
**AMD- A new demand with Solutions for
Effective Implementation**

**CAPACITY IN AMD (RETINAL)
CLINICS AND POTENTIAL
SOLUTIONS
*W AMOAKU***

Declarations: WMA

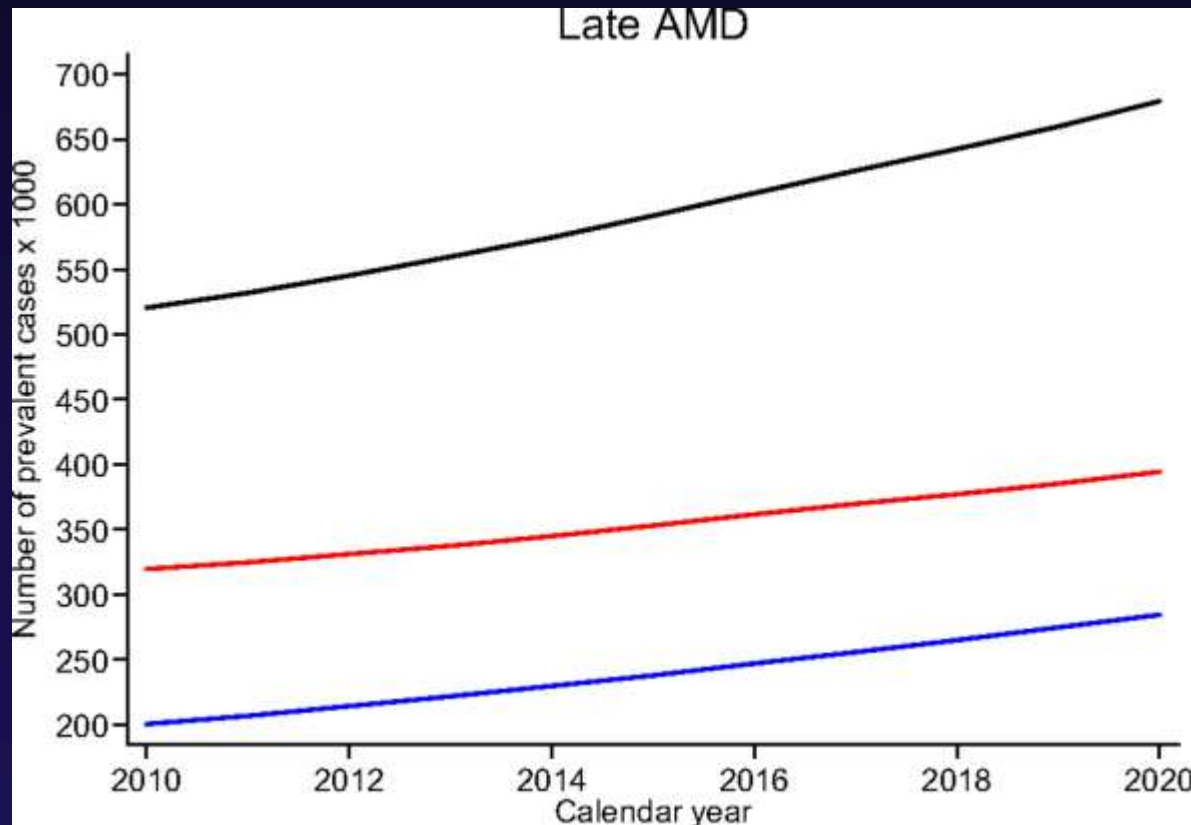
- **Pharma-sponsored research funding: Allergan, Bausch and Lomb, Novartis, Pfizer**
- **My employer (UoN) has received research funding from Allergan, Novartis, CentreVue**
- **Advisory Board Memberships: Alcon, Alimera, Allergan, Bayer, Novartis, Pfizer, Roche, Santen, Thrombogenics**
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- **Speaker Honoraria: Alimera, Allergan, Bausch and Lomb, Bayer, Novartis, Pfizer**

Neovascular AMD

- Neovascular (Wet) AMD (nAMD) progresses rapidly and cause significant visual loss in as little as 3 months¹
- Untreated, a high proportion of eyes affected will become functionally blind within 2 years²⁻⁴
- nAMD in one eye is associated with an increased probability of development in the other eye⁵
 - Over 5 years the risk of developing choroidal neovascularisation (CNV) in the fellow eye is 42%⁶
- Early detection and treatment may prevent unnecessary vision loss⁷
- nAMD is now a treatable disease^{2,7}

Patient numbers are increasing

Projected number of prevalent cases (in thousands) of late age related macular degeneration (AMD) in men (blue line) and women (red line) and combined (black line) from 2010 to 2020.¹



Specific issues for AMD services

- Intravitreal anti-VEGF injections the mainstay of treatment for AMD since 2008
- It is not the injections *per se* that pose problems
- Monthly follow-up clinics create significant workload
 - Unable to discharge existing patients but new patients must also be accommodated
- Expansion of intravitreal injections for other clinical conditions: DMO, RVO, VMT etc
- Total estimation of injections= at least double that for nAMD only
- Look forward to intravitreal injections for dry AMD!

Contemporary Neovascular AMD

Services: Challenges

- Increasing patient numbers – new added on to old
- No obvious end point!

AMD Services

- Need for monthly follow-up creates capacity problems: space, personnel
- Solution lies in increasing capacity in the follow-up clinics
- Middle grade (SAS) medical staff working with consultant remains the ideal solution. However *Immigration Rules* challenges
- Further consultant expansion is necessary
- Expansion of Ophthalmology Training numbers required!

AMD Services

- ***‘Action on AMD’* exemplar sites**
- **Publication: Amoaku et al. *Eye* 2012; 26, S2-21; doi10.1038/eye.2011.343**
- **Examples of Good Practice to address AMD capacity pressures**
- *Included Bolton, Frimley Park, Gloucester, Sunderland, Soton, Sheffield, York,*

‘Action on AMD’

- **Healthcare Professionals –
ophthalmologists, optometrists, nurse
consultant, Policy and Campaign Manager
for a an Eye Health Charity**
- **Funding provided by Novartis Pharma UK**

'Action on AMD'

Recommendations

- **Fast track services**
- **Provision of adequate staffing**
- **Multi-disciplinary clinics – staff training and development, flexible role, and appropriate use of staff**
- **Other novel ways of enhancing services, inc 'Virtual Clinics', electronic medical records**

Optimum Model?

- **Combinations of all Good Practices**
- **Requires Team Work**
- **Forward Planning**
- **Ever evolving – No standstill solutions**

Managing Space Capacity

- Separation of nAMD patients from others
- Use of mobile units
- Use of other, under-used, healthcare space (private hospitals, polyclinics, GP clinics)
- Re-organisation of existing space
- Extra (evening) sessions and week end working

Managing Space Capacity: Mobile Clinics

- Provides 'temporary' increase in space capacity
- Allows easy access to patients
- Transferable between different locations as necessary: service provision at patients' 'door step'
- Expensive: requires significant investment
- Logistics influenced by other factors e.g. weather

AMD Clinic Capacity Issues: FRIMLEY

- **Clinics run at maximum capacity with no scope for further expansion of service; cant cope with current numbers; no room for expansion**
- **Inferior/ Compromised quality of care, detrimental to patients' quality of life and treatment outcomes**
- **Substantial pressure on staff**

Stage 2: Define and scope

Ensure the project starts in the right areas

- ***Demand and capacity analysis*** undertaken to help identify the extent of the capacity issues at present, and going forward

Year	New Patients	Total Number of AMD Attendances (New + FU)	Average per week (based on 50 week year)	Shortfall per week v 09/10 baseline
2009/10 (Baseline)	336	5,917	120	0
2010/11	426	7,898	158	-38
2011/12	491	10,552	211	-91
2012/13	516	14,163	283	-163
2013/14	541	15,693	313	-193
2014/15	568	17,425	348	-228
2015/16	597	19,386	387	-267
2016/17	627	21,610	432	-312

Stage 5: Pilot and Implement

Test out proposed changes before they are fully implemented

- Away day with clinical team to design mobile unit with simulated walkthrough to prevent patient bottlenecks



Mobile Clinic Pathway



Stage 6: Sustain and share

Ensure that changes which have been implemented are sustained and shared

- Monitor measures of success using:
 - ***Patient Satisfaction Surveys***
 - Audit of patient flow through the Mobile Unit
- ‘Wash-up’ project meeting to establish what didn’t go well and lessons learnt for future projects

Committed To Excellence

Working Together

Facing The Future



Frimley Mobile Macular Service

- **Shorter time spent at appointments**
- **Average time spent in the department before the project launched = 1 hour 21 minutes**
- **Average time spent on the Mobile Unit = 32-40 minutes**

Eliminate evening and weekend clinics

	Evening	Saturday	Total
April	149	230	429
May	131	510	641
June	118	396	514
July	0	264	264
August	0	274	274
September	0	216	216
October	0	210	210

Referral Pathway: Equipment and Personnel

- Use of a small number of trained and accredited community optometrists for OCT imaging and urgent referrals to local AMD Service
- Development of **affordable** equipment that will allow **accurate** self-monitoring of macular disease activity in stable patients, *in the future*

Innovation: Teleophthalmology

Simon Kelly and Ian Wallwork, Bolton

- **Develop community OCT Service**
- **Wallwork Opticians and Salford PCT**
- **Restricted to retina patients**
- **Exclude diabetes, separate pathway exists**
- **Published audit of first 50 cases in 2011 in ‘*Clinical Ophthalmology*’ (Dove Press)**
- **Scheme later rolled out across Salford and Trafford with Local Optical Committee**

Pathway

SD-OCT with fundus image taken in community

£40 fee, if patient can afford.

NHSmile referral 'letter' and images

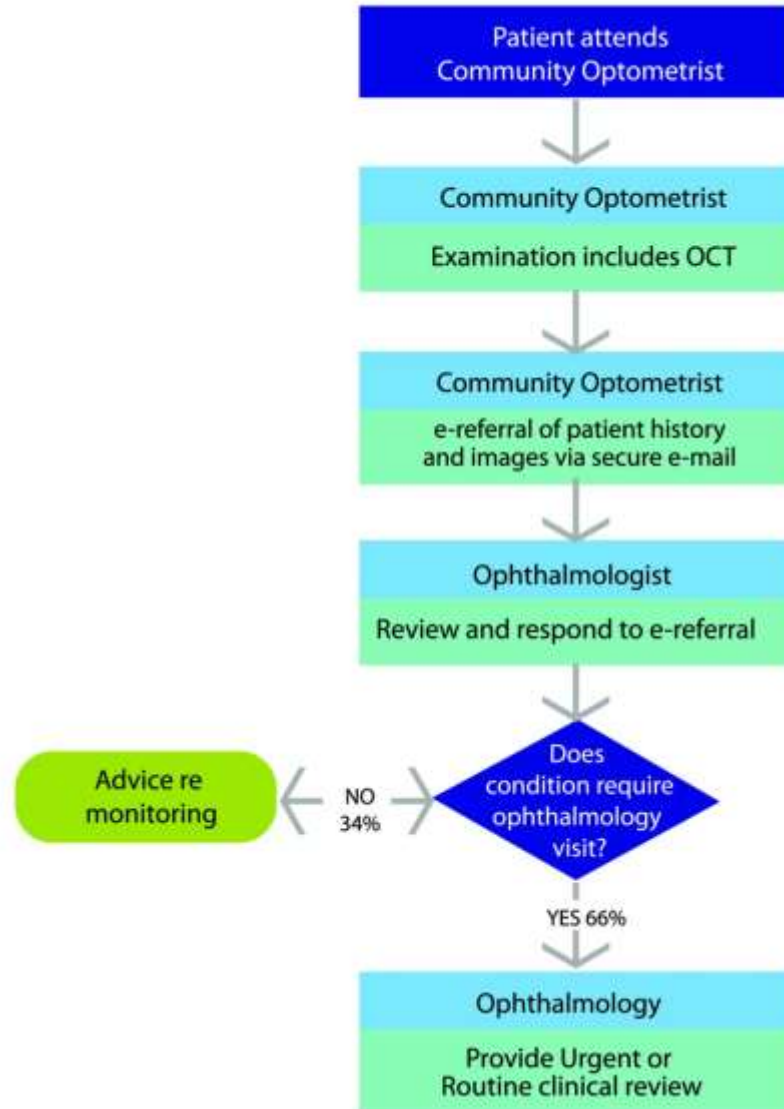
Telemedicine consultation and triage

Seen in HES or by GP

or

Followed up in community optometry

e-referral Pathway



STAFF and SKILLS

- **Appropriate utilisation of staff and staff skills (e.g. making sure that consultants' time is used efficiently)**
- **Adoption of models that utilise alternative staff (e.g. optometrists, nurses, orthoptists) for imaging and clear cut decision making, other tasks depending on individual's expertise and skills**
- **Patients may not always need to see the consultant at every visit, as long as the consultant is still involved in the decision making**

Maximising Capacity: Non-Medical Staff

- **Costs – not significantly cheaper?**
- **Availability/Selection**
- **Training and competency assessment**
- **Staff retention and morale**
- **Leave of absence/sick leave cover**
- **Complications and management: safety, audit data**
- **Patient acceptance**

Involvement in other Medical Retina Areas, Sheffield

- **In some units DMO and RVO management has lost out to AMD demands**
- **Use AHP's in DR and RVO face to face clinics alongside consultant and in photographic review clinics:**
 - **Job variation for AHP staff**
 - **AHP staff do not rotate every 6 months**
 - **AHP follow clear guidelines in clinic**
 - **Takes pressure off consultant in clinic when teaching inexperienced trainees**
 - **Medical retina service is more balanced**

Sheffield: Direct AMD Service Involvement

- **Rapid Access AMD clinics:**
 - Nurse consultant assess patients in face to face clinic
- **Rapid Access Overflow clinic:**
 - Increased referrals from optometrists overburdens rapid access clinic
 - HCA measures VA, patients go direct to photography for colour fundal images and OCT, VA & images assessed by consultant
- **Nurse Practitioners, Nurse Consultant, or Optometrist**
 - Work alongside consultant in face to face 1-stop clinic
 - Review images of patients seen in 2-stop clinics

Non-Medical Injectors

- Started in Copenhagen
- Pioneered in UK by Peter Simcock, Exeter
- Most UK departments now have one!
- Moorfield have 40 nurse injectors!
- Orthoptists now also injecting
- Some legal issues
- Need for a change in SmPC text

Bolton Retinal Service

- **Nurse Injections** undertook **3,355 intravitreal injections** between June 2012 and Nov 2013 (Bolton and East Lancs Hosp) reported in *Clinical Ophthalmology* (<http://www.dovepress.com/clinical-ophthalmology-journal>)
- Now undertake **>80% of all IVT in this service**, freeing doctors to undertake other services
- **Clinics at week ends** with help from *18 Week Support*, a well-respected and experienced provider for insourcing solutions #WeekEndEye

Nurse injectors, Sunderland



- Injection case load 12,500 injections in 2015
- 10 trained nurse injectors
- 90% of IVT injections performed by nurses
- 1 consultant IVT list- Steroid Implants/difficult IVT
- 1 Fellow IVT list



Resources 2009 vs 2016, Sunderland

2009

- 1 full-time MR consultant
- 2 VR consultants x 1 clinic each
- 2 Optometrist clinics
- 1 Band 6 Junior Sister
- 3.65 WTE Band 5 staff nurses
- 1.44 WTE Band 2 HCAs
- 1 Photographer

2016

- 2 full time MR consultant
- 4 VR consultant - 2 MR clinic each/week
- 4 Optometrist clinics
- 1 Band 7 Nurse
- 2 Band 6 Nurse
- 4 Band 4 Nurse
- 3 HCAs
- 3 Photographers

Support and Quality

- Support and quality of service are essential and must not be compromised
- Provision of counselling and liaison with LVA clinic are important
- Eye Clinic Liaison Officers (ECLOs) are useful and should be available
- Patient input to service demand issues vital in arriving at solutions

AMD Clinic Capacity: Potential

- Use of community optometrists for monitoring 'stable' patients (patients at low risk of requiring treatment), supplemented by
- Electronic referrals from community optometrists
- ECHoES Trial
- Possible, but requires selection, training, certification, quality control

BUSINESS CASES

- Hospital and Trust management teams (and CCG) should be made aware of the **value** of nAMD and other medical retina services
- Costing the service properly is important
- Determines viability of services!

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Acknowledgements

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Thank You!