Saving Lives by Design.
The Role of User Experience in Adoption and Adherence to a Digital Lifestyle Change Tool for Blood Pressure Reduction.

JULY 05, 2016

Domenico Cianflone, MD
CSO & Co-founder
@Amicomed1

Thomas Sutton
Executive Creative Director
@thomas_thinks @frogdesign
PART I
LIFESTYLE CHANGE FOR BLOOD PRESSURE REDUCTION
HYPERTENSION IS A GLOBAL HEALTH CRISIS

1 BILLION people with hypertension

$1 TRILLION annual costs (direct + indirect)

\(~50\%\) of CVD is hypertension related

2. Amicomed estimates based on Heidenrich et al., Forecasting the Future of Cardiovascular Disease in the United States, Circulation 2011
LIFESTYLE CHANGE IS RECOMMENDED CLINICAL PRACTICE

Appropriate lifestyle changes may:

• safely and effectively delay or prevent hypertension in non-hypertensive subjects;

• delay or prevent medical therapy in grade 1 hypertension;

• contribute to BP reduction in hypertensive individuals already on antihypertensive drug therapy.

www.escardio.org/guidelines
Eur Heart J, 2013; 34: 2159-2219
J Hypertens, 2013; 31: 1281-1357
Blood Pressure, 2013: 193-278
THERE IS A HUGE UNMET NEED FOR BETTER SELF-MANAGEMENT

75% of hypertensives are sub-optimally treated.

<30% are prescribed the proven lifestyle changes.

2 mmHg reduction in BP significantly reduces risk.
THE OPPORTUNITY

PEOPLE WITH HYPERTENSION
• don’t want to be considered “sick”;
• would like to minimise medication;
• could self-manage effectively with appropriate support.

SCALABLE SELF-MANAGEMENT
• could be supported easily and conveniently with a mobile tool;
• could be automated with appropriate interpretation and coaching algorithms.
PART II

ACHIEVING LIFESTYLE CHANGE WITH A DIGITAL TOOL
A TWO-PRONGED APPROACH

REAL-TIME BP TREND ASSESSMENT

• Real time feedback on each measurement and trends
• Visual alerts
• Separate trends in different time bands
• Distinguish between oscillation and trend
• Cloud-based storage and diary/graph accessible via App and website
• Customizeable objectives and reminders

PERSONALISED BP REDUCTION LIFESTYLE PROGRAM

• Web- and email- based (initial MVP only, final product is mobile based)
• Lifestyle changes: physical activity, dietary and BP tracking coaching program
• Personalized on each patient’s clinical and lifestyle information
HOW IT WORKS
THE BP REDUCTION PROGRAM

MONTH 1

Initial assessment and first coaching.
• Initial profiling
• Highlight areas of improvement
• Tailored recommendations: diet, physical activity and BP tracking
• General training on BP management

MONTH 2

Periodic follow-up & further coaching
• Periodic review of customer behavioral pattern (including BP inputs and evolution)
• New recommendations
• Further general educational content

MONTH 3

Final report with BP progress evaluation
• Review of program impact on BP
• Highlights of achievements
• Final recommendations to consolidate impact
PILOT STUDY: SUMMARY

METHOD
• Case/Control Study

SUBJECTS AND DATA
• 181 Program Subscribers
• 362 BP monitoring only subscribers (control group)
• 15,389 BP values
• Subjects with discontinuous BP measurements excluded
• Data FROM 129 program participant and 258 controls were analysed

CLINICAL RESULTS
• Controls did not obtain significant difference in BP values.
• 70% ADHERENCE of the program, mean persistence 2.3 months
• Active program participants obtained a significant reduction of both Systolic (-4.7 ± 1.2mmHg) and Diastolic (-3.1 ± 0.8mmHg) Blood Pressure (p<0.0001).

A 5 mmHg systolic BP reduction fosters a huge mortality risk reduction (up to -30%)! Whelton, JAMA, 2002
FUNNEL: BEFORE UX OPTIMISATION

First version with a basic, non-optimised UX and minimal, email-based coaching.

- Great clinical outcomes
- Too much drop-out along the funnel
- Time to call frog!

- Registered users receive BP interpretation on single results and trend
- Enrolled users receive tailored lifestyle change program
- Adherent users complete the 90 day tailored lifestyle change program
- Endpoint measured for adherent users.

2,492 spontaneous downloads (no promotion)

41% registration (from total downloads)

18% enrolment (from registered user)

71% adherence

5 mmHg average BP reduction (systolic)
PART III
USER EXPERIENCE APPROACH
USER EXPERIENCE

A practice focused on designing products and services around the **user** and their needs, context, and journey.

**User-Centred Opportunity**

- **goals, beliefs, needs**
- **context & stakeholders**
- **user**
- **user journey**

**underlying clinical need**
BEHAVIOUR CHANGE MODEL

Pre-contemplation users are outside our scope

People in contemplation phase represent most of our addressable market.

Downloading the app is a sign of being in preparation phase.

The core purpose is to support successful and clinically effective action.

Long-term maintenance is outside our scope.
REAL LIFE USERS

“I know the general guidelines (less salt, lose weight). I need specific, personalised support.”

“Measurement only helps if you have something you can do about the result.”

“I’ve tried before and failed. How will this time be different?”
IDEAL PROGRAM CHARACTERISTICS
IDEAL PROGRAM CHARACTERISTICS

1. Clear End-Goal
IDEAL PROGRAM CHARACTERISTICS

1. Clear End-Goal
2. Explicit Commitment

Ready?
IDEAL PROGRAM CHARACTERISTICS

1. Clear End-Goal
2. Explicit Commitment
3. Involve Supporters
IDEAL PROGRAM CHARACTERISTICS

1. Clear End-Goal
2. Explicit Commitment
3. Involve Supporters
4. Timely and actionable advice
IDEAL PROGRAM CHARACTERISTICS

1. Clear End-Goal
2. Explicit Commitment
3. Involve Supporters
4. Timely and actionable advice
5. Positive Reinforcement

well done!
IDEAL PROGRAM CHARACTERISTICS

1. Clear End-Goal
2. Explicit Commitment
3. Involve Supporters
4. Timely and actionable advice
5. Positive Reinforcement
6. Flexibility

well done!
ON BOARDING

Clear end-goal.
Explicit commitment.
Step-by-step engagement.
Why, what, how.
REVISED DESIGN

REAL-TIME COACHING

Timely and actionable.
Positive reinforcement.
Flexibility.
PROGRESS

BP measurement takes on meaning as an indicator of progress against your goals.
PART IV
ADOPTION AND ADHERENCE RESULTS
**FUNNEL: BEFORE UX OPTIMISATION**

First version with a basic, non-optimised UX and minimal, email-based coaching.

- Great clinical outcomes
- Too much drop-out along the funnel

Registered users receive BP interpretation on single results and trend.

Enrolled users receive tailored lifestyle change program.

Adherent users complete the 90 day tailored lifestyle change program.

Endpoint measured for adherent users.

- 41% registration (from total downloads)
- 18% enrolment (from registered user)
- 71% adherence
- 5 mmHg average BP reduction (systolic)

2,492 spontaneous downloads (no promotion)
New version with improved UX and integrated coaching.

- Huge increase in early measures of engagement (registration and enrolment).
- Expected to achieve parity or increase in adherence and clinical outcome.

Unregistered users can now use the application in guest mode.

- 24% increase in registration rate
- 350% increase in program enrolment rate
- Too early to say (first users are only 2 weeks into program)
- Recommendation engine is the same as previous version so expecting similar results.

- 51% registration (from total downloads)
- 63% enrolment (from registered user)
- N.Y.A. adherence
- N.Y.A. average BP reduction (systolic)

24% increase in registration rate
350% increase in program enrolment rate
Too early to say (first users are only 2 weeks into program)
Recommendation engine is the same as previous version so expecting similar results.
Thank you!

Domenico Cianflone, MD
CSO & Co-founder
@Amicomed1

frog

Thomas Sutton
Executive Creative Director
@thomas_thinks @frogdesign