

A close-up photograph of a woman with blonde hair tied back, holding a young child with light brown hair. The woman is looking directly at the camera with a gentle expression. The child is looking slightly to the side. The background is softly blurred, showing hints of an indoor setting with warm lighting.

Infant vision Screening in Flanders

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Kind & Gezin

Flemish Vision Screening Program for pre-school children (0 – 3 y)

- Based on recent scientific evidence
- Followed up by a scientific advisory board
- Aim
 - Early detection of amblyogenic risk factors to prevent development of amblyopia
 - Detection of some serious eye disorders

Flemish Vision Screening Program for pre-school children (0 – 3 y)

- Program
 - Performed by nurse
 - During the preventive consultation at K&G
 - Test age: ~12 months and ~30 months
- Protocol:

Pass	follow-up by protocol
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Refer	refer to ophthalmologist
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No result	refer to ophthalmologist
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No test	retry next time
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Screening Device: 2013-2018 Plusoptix



Evaluation of a smartphone photoscreening app to detect refractive amblyopia risk factors in children aged 1–6 years

PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

The Positive Predictive Value of Smartphone Photoscreening in Pediatric Practices

Robert W. Arnold, MD, FAAP; Andrew W. Arnold, BA, COA; Taryn T. Hunt-Smith; Robin L. Grendahl, MD, FAAP; R. Kevin Winkle, MD, FAAP

Sus

Effectiveness of the GoCheck Kids Vision Screener in Detecting Amblyopia Risk Factors

M. Millicent W. Peterseim, MD, Ryan S. Rhodes, BS, Rupa N. Patel, BS, M. Edward Wilson, MD, Luke E. Edmondson, MD, Sarah A. Logan, MD, Edward W. Cheeseman, MD, Emily Shortridge, MD, Rupal H. Trivedi, MD MSCR

AMERICAN JOURNAL
OF OPHTHALMOLOGY

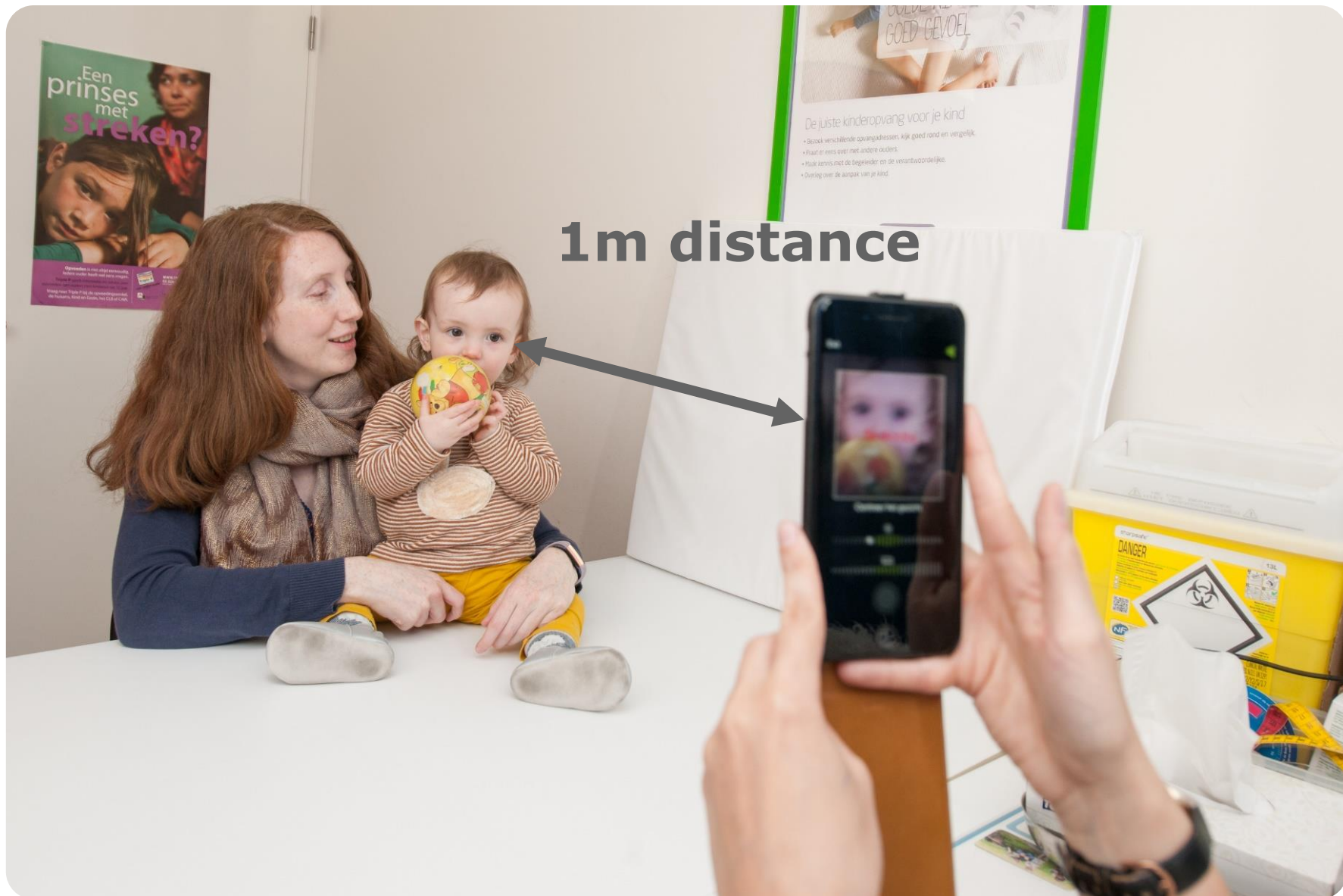
AJO

New device

- Why GoCheck Kids?
 - Cost-benefit
 - Scientific literature
 - Nurses needed smartphones
 - Screeningdevice per nurse
 - Mobility



GoCheck Kids



GoCheck Kids



The GoCheck Kids app:

- uses camera and flash to turn smartphone into an automated photo screener
- analyzes the red pupils and the light reflex
- makes an estimate of any refraction anomalies

GoCheck Kids

☀ Pupils have to appear wide open with bright red reflex.



☀ Crescent (sickle) reflection indicates the presence of a refractive error




☀ Size and position of the sickle define the type of anomaly



Result

Leeftijd: 1




Geen risicofactoren aanwezig

	Rechts	Links
Hypermetropie (D) Drempel: 1,75	0,00	0,00
Myopie (D) Drempel: 2,00	0,00	0,00
Anisometropie (D) Drempel: 1,25	0,00	

No risk factors
= pass

Leeftijd: 1



Risicofactoren aanwezig

	Rechts	Links
Hypermetropie (D) Drempel: 1,75	4,17	2,41
Myopie (D) Drempel: 2,00	0,00	0,00
Anisometropie (D) Drempel: 1,25	1,77	

Risk factors
= refer

Leeftijd: 1



Geen meting mogelijk

	Rechts	Links
Hypermetropie (D) Drempel: 1,75	0.00	0.00
Myopie (D) Drempel: 2,00	0.00	0.00
Anisometropie (D) Drempel: 1,25	0.00	

No measurement
possible

GoCheck Kids

Wat do we screen ?	Cut off parameters
Myopia	$> -2,00$
Hyperopia	$> +1,75$
Anisometropia	1,2
Gaze error	

Astigmatism is indirectly detected due to its association to other refractive anomalies

Referral letter to ophthalmologist



Verwijsbrief

Geachte,

Kind en Gezin voert een systematische oogscreening uit met een automatische fotorefractiemeter (GoCheckKids). Uit de resultaten blijkt dat het kind mogelijk een verhoogd risico heeft op ontwikkeling van amblyopie. Daarom verwijzen wij dit kindje voor verder onderzoek en indien nodig, opvolging en behandeling.

NAAM KIND

Reden van de verwijzing: **'Oogscreening'**

Datum van de oogtest: 22/11/2018

Resultaat van de oogtest: Refer

	Rechts	Links
Myopie	-2.53	-2.65
Hypermetropie	0.00	0.00
Anisometropie	0.12	

Opmerkingen:

Review GoCheck Kids

 Quality control step:

- Daily review
- Experts

Review GoCheck Kids

🌟 Hair in front of the eyes

- Result not reliable

→ Test again



Review GoCheck Kids

- ☼ Child does not look into the camera
 - Result not reliable
 - Test again



Review GoCheck Kids

- Extra reflexion
 - Result not reliable
 - Test again



Review GoCheck Kids

- Movement head and eyes
 - Result not reliable
 - Test again



Review GoCheck Kids

🌈 Difference in color
→ Refer



Review GoCheck Kids

- 🌟 Dark eyes
 - Blue crescents
- Refer



Review GoCheck Kids

- ☀ Child does not look into the camera
→ Test again



- ☀ Nurse tested again
→ Pass



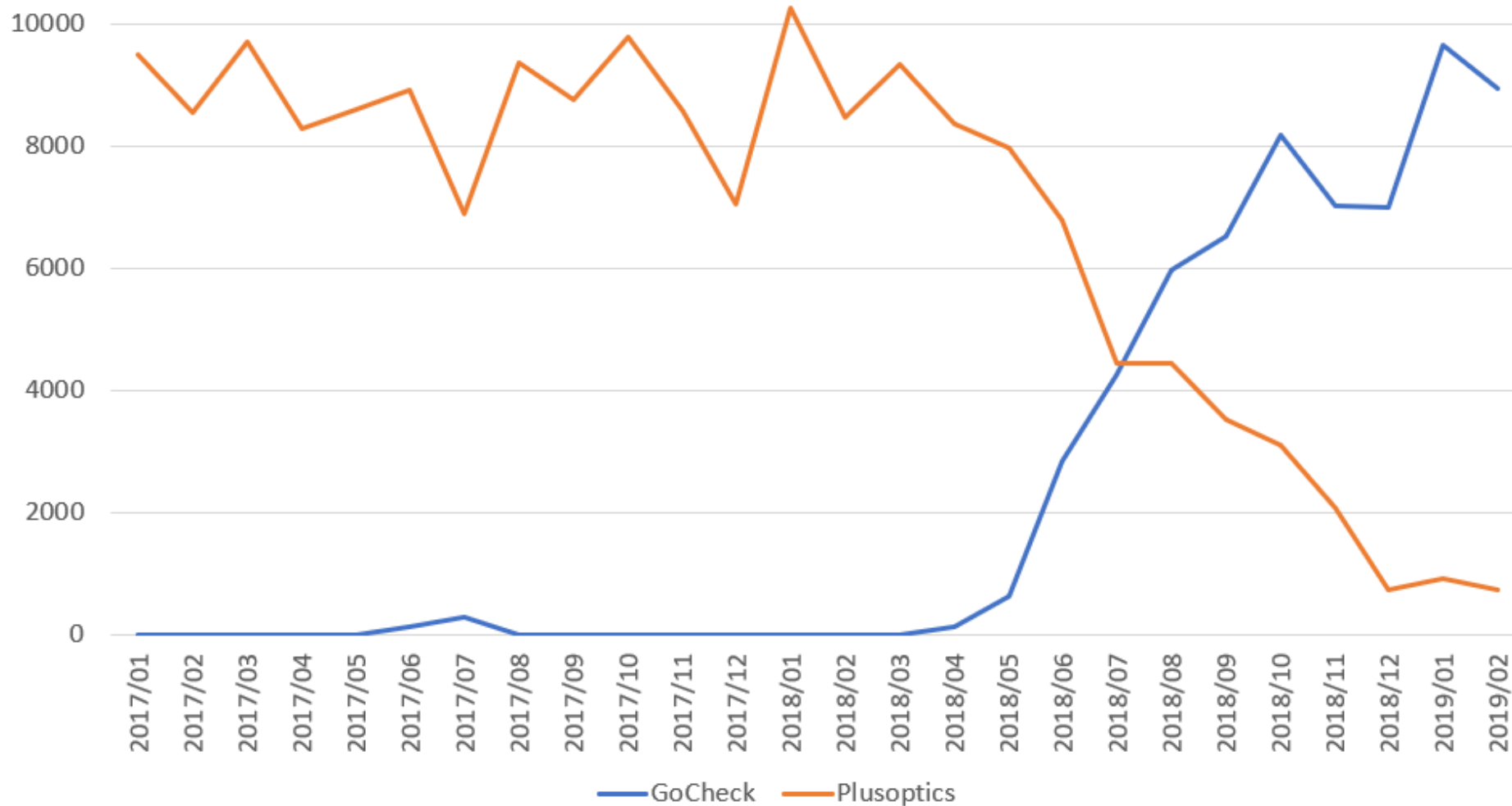
Review GoCheck Kids

- 🌈 Child with paralysis
 - Nurses planned to test again
 - Review by experts: pass



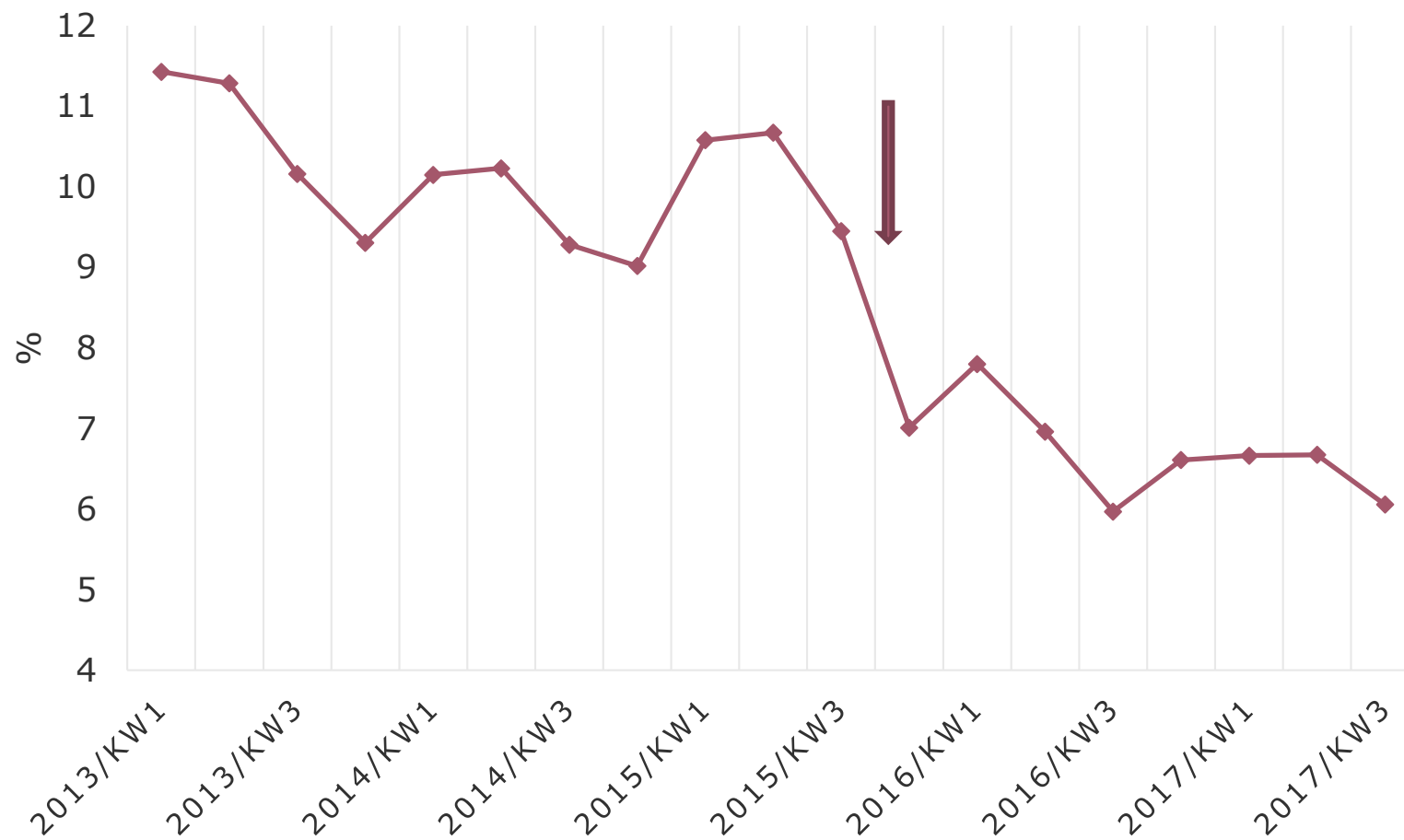
Coverage Flanders – Plusoptix -> GoCheck Kids

(numbers of children screened)



Referral rate – Plusoptix

Threshold was adapted in november 2015

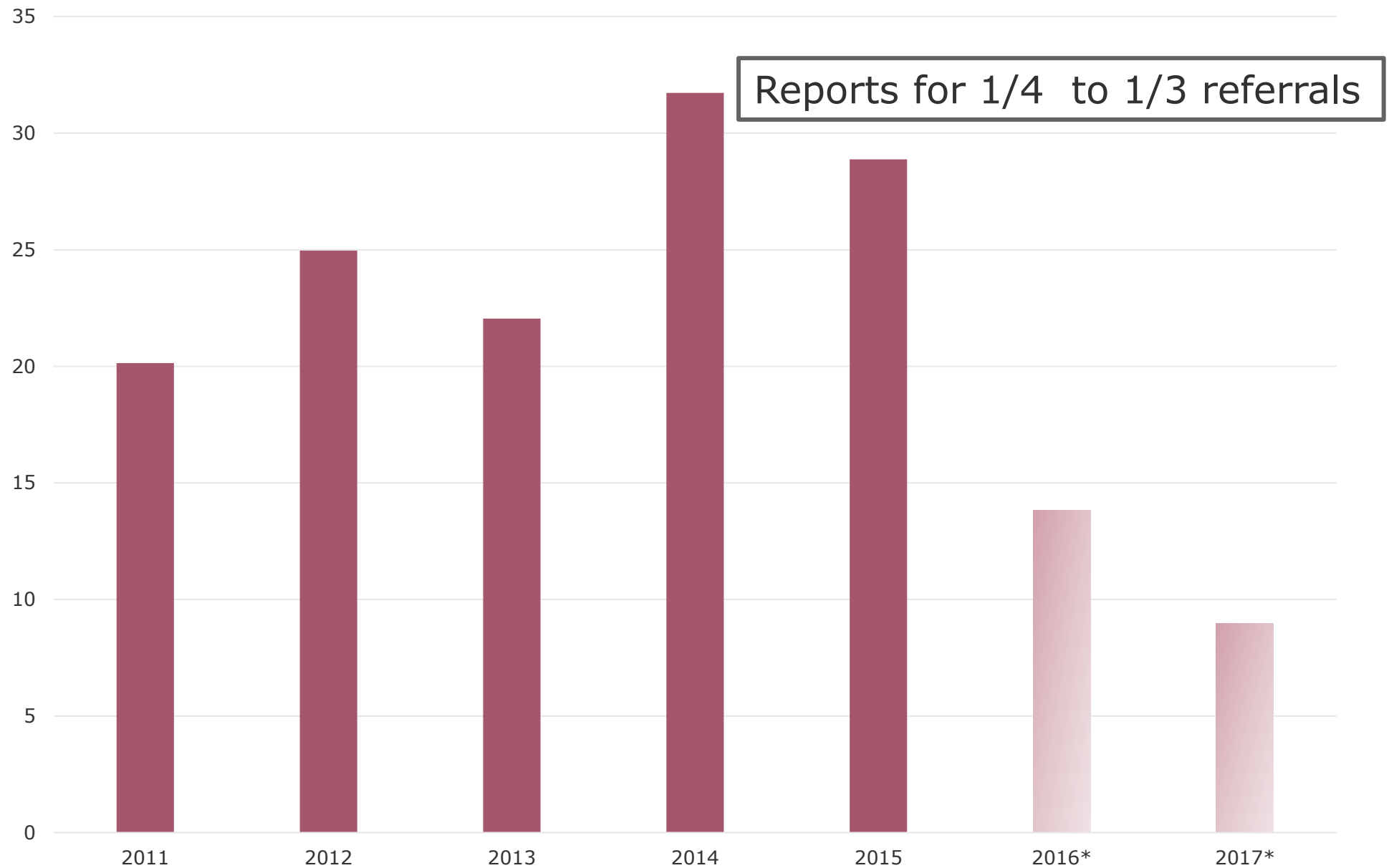


Follow-up and feedback

- Follow-up diagnostic tests after referral
 - Examination by ophtalmologist
 - Standard referral letter and report to be completed by the ophtalmologist
 - Data are collected in central database



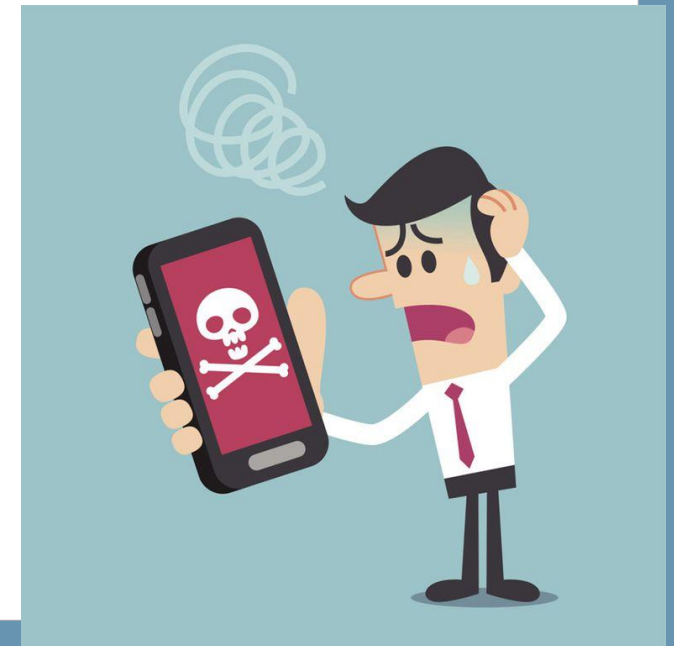
Reports received as a % of total referrals



*incomplete data

GoCheck Kids - startup phase

- Try-out: june 2018
- Roll-out: sept 2018
- **Encountered problems**
 - Test environment
 - Resistance for changes
 - Learning proces



GoCheck Kids - implementation

- **Solutions**

- Budget for infrastructure
- Intensive individual on site teaching
- Intensive follow-up of data by our team
- Evaluation results: WAG fall 2019



GoCheck Kids - implementation

- **Ambition**

- Implementation phase finished by july 2019
- Follow-up data available
- Minimal and correct referral rates
- Fully operational end of 2019



Conclusions

- **Plusoptix > GoCheck Kids**
- **Implementation phase is running**
- **Learning curve as expected**
- **First results are reassuring and encouraging**

GOALS

May we ask your help ?

How to improve your feedback?





Suggesties? We horen het graag!

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