eMEN

e-mental health innovation and implementation

SAM-trauma & psychopathology app
Tailored implementation in a prison hospital

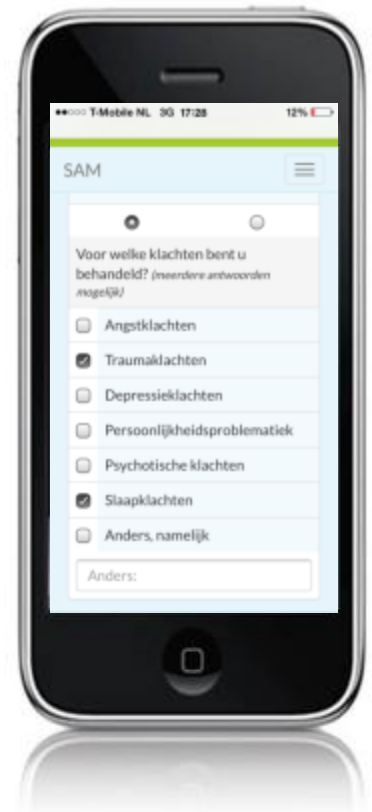**Bart Schrieken Interapy (NL)**

SAM –Smart Assessment on your Mobile

A smart and efficient mobile application to assess mental health after trauma
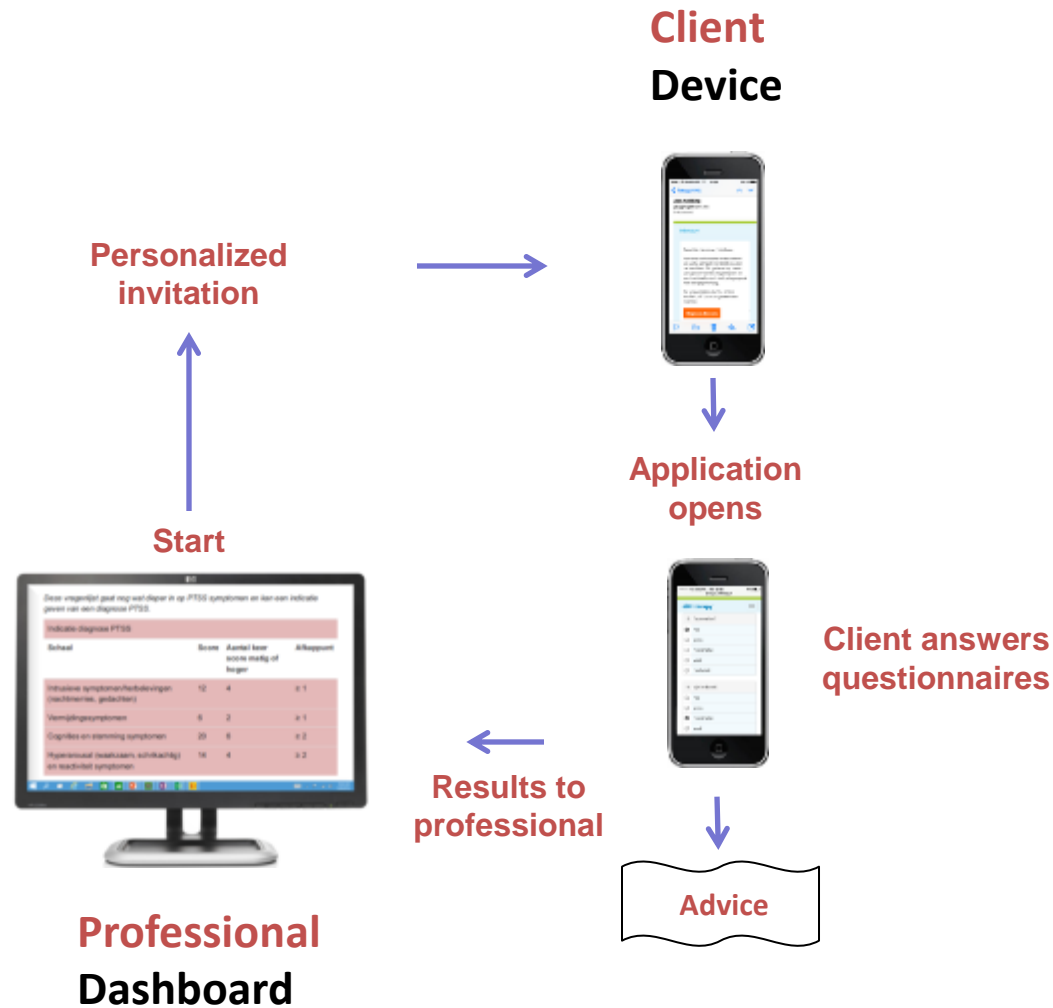
**Developed by the Amsterdam Academical Medical Centre,
Arq Psychotrauma Centre & Interapy**

Purpose SAM

– Low threshhold assesment of
  - trauma symptoms
  - related psychopathology
  - (resilience)

– Detection of complaints with diagnostic value

– Validated measures

– Layared structure

– App & Clinical dashboard for professionals

Two fold application

Client
Device

Personalized invitation

Application opens

Start

Client answers questionnaires

Professional
Dashboard

Results to professional

Advice

Research: SAM validation in Police force

SAM primarily designed to assess trauma-risk professionals

- DSM-5 based measures for posttraumatic stress, peritrauma and and trauma-related psychopathology

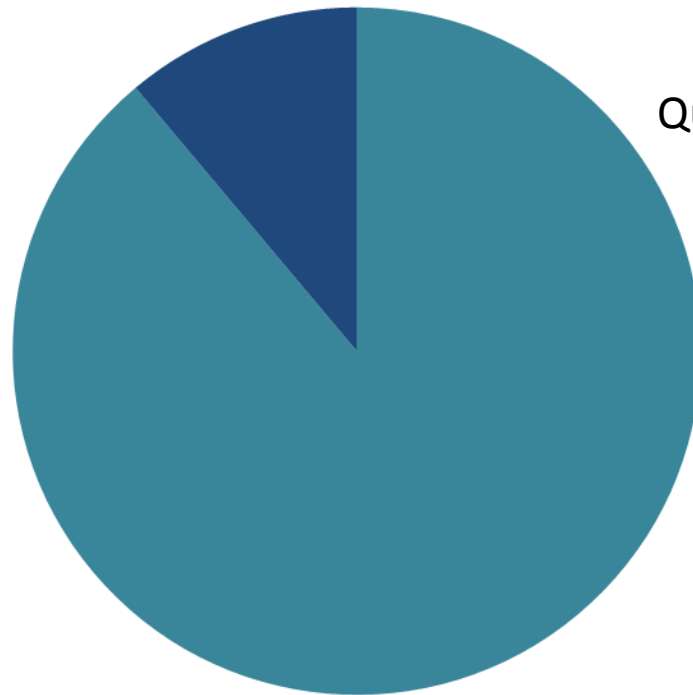**Validation study with Dutch police officers**

- Functionality test (n=46)

- Diagnostic outcome of SAM versus CAPS-5 (n=89)

SAM functionality test

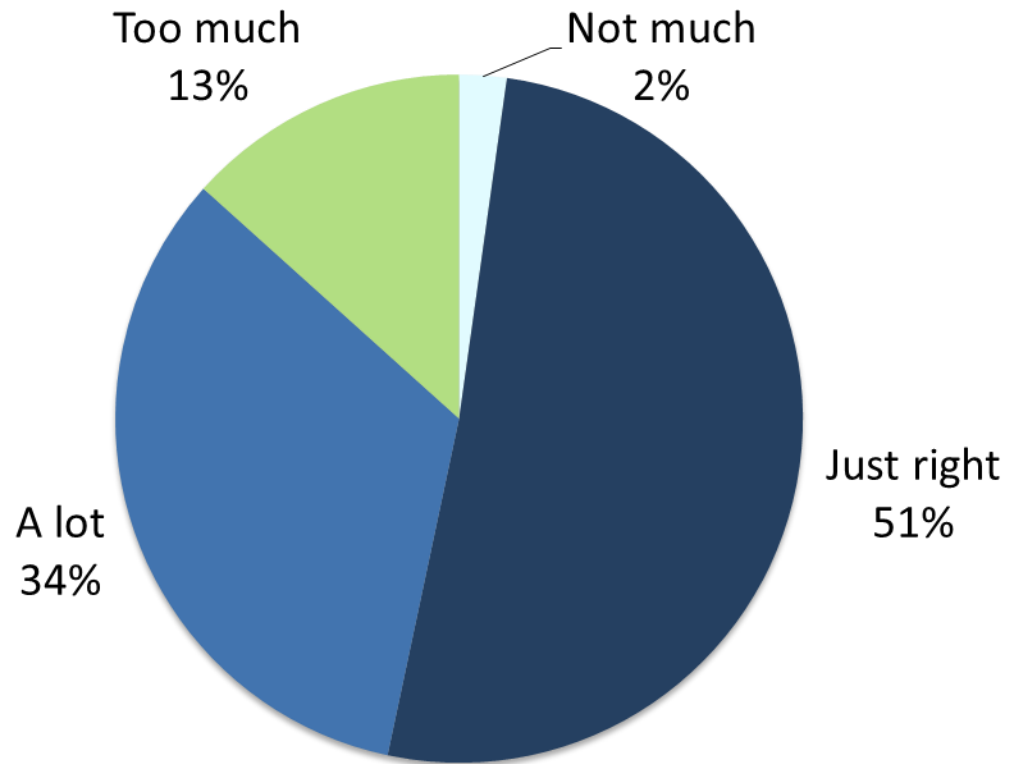Were the questions easy or difficult to answer?

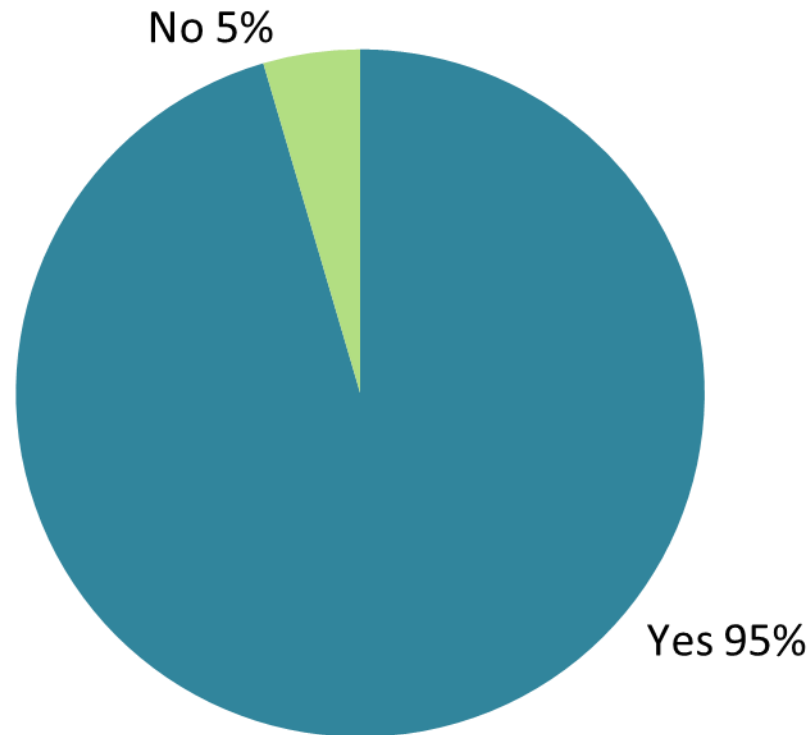Questions difficult to answer 11%

Questions easy to answer 89%

SAM functionality test

Quantity of the questions…

SAM functionality test

Do you think SAM is
easy to use?

No 5%

Yes 95%

SAM validation study

Participants

Characteristic	Description
N	89
Gender	75.3% male
Age (mean)	44.8 years (± 12.25 range 21-67)
Past treatment for psychological symptoms	55.6%
Current treatment for psychological symptoms	43.8%

SAM validation study

Convergent validity SAM

Diagnostic intake (CAPS-5) ⇒ SAM (PCL-5) ⇩	Total score	Intrusions	Avoidance	Neg. cognitions and mood	Hyperarousal
Total score	.768**				
Intrusions		.718**			
Avoidance			.537**		
Neg. cognitions and mood				.638**	
Hyperarousal					.620**

** $p < .01$

SAM validation study

Indication PTSD of SAM (validation against CAPS)

- Odds Ratio = **15.97** (When SAM indicates PTSD: the chance of having PTSD is 16 x higher then when it is not indicated)

- Area Under ROC Curve = **.845**

- Sensitivity of **89%**

- Specificity of **68%**

Dutch Custodial Service pilot

Operational

- Getting e-assesment tooling into the intake routine

Goals

- Early screening of key psychopathology

- Improving prioritisation in care giving

- Better risk assessment

Functional

- Layered : only relevant questions using marker questions

Device

- Tablet

Tailoring Content SAM → Custodial clinic

- **Demographic information**

- **Social support** (SSL-6)

- **Resilliance** (RES)

- **Fysical fittness**

- **Former psychological problems**

- **Former traumatic experinces** (LEC-5)

- **Peritraumatic factors** (PDI, PTCI, PDEQ)

- **Anxiety** (DASS-21)

- **Depression** (DASS-21)

- **Stress** (DASS-21)

- **Posttraumatic Stress**

  (PC-PTSD-5 & PCL-5)

- **Work satisfaction** (UBES)

- **Current functioning**

- **Use of medication**

Tailoring Content SAM → Deleted

- **Demographic information**

- **Social support** (SSL-6)

- **Resilliance** (RES)

- **Fysical fittness**

- **Former psychological problems**

- **Former traumatic experinces** (LEC-5)

- **Peritraumatic factors** (PDI, PTCI, PDEQ)

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- **Stress** (DASS-21)

- **Posttraumatic Stress**

  (PC-PTSD-5 & PCL-5)

- **Work satisfaction** (UBES)

- **Current functioning**
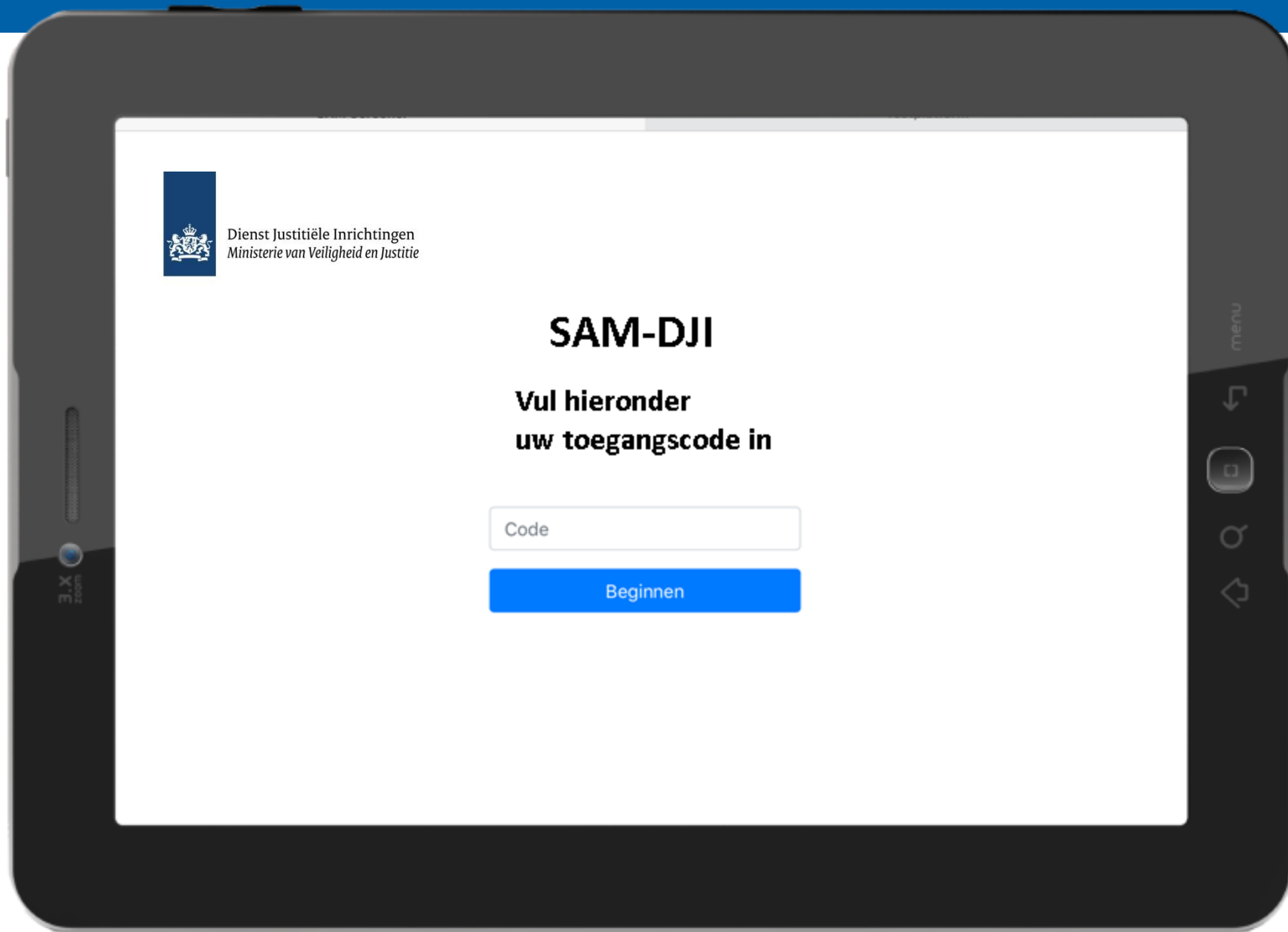
- **Use of medication**

Tailoring Content SAM → Added

- Demographic information

- Social support(SSL-6)

- Resilliance (RES)

- Fysical fittness

- Former psychological problems

- Former traumatic experinces (LEC-5)

- Peritraumatic factors (PDI, PTCI, PDEQ)

- Suicide Risk

- Positive Psychotic Symptoms (GL)

- Anxiety (DASS-21)

- Depression (DASS-21)

- Stress (DASS-21)

- Posttraumatic Stress

  (PC-PTSD-5 & PCL-5)

- Work satisfaction (UBES)

- Current functioning
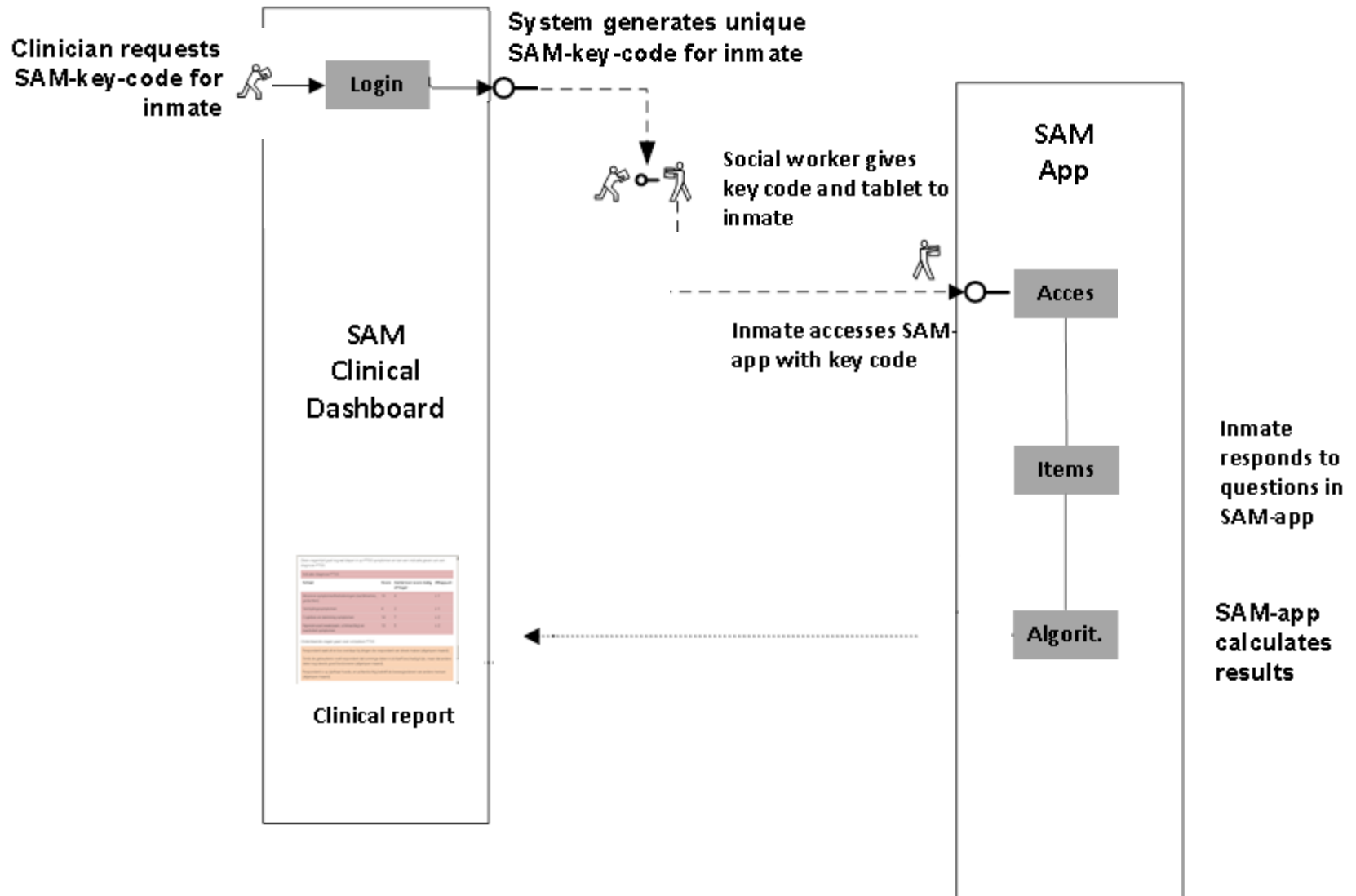
- Use of medication

Patient: code page

Patient: starts questionnaires

FUNC

Lichaam en functioneren

Wat vragen over uw fitheid.

Toetsenbordbediening: Bij meerkeuze vragen is het mogelijk om het toetsenbord te gebruiken bij het kiezen van een antwoord. Met de cijfers 1 t/m 9 kan het eerste tot en met negende antwoord worden geselecteerd. Bevestig het geselecteerde antwoord met de *enter* of *return* toets (↵).

Beginnen

Patient: answers questionnaires
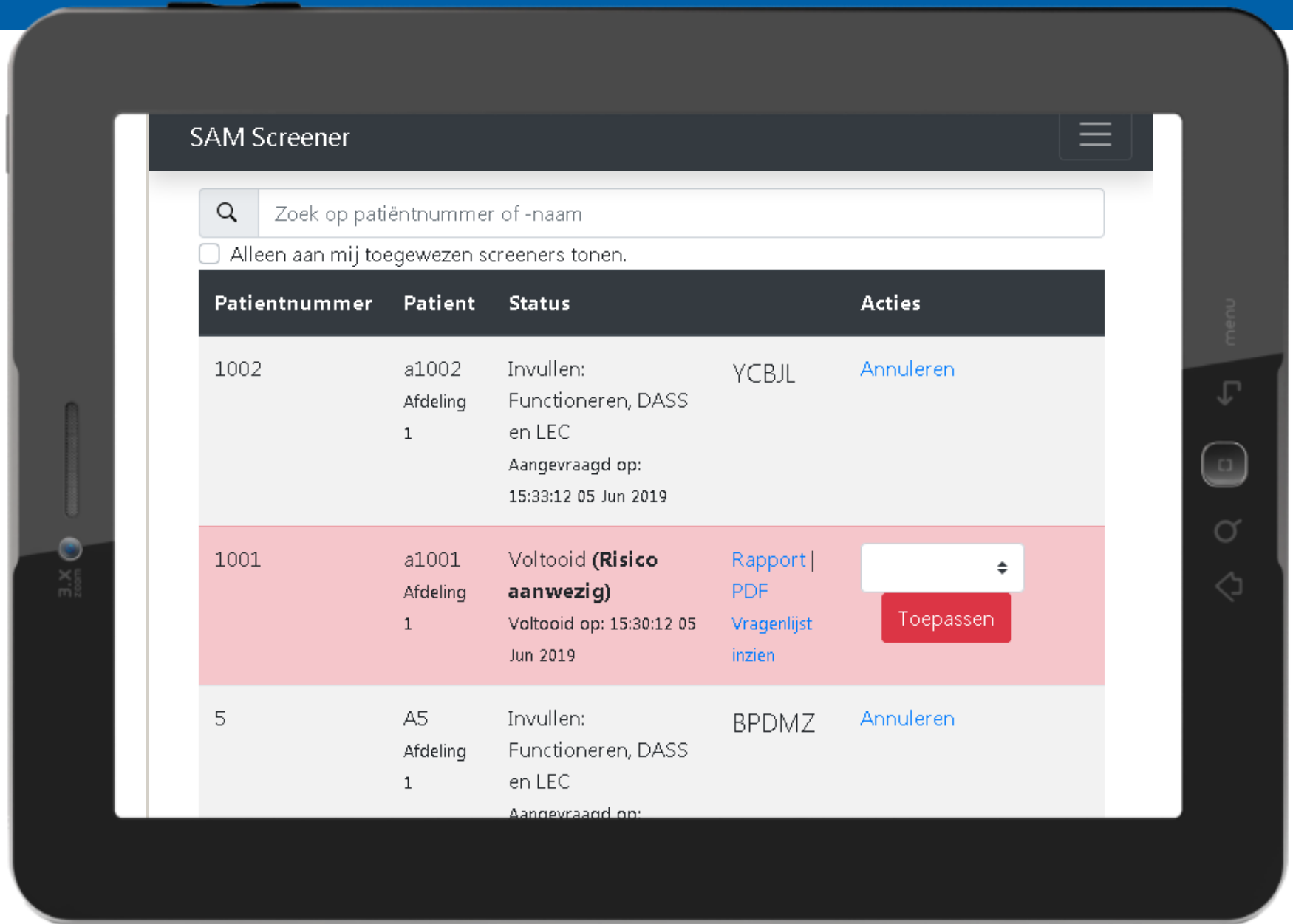
Dashboard: overview patients + risk

SAM Screener

Zoek op patiëntnummer of -naam

☐ Alleen aan mij toegewezen screeners tonen.

Patientnummer	Patient	Status		Acties
1002	a1002 Afdeling 1	Invullen: Functioneren, DASS en LEC Aangevraagd op: 15:33:12 05 Jun 2019	YCBJL	Annuleren
1001	a1001 Afdeling 1	Voltooid **(Risico aanwezig)** Voltooid op: 15:30:12 05 Jun 2019	Rapport| PDF Vragenlijst inzien	Toepassen
5	A5 Afdeling 1	Invullen: Functioneren, DASS en LEC Aangevraagd op:	BPDMZ	Annuleren

Dashboard: looking into risk questionnaire

Invullen PC-PTSD

05 Jun - PC-PTSD

Invullen PCL

05 Jun - PCL

Invullen Peritrauma vragen

05 Jun - PDI

05 Jun - PDEQ

05 Jun - PTCI

Invullen laatste vragen

05 Jun - GL

05 Jun - SUI

05 Jun - AUDIT-C

05 Jun - DRUGS

05 Jun - IA

suïcidevragenlijst

Aangevraagd: 5 juni 2019 17:29
Gemaakt: 5 juni 2019 17:30

Totaal

Totaal	12	Rood (5 - 18)

Schalen

Schaal	Score	Normen
Historisch Suïciderisico	5	Rood (3 - 9)
Acuut Suïciderisico	7	Rood (3 - 9)

Schalen en normcategorieën

Klik op een schaalnaam om de bijbehorende items te tonen of verbergen. Klik op een norm om de normcategoriën te tonen.
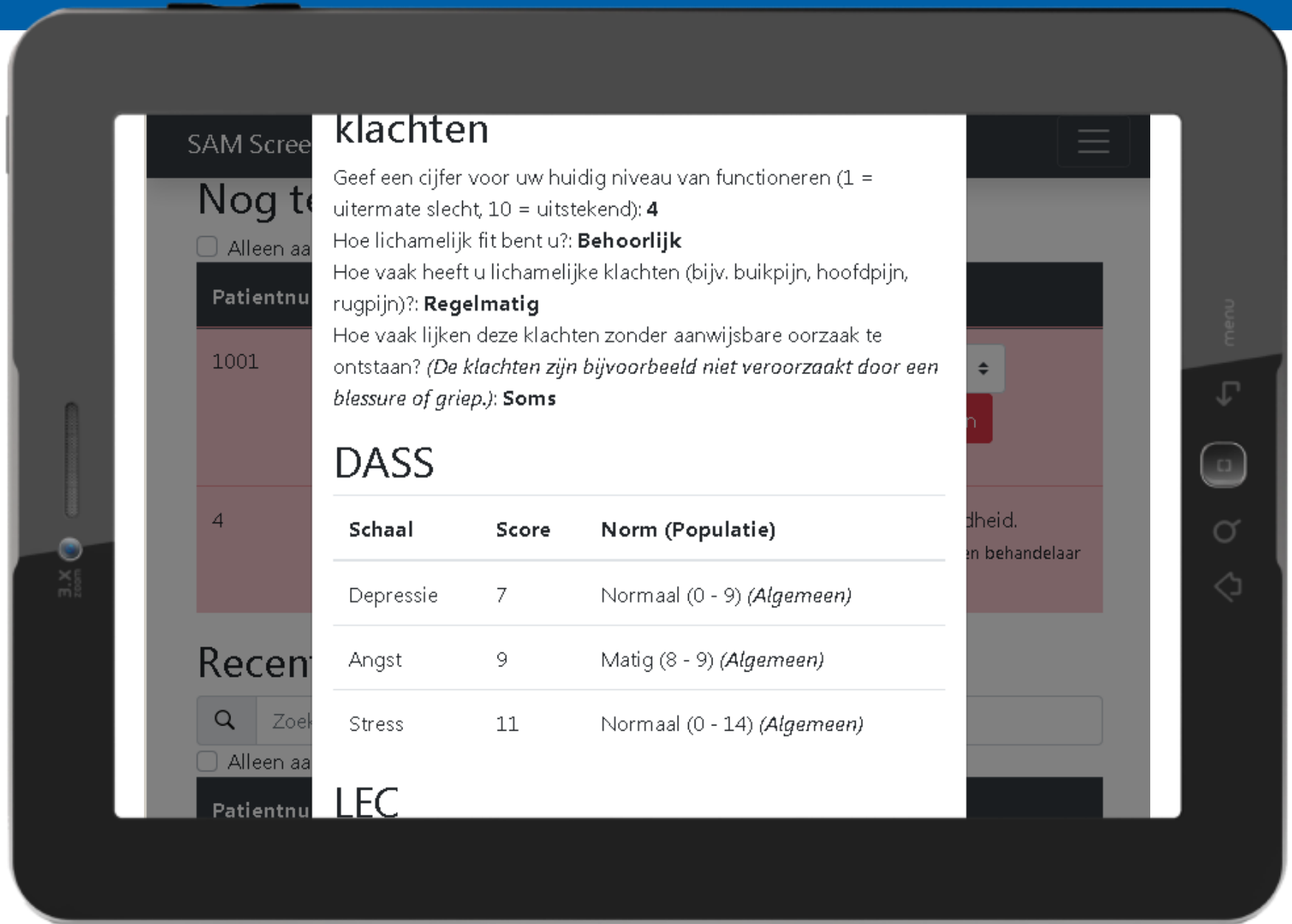
Dashboard: viewing details

Dashboard: tick progress patient

Dashboard: generated report

klachten

Geef een cijfer voor uw huidig niveau van functioneren (1 = uitermate slecht, 10 = uitstekend): **4**

Hoe lichamelijk fit bent u?: **Behoorlijk**

Hoe vaak heeft u lichamelijke klachten (bijv. buikpijn, hoofdpijn, rugpijn)?: **Regelmatig**

Hoe vaak lijken deze klachten zonder aanwijsbare oorzaak te ontstaan? *(De klachten zijn bijvoorbeeld niet veroorzaakt door een blessure of griep.)*: **Soms**

DASS

Schaal	Score	Norm (Populatie)
Depressie	7	Normaal (0 - 9) *(Algemeen)*
Angst	9	Matig (8 - 9) *(Algemeen)*
Stress	11	Normaal (0 - 14) *(Algemeen)*

LEC

SAM prison pilot: where are we now?

- **Rolled out SAM app internally within the clinic of the prison service**

- **Trained judicial personell to work with SAM**

- **Assessed the first batch of patients with the SAM app**

- *Did the first of three evaluations*

SAM prison pilot: evaluation

- **Interview & observation**   **Januari 2020**

- **Questionnaires**   **March 2020**

- **Interview & Questionnaires**   **April 2020**

Interview judicial psychologists

- **Highly motivated to use SAM**
- **30% of patients assisted with filling in SAM**
  - **depending on language skills / literacy**

- **SAM information especially usefull for treatment:**
  - **PTSS-symptoms, traumatic hystory and peritraumatic cognitions**
  - **Suicidal ideation**
  - **Psychotic symptoms**

Interview judicial psychologists

- **Suggestions for added information:**
  - **inquiry personality disorders**
  - **'actual substance use is asked for, but it would be useful to also inquire on the history of substance abuse'**

- **Functional suggestions:**
  - **possebility to skip questionaires**
  - **also diagnostic pdf-reports of incomplete asesssments**

Observation & interview: 3 patients

- **Amount of questionnaires fit the attention span**
  - **All three completed the questionnaires**
- **Time to administer SAM**
  - **19 – 25 minutes**
- **Sometimes problems understanding**
  - **double negations**
  - **questions with a lot of text**
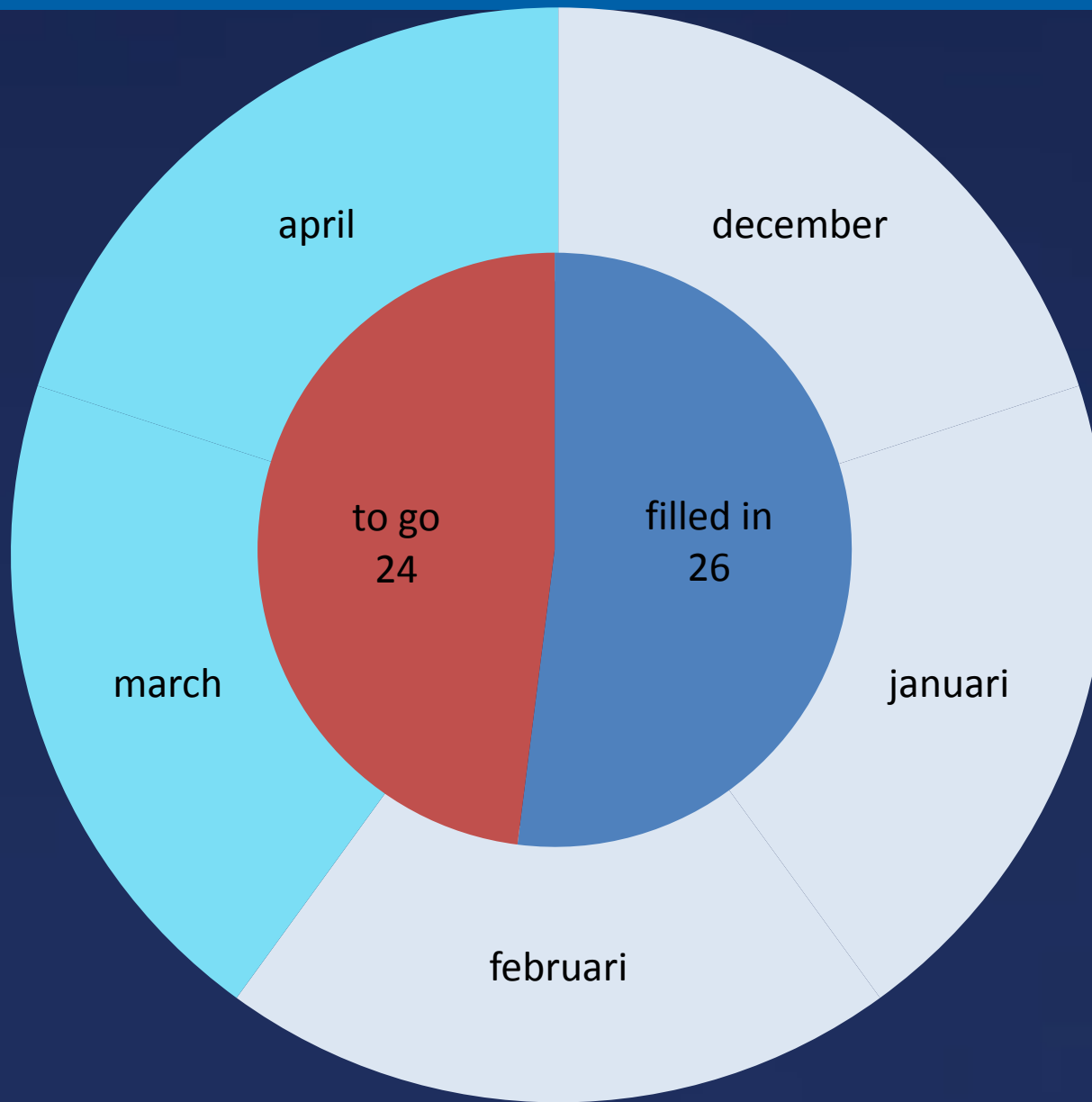 - **many answer options**

SAM prison pilot: next steps

- **Continuation administering SAM to new inmates with ψ problems**

- **Questionnaire evaluation psychologists**   **March 2020**

- **Interview & Questionnaire evaluation pro's and inhabitants**   **April 2020**

- **Report on results**   **May 2020**

Assessment target is 50 SAM's. How are we doing?

Preliminary Conclusions SAM Judicial pilot

- **Succeeded to implement SAM in workfow judicial clinic**

- **High motivation of judicial psychologiststo use SAM**

- **Amount of questions fits the attention span of patients**

- **30 % of patients assisted by psychologist**

- **Formulation of question sometimes too complicated**

- **Information of SAM used for diagnostic purposes**

Thank you

SAM information
develop@interapy.nl
+31 (0) 88 11 55 889