supports both general and domain-specific (e.g., mental health, surgical, medication) risk evaluation

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🔍 **In Summary**

Despite increasing volumes of personal health data, most individuals remain in the dark about their actual health risks. They are unable to interpret results, unsure when to seek care, and unaware of early signs of deterioration. The burden on providers continues to grow, while patients face costly, inaccessible, and delayed care pathways.

There is a critical need for a consumer-first platform that:

- Ingests any health document (lab, discharge, prescription)
- Delivers condition-specific risk predictions instantly
- Offers clear recommendations and risk trends
- Is accessible via mobile, at no cost for the base experience
- Monetizes ethically through ads and premium service upsells, not health access

KnowMyRisk.ai is designed to fill this void — as a scalable, explainable, and equitable digital front door for personalized health risk analysis.

Absolutely — here's a more detailed, professional-grade **Solution Overview** section for the **KnowMyRisk.ai** white paper, designed to complement the expanded problem statement and reflect investor expectations:

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3. Solution Overview

KnowMyRisk.ai: A Scalable, Self-Serve Platform for Personalized Risk Intelligence

KnowMyRisk.ai is an AI-driven, direct-to-consumer (DTC) platform that enables individuals to receive personalized health risk assessments by simply uploading their medical records or filling out dynamic, guided forms. It acts as a smart layer between the consumer and their

often incomprehensible health data, transforming unstructured clinical information into clear, actionable insights.

The platform removes dependency on healthcare providers for first-level interpretation of medical documents and eliminates the need for expensive or time-consuming appointments. Users receive condition-specific risk stratification in real time—whether for chronic illness, surgical risk, mental health concerns, or medication safety.

🔧 How the Platform Works

Step 1: Data Ingestion

- Users can upload a variety of health records:
    - Lab results (PDFs, images, screenshots)
    - Discharge summaries and physician notes
    - Radiology reports
    - Medication prescriptions
- Alternatively, users can fill in guided smart forms for:
    - Mental health evaluation (e.g., anxiety, depression, trauma)
    - Surgical clearance risk
    - Medication interaction review
    - General wellness assessments

Step 2: AI Parsing and Preprocessing

- Advanced **OCR** (Optical Character Recognition) using Gemini/OpenAI Vision extracts text from uploaded documents, even from poor-quality scans or handwritten inputs.
- NLP (Natural Language Processing) models extract clinical entities (labs, vitals, diagnoses, medications) using medical ontologies (e.g., ICD-10, SNOMED, LOINC).
- Structured inputs are created from unstructured documents, validated through internal medical logic rules.

Step 3: Risk Stratification and Analysis

- AI models assess the probability of risk across 12+ common domains, including:

    - Cardiovascular disease
    - Diabetes and metabolic syndrome
    - Kidney dysfunction
    - Surgical complications (bleeding, hypoxia, delayed recovery)
    - Mental health issues (e.g., PTSD, GAD, MDD)
    - Adverse drug interactions
    - Medication contraindications given lab/vital values
    - Analysis of lab results
    - Analysis of Radiology reports
    - Analysis of wounds by taking a picture on a mobile device or uploading an image on the webpage
- Each risk model is explainable (SHAP-based) and adjusted based on age, sex, comorbidities, and regional prevalence data.

Step 4: Insight Generation and Presentation

- Users are presented with:
    - A risk summary with easy-to-understand categories: “Low,” “Moderate,” “High”
    - Visual explanations of what factors contributed most to the risk (e.g., elevated A1C, BP, medication overlap)
    - Recommendations: what lab to do next, when to see a doctor, lifestyle advice, suggested follow-up frequency
    - Option to view historical risk trend if multiple records are uploaded

Step 5: User Engagement and Next Steps

- Users can:
    - Opt into premium features (e.g., drug interaction deep dive, radiology interpretation)
    - Share the output securely with their provider or family caregiver
    - Track changes over time using personal dashboards

- Access curated educational content based on their risk profile
- Receive promotional offers from verified health partners (labs, digital therapeutics, wellness brands)

🧩 Key Solution Differentiators

Dimension	KnowMyRisk.ai Advantage
Input Flexibility	Accepts both structured and unstructured data from real-world documents
Mobile Accessibility	Optimized for mobile-first upload via camera or file import
Consumer Autonomy	No need for prior medical knowledge or provider involvement
Explainable AI	Transparent SHAP-based risk explanations with user-friendly summaries
Multi-Domain Intelligence	Not limited to symptoms — covers lab values, meds, mental health
Language and Culture Ready	Global scalability with language-agnostic inputs and localized prompts
Zero-Friction Onboarding	No app download or login required to try the base product
Free Tier + Ethical Monetization	Revenue via non-invasive ads and user-controlled upsells

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🩺 Clinical-grade Output, Consumerized UX

While traditional EMR portals are designed for providers, **KnowMyRisk.ai** is designed for the user:

- Clear, actionable next steps (not just data)
- Simple color-coded dashboards and scoring

- No medical acronyms or ambiguous language
- Visual storytelling of health journey over time

🔌 Integration-Ready Architecture

Built on OpenAPI standards and microservices architecture, KnowMyRisk.ai can:

- Be embedded into hospital or telehealth platforms
- Connect to third-party lab APIs for automated import
- White-label the frontend for insurers, employers, or digital clinics
- Feed anonymized population risk data to public health dashboards

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🌍 Designed for Global Impact

- Available via browser or mobile web
- Data encrypted and stored in compliance with regional privacy laws (e.g., GDPR, HIPAA)
- Multilingual support roadmap includes Spanish, Hindi, Arabic, and Portuguese
- Designed to work even in low-resource settings where patients rely on paper records

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🧬 Ethical, Inclusive, and Explainable by Design

- Users have full control over their data: store, delete, or download anytime
- No clinical decisions are made — only insights and triage suggestions
- Model development and validation incorporate fairness audits across demographics
- Opt-in de-identification framework for those wishing to contribute to research

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🔚 In Summary

KnowMyRisk.ai is a powerful, accessible, and explainable AI platform that transforms passive health records into personalized, proactive health intelligence. It empowers users to take control of their health journey—whether by preventing chronic illness, preparing for surgery,

or flagging unseen mental health needs—without gatekeeping, cost barriers, or system complexity.

It is the first scalable solution that bridges the health literacy gap at global scale, while offering sustainable monetization through responsible advertising, modular upsells, and data partnerships.

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4. Key Features and Functionality

🔍 A. Core AI Capabilities – What the Engine Does

These are the foundational features of KnowMyRisk.ai that power risk assessment and generate clinical-grade insights from uploaded content or user inputs.

Feature	Description
Multimodal Health Data Ingestion	Upload PDFs, scanned images, or camera photos of lab reports, discharge summaries, prescriptions, or radiology reports
Smart OCR + NLP Parsing	Advanced AI extracts medical entities (labs, vitals, meds, diagnoses) using healthcare ontologies like ICD-10, LOINC, and SNOMED
AI-Driven Risk Stratification	Predictive models (XGBoost, LSTM hybrids) assess risk for 12+ conditions, including diabetes, cardiac disease, renal failure, surgical complications, drug interactions, and mental health
SHAP-Based Explainability	Transparent visualization of what contributed to each risk score (e.g., “elevated creatinine → kidney risk ↑”)
Validated Mental Health Screening	Built-in, structured questionnaires for PTSD, anxiety, depression, and trauma, analyzed by psychometric NLP
Surgical Risk Evaluation	End-to-end surgical clearance module including anesthesia risk stratification, wound healing predictor, medication adjustment flags, and lab/test gap mapping
Time-Linked Insights	Tracks user health risk trends across multiple uploads to visualize risk evolution over time

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🌐 B. User Experience & Personalization – What the User Sees and Feels

Feature	Description
Mobile-First Design	Upload documents or fill forms directly from phone camera or file system, no app installation required
Real-Time, Layman-Friendly Output	Users receive color-coded scores (Low, Moderate, High) with plain-language explanations of what it means and what to do next
Personal Risk Dashboard	Aggregates all uploaded documents and results into a single, user-specific dashboard with historical view
Multilingual Interface	Supports internationalization with modular translation of prompts and outputs (roadmap: Spanish, Hindi, Arabic, Portuguese)
Accessibility Optimized UX	Designed for low-literacy, low-tech users: minimal navigation, no jargon, voice-assisted report generation (in roadmap)

💼 C. Value-Added Services & Monetization Pathways – What Users Can Buy or Use Next

These are the **revenue-generating, service-oriented features** that enhance KnowMyRisk.ai's commercial model.

🧪 1. Lab & Diagnostic Service Integration

- Based on flagged risks or missing labs (e.g., "eGFR not present but kidney risk high"), the system recommends exact tests.
- Users can:
    - **Book DTC diagnostic tests** through partner APIs
    - **Order at-home lab collection** or test kits
    - **Print/email test checklists** for their local provider

Revenue Source: Affiliate commission or bundled diagnostic pricing

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👨‍⚕️ 2. On-Demand Physician and Specialist Consults

- For users needing surgical clearance, medication adjustments, or mental health review
- Button-triggered referrals to:
    - Partner telemedicine platforms
    - In-house network of contracted physicians
    - Specialty-specific partners (e.g., cardiology, psychiatry, anesthesiology)

Revenue Source: Per-booking fee, referral commission, or subscription model (via care platforms)

💊 3. Medication Reconciliation & Optimization

- Users can upload prescription histories or fill out current med lists
- AI detects:
    - Drug-drug and drug-lab interaction risks
    - Meds that may worsen existing conditions
    - Pre-surgical hold/continue instructions (e.g., anticoagulants, antidiabetics)

Available as: One-time report ($4.99) or monthly med monitor module ($9.99/month)

📈 4. Health Risk Timeline & Forecasting Tools

- Converts multiple reports into trend graphs
- Predicts future risk trajectory if current behavior continues
- Suggests timelines for re-evaluation and test repetition

Available as: Premium subscription module or family dashboard add-on

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🧠 5. Second Opinion Upload & AI Match

- Users can upload physician notes or discharge summaries
- AI compares language and findings against its own analysis

- Optional peer review from a contracted medical reviewer

Revenue Source: Pay-per-use ($9.99/report) or included in premium plans

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🩹 6. Wound AI Image Analysis

- Upload surgical wound images or chronic wound photos
- AI assesses risk of infection, healing stage, necrosis, exudate type
- Generates structured output usable by wound care nurses or clinicians

Revenue Source: Pay-per-upload ($6.99) or part of surgical care bundle

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🎓 7. Personalized Education & Action Toolkit

- Includes:
  - Risk-specific recommendations
  - Lab result explanation guides
  - Pre-surgery prep checklists
  - Chronic disease lifestyle guides (e.g., "What to eat with high A1C")

Monetization Options:

- Sell curated digital content bundles
- Integrate sponsored health content
- Drive retention and upsell to consults/tests

📦 8. Surgical Clearance Pack (Bundle)

Includes:

- Pre-op risk stratification
- Checklist of required labs, imaging, ECGs
- Medication hold/continue report
- Printable PDF for surgeon or anesthesiologist

- Optional: lab booking + consult scheduling

Revenue: Sold as a complete bundle for $14.99–$29.99

🧭 9. Care Navigation & Local Provider Matching

- For users needing follow-up, a localized directory shows:
    - Low-cost providers
    - Specialty clinics
    - Pharmacies and imaging centers

Revenue Source: Featured listing fees or referral commissions

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🔚 Summary

KnowMyRisk.ai is not just an AI report generator — it is a **full-service health risk triage and action platform**. From **upload to insight**, then from **insight to care**, users are guided through a monetizable journey via:

1. Self-service intelligence
2. Smart risk visualization
3. Personalized service offerings
4. Embedded care pathways

By embedding these **value-added services directly into the AI workflow**, KnowMyRisk.ai builds a high-engagement, high-conversion digital front door to preventive care.