TELEMEDECINE : suivi et dépistage de la DMLA

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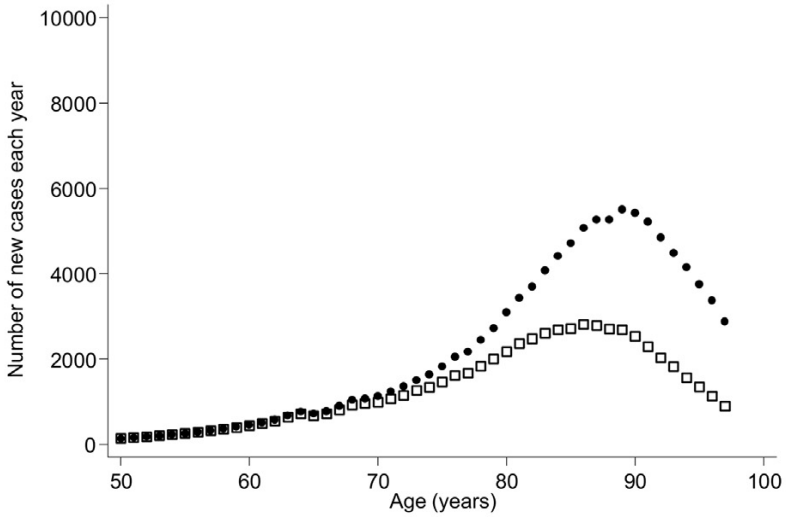
COUF 01/09/17

Incidence & Prevalence

	Estimated Annual Incidence per 1000 (95% Cri)		
	Late AMD	GA	NVAMD
Men and women			
50–54	0.2 (0.1, 0.2)	0.1 (0.1, 0.1)	0.1 (0.1, 0.1)
55–59	0.3 (0.2, 0.5)	0.2 (0.1, 0.3)	0.2 (0.1, 0.2)
60–64	0.7 (0.5, 1.0)	0.3 (0.2, 0.5)	0.3 (0.2, 0.5)
65–69	1.4 (1.0, 2.0)	0.7 (0.5, 1.0)	0.7 (0.5, 0.9)
70–74	2.9 (2.0, 4.0)	1.5 (1.0, 2.1)	1.4 (1.0, 1.9)
75–79	5.7 (4.0, 8.0)	3.0 (2.1, 4.2)	2.8 (2.0, 3.8)
80–84	11.3 (7.9, 15.6)	6.0 (4.0, 8.7)	5.5 (3.9, 7.6)
85–89	21.0 (14.8, 28.6)	11.6 (7.7, 17.1)	10.5 (7.3, 15.0)
90+	36.7 (26.9, 48.4)	22.0 (14.3, 32.7)	19.8 (13.4, 28.3)
All ages	3.5 (2.5, 4.7)	1.9 (1.3, 2.8)	1.8 (1.2, 2.5)



RUDNICKA , Am J Ophthalmol 2015;160(1):85–93.

Prevalence UK age >50 (UK 64M vs FR 66M) :

- Prevalence GA 1.3% & NV-AMD 1.2%
- Approx. 276 000 GA & 263 000 NV-AMD
  - *Owen, Br J Ophthalmol 2012;96:752e756*

Virtual clinics

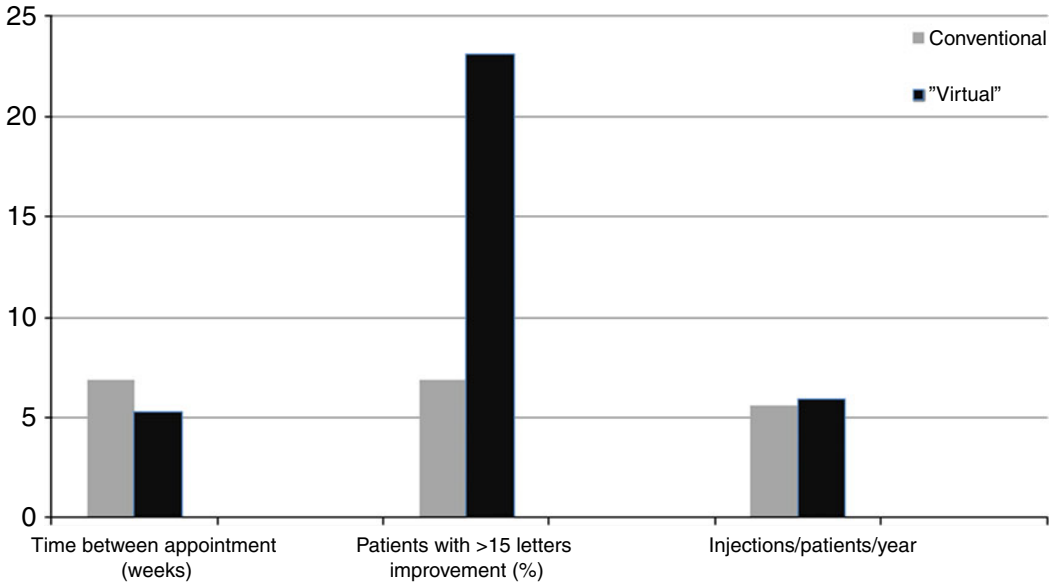


Fig. 2. Results regarding primary and secondary outcomes before and after the implementation of the 'virtual' appointment model.

- Non-doctor lead 'virtual' clinics approximately 40% of AMD appointments.
- Average time a patient spent in the virtual clinic 47.3' *vs*. 71.4' for a conventional visit

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Fig. 2. Graphic user interface of the DICOM ClearCanvas visualizer.

- Sensitivity & specificity: 96% & 85%
- Average time spent: 1’21’’ vs. 10’ on office (P , 0.001)

RETINA 36:279–284, 2016

Original Investigation

Prospective Evaluation of Teleophthalmology in Screening and Recurrence Monitoring of Neovascular Age-Related Macular Degeneration

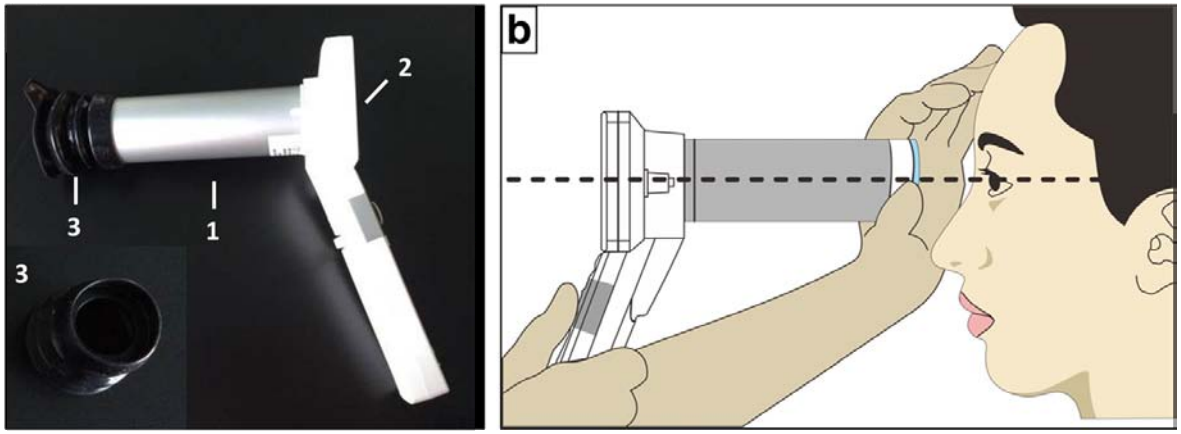
A Randomized Clinical Trial

Bo Li, MD; Anne-Marie Powell, RN; Philip L. Hooper, MD; Thomas G. Sheidow, MD

- Average imaging to treatment time
  - 16.4 vs. 11.6 days for the routine group ($P = .11$)
- Average recurrence to treatment time
  - 13.6 days vs. 0.04 days ($P < .01$)
- no adverse visual outcomes were identified.

JAMA Ophthalmol. 2015;133(3):276-282

Handheld portable non-mydriatic fundus camera



- 63% excellent overall quality, 20.5% good, 11.75% fair
- 4.75% were inadequate

Jin et al. BMC Ophthalmology (2017) 17:89

Home monitoring device

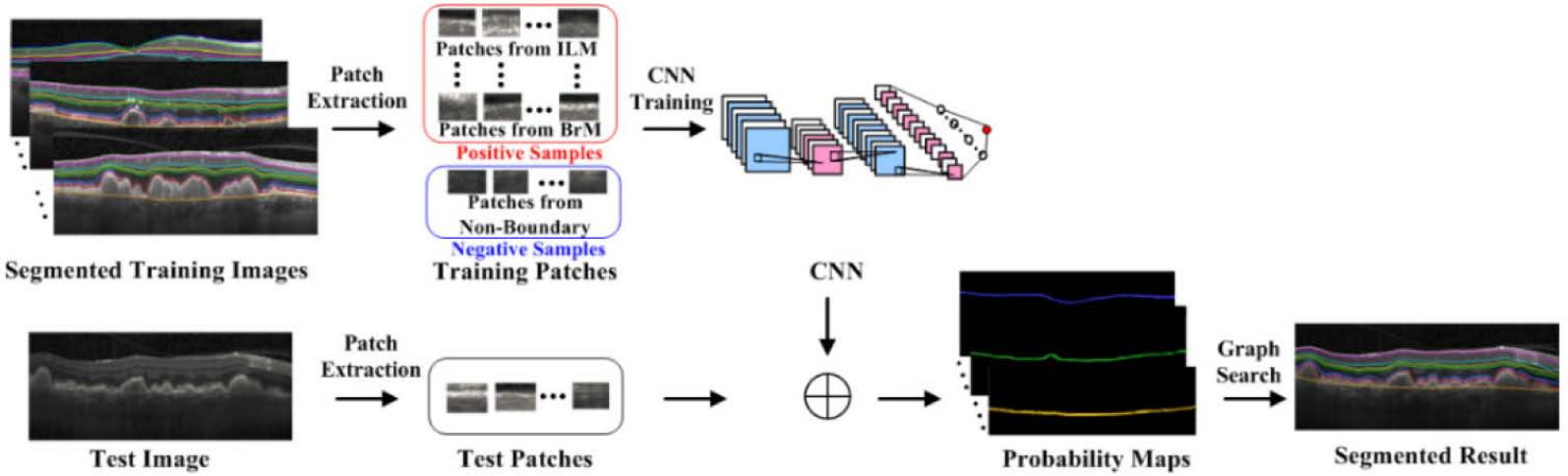
- Patients with intermediate AMD using a home monitoring device have less loss of visual acuity, on average, at detection of CNV than standard care monitoring

Figure 1. Patient Using the Preferential Hyperacuity Perimetry Device

JAMA Ophthalmol. 2015;133(12):1425-1430

Smartphone home monitoring + MD

Automatic detection



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- Comparing humans and deep learning performance for grading AMD
  - 5664 color fundus images from the NIH AREDS dataset and DCNN universal features, accuracy for the (4-, 3-, 2-) class classification problem:
  - 79.4%, 81.5%, 93.4% for machine vs. 75.8%, 85.0%, 95.2% for physician grading
    - *Comput Biol Med. 2017 Mar 1;82:80-86.*

Apport de la proposition ou d'un modèle : (1-5 par item, note /25)

A. Sur la place médicale de l'OPH
   - Moins de « sémiologie » + de « santé publique »

B. Sur la place économique de l'OPH
   - Peu de changement voir mieux si oph reste celui qui contrôle

C. Sur l'équilibre des acteurs de la filière
   - Dépend de la mise en œuvre : en faveur de celui qui met en place
   - Besoin de moins d'oph qu'en absence d'aide technologique

D. Sur sa faisabilité politique / économique / universitaire (capacités de formation)
   - « Vouloir c'est pouvoir »

E. Sur la réponse aux besoins de la population
   - Peut faciliter et répondre au problèmes d'accès