### **CONTROLOGIES Note: Control of the and t**

### Team





**Dr Julius Emmrich** Strategy & Operations

University of Cambridge, Doctors for Madagascar





**Dr Samuel Knauss** Product & Analytics

Harvard Medical School, Einstein Center Digital Future





Simon Stemplinger Technology

CTO at liefery.com, CTO and co-founder at papersmart.de, CTO and co-founder at BizSphere AG



Elsa Rajemison Finance

Embassy of Madagascar Sorbonne Paris, KPMG



Markus Business Dev



Noelson

Operation

**Jen** Partnership



Simon Data



Dr Zava Medic



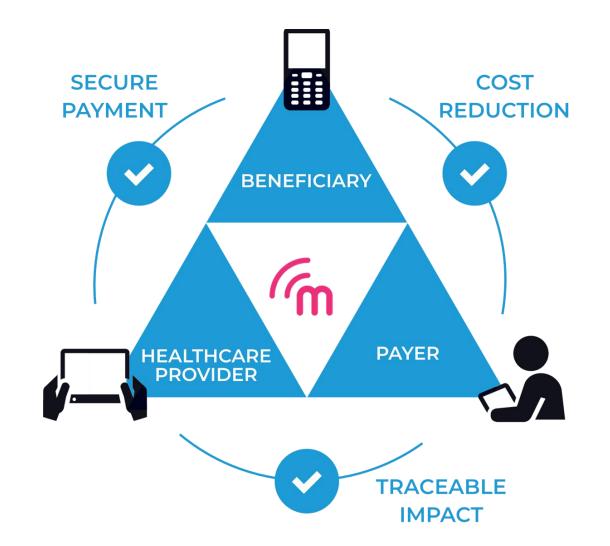
Tech



<mark>Joana</mark> Tech

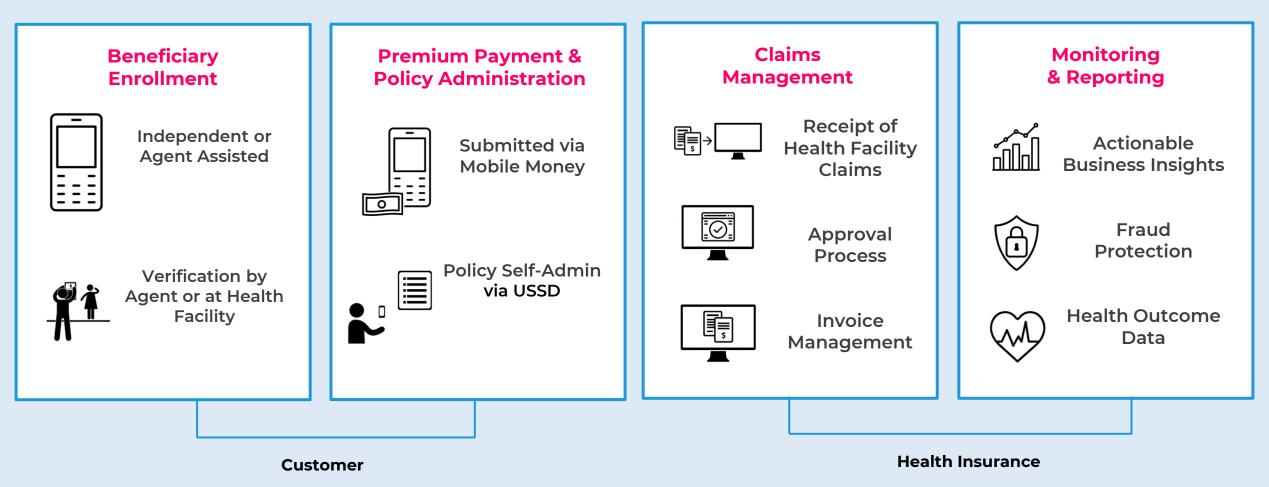


## We solve critical issues for insurances, customers and partners





## By providing smart digital health insurance management





# We facilitate financial access to healthcare for everyone, everywhere...

Our technology runs on every phone, connecting insurance providers to patients and their healthcare providers — no matter how remote.





Simple mobile phone sign-up (USSD)\*

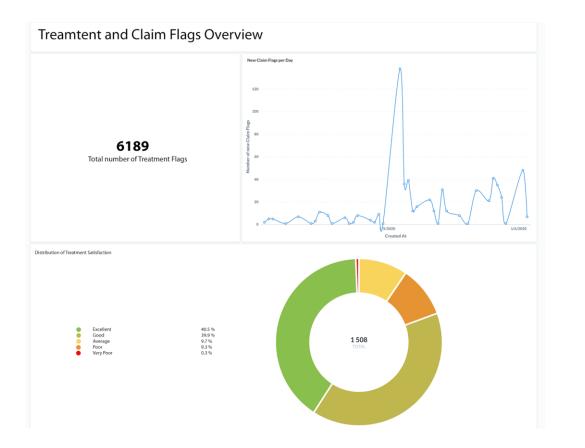
- Savings wallet and remote premium payment
- Quick and easy reimbursement via Mobile Money
- Electronic prior-authorisation
- Quality of care feedback loop

**MTOMADY** 

\* Initial Patient identification through agent or at Healthcare facility.

## ... enable monitoring of health outcomes and service utilization...

We collect real-time data on service utilization and health outcomes, providing insights that improve business performance and customer satisfaction.





- Standardisation & reduction of treatment costs based on claims data
- Quality of care tracking through customer satisfaction surveys
- Clear, easily accessible impact data
- Data-driven customer targeting



### ...and mitigate risk through smart data analytics

ick to Claim List						
	Claim Overview         Pending Review           Patient         Healthcare provider           ANTSAMISON Aina         RAFAMISON Claire           Phone No         Submitted on           261 34 1111111         03/06/2020			36/100		
	Proofs					
	Invoice prescription or Paymer	nt notice Proof r	elevant to treat	Fiche bleu	e or Health booklet	
	Delivery Form / baby picture					
	Total Demanded Amount		🔊 Initial Demande	33930 Ar ad Amount: 33930 AR		
	Paid from mTOMADY wallet 33930 Ar (5) 33930 Ar)					
				00014 (3 0000014)		
	Paid by Voucher			0 Ar		
	Paid by Voucher Treatment details Enter-> Treatment	Characteristics	Agent Code		Ато	unt
	Treatment details Enter→	Characteristics		0 Ar	<b>Amo</b> 2 500	
	Treatment details Treatment	Characteristics		0 Ar Quantity	2 500	Ar
	Treatment details Enter > Treatment SSI 500ml	Characteristics		0 Ar Quantity	2 500	Ar Ar
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	Treatment details Enter→ Treatment SSI 500ml Perfuser CATHETER 186 - UNITE	Characteristics		0 Ar Quantity 1 1	2 500 1 000 1 200	Ar Ar Ar
	Treatment details     Enter→       Treatment     SSI 600ml       SSI 600ml        Perfuser        CATHETER 18G - UNITE        AMPICILLINE_30_JNJ_FL	Characteristics		0 Ar Quantity 1 1 3	2 500 1 000 1 200 2 430	Ar Ar Ar Ar
	Treatment details     Enter→       Treatment     SI 600ml       SSI 600ml        Perfuser        CATHETER 18G - UNITE        AMPICILLINE_1GL,INJ_FL        GENTAMICINE_BOMG_ML_INJ_AM	Characteristics		0 Ar Quantity 1 1 3 3 1	2 500 1 000 1 200 2 430 900 2 500	Ar Ar Ar Ar Ar
	Treatment details     Enter→       Treatment     SI 600ml       SSI 600ml        Perfuser        CATHETER 18G-UNITE        AMPICILLINE_1G_INJ_FL        GENTAMICINE_80MG_ML_INJ_AM        Amoxieilline 250mg - pps	Characteristics		0 Ar Quantity 1 1 3 1 1 1 1 1 1	2 500 1 000 2 430 9 000 2 500 4 000	Ar Ar Ar Ar Ar
	Treatment details     Enter→       Treatment        SSI 600ml        Perfuser        CATHETER 18G. UNITE        AMPICILLINE_30_JNJ_FL        GENTAMICINE_80MG_M_I_NJ_AM        Amoxicilline 250mg - pps        COMPRESSE STERILE - UNITE	Characteristics		0 Ar Quantity 1 1 1 1 1 1 1 1 1 1 1 4	2 500 1 000 2 430 900 2 500 4 000 2 500 2 500	Ar Ar Ar Ar Ar
	Treatment details     Enter→       Treatment        SSI 600ml        Perfuser        CATHETER 18G - UNITE        AMPICILLINE, 3G, JNJ, FL        GENTAMICINE, BOMG, ML, INJ, AM        Amoxicilline 250mg - pps        COMPRESSE STERILE - UNITE        Gent stérile	Characteristics Characteristics		0 Ar Quantity 1 1 1 3 1 1 1 1 1 4 2	2 500 1 000 2 430 9 00 2 500 4 000 2 500 3 000	Ar Ar Ar Ar Ar Ar Ar Ar Ar
	Treatment details     Enter→       Treatment        SSI 600ml        Perfuser        CATHETER 186.0 UNITE        AMPICILLINE_30_INJ_FL        GENTAMICINE_80MG_ML_INJ_AM        Amoxicilline 250mg - ops        COMPRESSE STERILE - UNITE        Gant stárlie        Gant d'examen non stárlie	Characteristics		0 Ar Quantity 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1	2 500 1 000 2 430 9 000 2 500 4 000 2 500 3 000 6 000	Ar Ar Ar Ar Ar Ar Ar Ar Ar Ar
	Treatment details     Enter→       Treatment        SSI 600ml        Perfuser        CATHETER 18G - UNITE        AMPICILLINE, 10, JNJ, FL        GENTAMICINE, BØMG, ML, INJ, AM        Amoxicilline 250mg - pps        COMPRESSE STERILE - UNITE        Gant drazmen non stérile        CLAMP OMBILICAL - UNITE	Characteristics Characteristic		0 Ar Quantity 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 500 1 000 2 430 9 000 2 500 4 000 2 500 3 000 6 000 6 000 2 0 000 2 0 000	Ar Ar Ar Ar Ar Ar Ar Ar Ar
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	Treatment details       Enter→         Treatment       SIS 600ml         Perfuser       CATHETER 18G - UNITE         CATHETER 18G - UNITE       MPIOLLUNE, 3G, NU, JE         GENTAMICINE, BOMG, ML, INJ, AM       MONICILINE, 3G, SI, JE         GENTAMICINE, BOMG, ML, INJ, AM       MONICILINE, 3G, SI, JE         GENTAMICINE, BOMG, ML, INJ, AM       MONICILINE, 3G, SI, JE         GENTAMICINE, BOMG, ML, INJ, AM       MONICILINE, 3G, SI, JE         GENTAMICINE, BOMG, ML, INJ, AM       MONICILINE, 3G, SI, JE         GENTAMICINE, BOMG, ML, INJ, AM       MONICILINE, 3G, SI, JE         GENTAMICINE, BOMG, ML, INJ, AM       MONICILINE, 3G, SI, JE         GENTAMICINE, SONG, NU, JU       MONICILINE, 3G, SI, JE         GENTAMICINE, SONG, NU, JU       MONICILINE, 3G, SI, JE         GENTAMICINE, SONG, NU, JU       MONICILICAL - UNITE         SPASFON INJ       Hydrocortisone	Characteristics Characteristic		0 Ar Quantity 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 500 1 1000 2 430 9 000 2 500 2 500 3 000 2 500 3 000 2 000 1 800 9 000	Ar Ar Ar Ar Ar Ar Ar Ar Ar Ar
	Treatment details         Enter→           Treatment            SIS 600ml            Perfuser            CATHETER 18G - UNITE            GENTAMICINE_BOMG,ML_INJ,AM            GENTAMICINE_BOMG,ML_INJ,AM            Gant stérilie         - UNITE           Gant d'examen non stérilie            CLAMP OMBILICAL - UNITE            SPASFON INJ            Hydrocortisone            DEXAMETHASONE 4MG INJ - AMP	Characteristics Characteristic		0 Ar Quantity 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 500 1 1000 2 430 9 000 2 500 2 500 3 000 2 500 3 000 1 800 9 000 1 1000	A Ar A Ar A Ar A Ar A Ar A Ar A Ar A Ar
	Treatment details     €nter→       Treatment       SSI 500ml       Perfuser       CATHETER 18G - UNITE       GENTAMICINE, BOMG, ML, JNJ, AM       AMPCICLLINE, 100, MJ, JRL       GENTAMICINE, BOMG, ML, JNJ, AM       Amoxic and the stame of the s	Characteristics Characteristic		0 Ar Quantity 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 500 1 1000 2 430 9 000 2 500 2 500 3 000 2 500 1 800 9 000 1 1500 1 1500 2 8000	A A A A A A A A A A A A A A A A A A A
	Treatment details     Entroy       Treatment       SSI 500ml       Perfuser       CATHETER 18G - UNITE       AMPCIGUINE 1G, INJ, JEL       GENTAMCINE 800KG, ML, INJ, AM       Amoxicilline 6250mg - ops       ComPRESSE STERILE - UNITE       Gant drénie       Gant drénie       SPASFON INJ       Hydrocortisone       DEXAMETHASONE 4MG INJ - AMP       Oxytocine       Amoxicilline 800mg - gel	Characteristics Characteristic		0 Ar Quantity	2 500 1 1000 2 430 9 000 2 500 2 500 3 000 2 500 1 800 9 000 1 1500 1 1500 2 600 1 1500	Ar         Ar           Ar         Ar

We reduce business risk with fraud prevention and intelligent risk pooling.



 Fraud scoring through smart behavioural and meta data analytics

Claims analytics informs better policy design







#### Madagascar Mobile MOney for MaTernal HEalthcare Related Spending

Registered: U1111-1215-5186





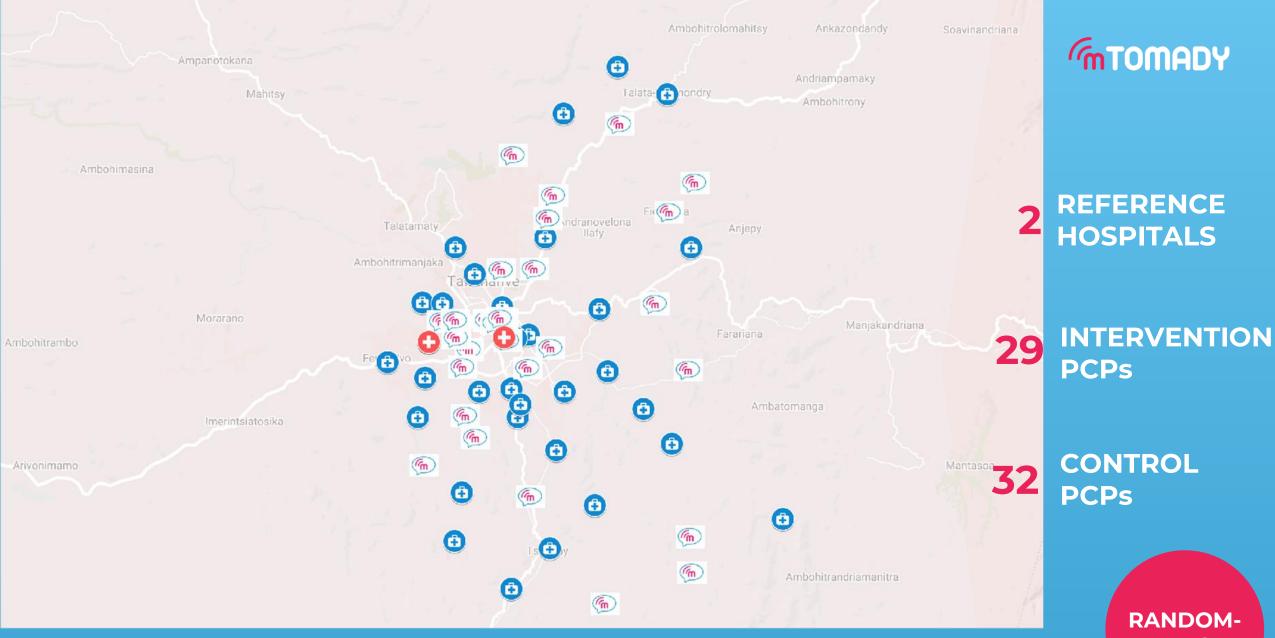
## A stratified cluster randomized controlled trial in Madagascar



"to determine whether a mobile-phone based savings and payment platform for maternal healthcare is a feasible and beneficial intervention in a resource-restricted public healthcare environment"

**Pre-registered primary outcomes:** Antenatal Care visits, Institutional deliveries, Total healthcare expenditures

Secondary outcomes concerning: Impact, performance, economic costs



### **4 MOTHERS Trial**

IZATION

### SAMPLE SIZE



### **4600** MOTHERS

#### **Primary endpoints:**

Minimal detectable difference

- 1. Facility-based delivery: 4 percentage points (from baseline 67% to 74%)
- 2. Count of ANC visits: 0.16 (from baseline 2.00 to 2.16)
- 3. Total healthcare expenditures: 200 Ariary

#### Analytical approaches:

Primary endpoint 1: Modified Poisson model implemented in a generalized linear regression framework (GLM) Primary endpoint 2: Negative binomial model implemented in a GLM

#### Assumptions: $\alpha$ (significance level) = 0.05 $\beta$ (power) = 0.80 ICC (intracluster correlation coefficient) = 0.05 LTFU = 20%

#### ENDPOINT ASSESSMENT

**4** MOTHERS Trial

### A renowned set of local & international partners

