Multidisciplinary Glaucoma Service Design

Paul GD Spry PhD MCOptom DipGlau DipTp(IP)
Head of Optometry, Bristol Eye Hospital
Disclosures

1. HES Optometrist Consultant

2. Text book co-author
   Optician Publications; 2010

3. College of Optometrists
   External examiner – Independent Prescribing

4. Moorfields Eye Hospital
   External examiner – Glaucoma Higher Qualifications

5. Education/lecturing
   City University postgraduate (IP; glaucoma); Glasgow Caledonian University undergraduate; College of Optometrists; others

6. Consulting
   Newmedica
What we’ll go over in this talk...

• Why do we need multidisciplinary glaucoma service design?
• Defining Shared Care; historical context; evidence base
• Candidate professions; development of Optometrists as members of multidisciplinary team
• Key guidelines and documentation
• Currently defined roles; matching roles with qualifications
  – worked example of differing optometric roles - Bristol
• How Professor David Henson has;
  – Helped, supported and influenced my career;
  – Contributed evidence for the extending role of optometrists as multidisciplinary team members
Professor David Henson..... and me

Bristol Shared Care Glaucoma Study Committee member
– key elements of study design

PhD supervisor 1993-1998; Univ Wales, Cardiff
“Comparison of visual field examination strategies used in assessment of patients with primary open angle glaucoma”

Career beyond Higher Degree
Why do we need multidisciplinary glaucoma service design?

Demand for consultations
- COAG: 2% of population > 40 years
- OHT/suspects: 3% - 5% of population > 40 years
  ≈ 6% of 30 million
  ≈ 1.8 million people

Supply of outpatient appointments
- 75 million NHS Outpatient visits 2013/4
  • 8.5% (6.5 million appointments)
    - ophthalmology
    ≈ 25% used for glaucoma
    (1.6 million appointments)

Existing service structure
- UK Ophthalmologist population
  2006: 2555 (901 consultants - 1:67,000)
  2010: 2635 (1027 consultants - 1:59,000)

UK Glaucoma care episodes
Will demand for glaucoma consultations continue to exceed supply?

1. Demographic Demand
   – Increasing population size

   Predicted Population size - millions
   
<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2019</th>
<th>2024</th>
<th>2029</th>
<th>2034</th>
<th>2039</th>
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<tbody>
<tr>
<td>UK total</td>
<td>64.6</td>
<td>66.9</td>
<td>69.0</td>
<td>71.0</td>
<td>72.7</td>
<td>74.3</td>
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</table>

   – Ageing population;
   – Increased longevity

2. Changing Referral Patterns, Challenge of follow-up
   – Evolving technologies; Cautious case-finding approach;
   – Impact of NICE CG85
   – Clinical follow-up challenge (pharmacologic tx; high risk pxs)
Increasing glaucoma care capacity using ‘shared care’ as a mechanism

- Sharing of clinical management responsibilities between two or more health care professionals from different disciplines

- ‘Shared Care’ may mean different things to different people, for example:
  a) Data collection only;
  b) Data collection and decision making by protocol;
  c) Data collection and autonomous decision making

- Ultimate responsibility?
1. Optometrists 2016 n = 14,354 (1: 4500); 2006 n= 9300; Orthoptists n = 1433; Registered Nurses n > 600,000 but how many ophthalmic trained?

2. Optometric core competencies relevant to detection of glaucoma as foundation for extended role;
   - 5.5 “ability to use a slit lamp”
   - 5.7 “ability to examine fundi using direct and indirect techniques”;
   - 5.9 “ability to investigate visual fields and to analyse and interpret the results”
   - 5.10 “ability to use a contact tonometer...analyse and interpret results”
   - 6.10 “ability to evaluate glaucoma risk factors, detect glaucoma and refer accordingly”;

3. Motivation of optometric profession to extend role
   - 6.3% HES optometrists (CoO workforce survey, 2015)
   - 436 (3%) GOC Independent prescribing specialty-registered optometrists
   - Glaucoma Post-graduate qualifications available
   - 70 (0.5%) DipGlauc; 427 (3.1%) professional certificate/higher certificate holders
Historic context -
Shared Care with Optometrists

1990 Optical Service Audit Committee report to GOC
• Recommended that optometrists clinical expertise could help relieve burden on HES OP departments

1996 “A Framework for Shared Care”
RCOphth, BCO, RCGP Tripartite Document
• Followed ‘Integrating Primary and Secondary Care’ NHS executive white paper in 1991
• Broad guidance on organisation, protocols, review/audit & funding
• Companion document on glaucoma and OHT - patient eligibility, instrumentation, training, lines of communication
RCT Evidence
Bristol Shared Care Glaucoma Study 1993-97

Study objective - *to inform shared care debate*

Methods - *HES Vs community optometrists; RCT*

Key questions -
1. Test measurement reliability;
2. Clinical outcomes;
3. Patient satisfaction;

Results -
1. Relatively low eligibility with conservative inclusion criteria (23%, n=2780)
2. Optometrist and HES measurements equally reliable
3. Optometrist and HES clinical outcomes comparable after 2 years longitudinal review
4. High patient satisfaction for HES and community optometrists; better for community optometrists for some parameters
5. Marginal opportunity cost and full cost lower in HES than community optometric practice
Contemporary Visual Field testing in the 1990s

Henson CFS2000; CFA3000/3200/4000

• IGA Survey – Henson instrumentation used by 36% of community optometrists surveyed (Tuck and Crick, 1994)

• Referral analysis – 40% of glaucoma-related referrals used Henson machines (Bell and O’Brien, 1997)

• N Ireland Community Optometric Survey – Henson and Friedmann most common VF instrumentation (Willis et al., 2000)
Bristol Shared Care Study - Design


Henson DB, Spry PGD, Spencer IC, Sparrow JM (1998).

Spry PGD, Henson DB, North RV, Sparrow JM (2000).
Non-RCT Evidence

1. Pathway design – referral refinement
   
   *Henson et al. (2003)* “Community refinement [by optometrists] of suspected glaucoma offers some important benefits over the current glaucoma referral pathway”
   (reduction in referrals by 40%; small cost saving)

2. Diagnosis

   *Azuara-Blanco et al. (2007)* “Community optometrists trained in glaucoma provided satisfactory decisions regarding diagnosis and [initial treatment] for glaucoma. [Such optometrists] are at least as accurate as junior ophthalmologists but some cases of glaucoma are missed.”

3. Management

   *Banes et al. (2006)* “Agreement between optometrists and consultants in glaucoma decision making was at least as good as that between medical clinicians and consultants. Within an appropriate environment, optometrists can safely work as part of the hospital glaucoma team…”

   *Ho and Vernon (2011)* “With appropriate training and experience, optometrists can perform at a similar or higher level [than a kappa of 0.85] when making management decisions on patients with established diagnoses of glaucoma or glaucoma-related conditions.”
Non-RCT Evidence

2. Management (ctd)

*Marks et al. (2012)* “..accredited optometrists working independently ... are capable of making clinical management decisions that are in close agreement with those of a glaucoma specialist consultant ophthalmologist…”

“Optometrists may act more cautiously when working independently but are able to correctly identify those individuals requiring a more specialist opinion and/or intervention and those who no longer require follow-up within the HES.”

3. Economic comparison of hospital-based and community-based glaucoma clinics

*Sharma et al. (2012)* Cost per attendance £145.63 for community practice optometrists and £63.91 at hospital clinics.

“Principle reason .. was higher overhead costs in the community clinic. ”

“Sensitivity analysis shows a strong effect of increasing patients per clinic. It would require 25 patients to be seen per clinician per day in the community in order to make the costs comparable.”
Multidisciplinary Service Design Uptake

Vernon and Adair (2010)

- 2006 survey of HES ophthalmology units with jnr medical staff
- 66/131 operated shared care schemes
- 52 schemes in-house (optometrists or nurses)
- 8 schemes (12%) involved prescribing;
- ≈ 50% of schemes involved use of gonioscopy
National Guidance defining permitted roles for non-medical healthcare professionals

1. NICE CG85, 2009
   – “Glaucoma: diagnosis and management of chronic open angle glaucoma and ocular hypertension”

2. NICE Quality Standard 7, 2011
   – “Glaucoma Care Quality Standard”

   – “Commissioning Guide: Glaucoma”
What roles are defined for Optometrists and NMPs in glaucoma care provision in 2017?

**Optometrists only**
1. Case finding/detection
   - Repeat measures
   - Enhanced case finding
   - Referral refinement

**NMPs incld Optometrists**
2. Diagnosis
   - OHT
   - Suspects (with normal VFs)
3. Monitoring
   - Untreated suspects/OHTs
4. Monitoring and Management
   - Suspect/OHT
   - Glaucoma
5. ‘Data Collection’
Identifying “extended role accredited” Optometrists

Post-Graduate Qualifications relevant to glaucoma

1. College of Optometrist Higher Qualifications
   – Professional Certificate - *monitoring diagnosed suspects w CMP*
   – Professional Higher Certificate - *diagnosis of suspects and OHT*
     ≈ equivalent to previously available Certificate A
   – Professional Diploma – *management of COAG, OHT, Suspects*

2. GOC Independent Prescribing specialist registration

3. LOCSU/WOPEC accreditation
   – Level 1 – repeat readings pathway (a. IOP; b. VFs)
   – Level 2 – community monitoring pathway for untreated OHT
NICE CG 85 Chapter 4 “Organisation of care”

- Series of recommendations that apply to non-medical healthcare professions involved in diagnosis and management
- Explicit information on knowledge, experience and qualification content required to undertake specific roles in the glaucoma patient pathway
Implications of NICE Guideline CG 85

Optometric participation in glaucoma patient care

1.5.2 Diagnosis of OHT and COAG suspect and formulation of a management plan should be made by a suitably trained HP with; a specialist qualification (when not under supervision); & relevant experience.

1.5.4 OHT, COAG suspect and COAG should be monitored and treated by...with all of the following; a specialist qualification (when not under supervision); relevant experience; ability to detect a change in clinical status

1.5.6 People with a confirmed diagnosis of OHT or suspected COAG and who have an established management plan may be monitored (but not treated) by ....with knowledge of OHT and COAG, relevant experience and ability to detect a change in clinical status.
NICE QS7 - Glaucoma Quality Standard 2011

- Series of 12 Quality Standard Statements
- Links primary and secondary care pathways
- 2 Quality Standards relate to referral

**QS1. People are referred to a consultant ophthalmologist if the optometrist suspects COAG. There are arrangements in place for referral refinement.**

**QS2. People with elevated IOP alone are referred to an appropriately qualified HCP for further assessment on the basis of perceived risk of progression to COAG. There are arrangements in place for repeat measures.**

- Provides NICE definitions
  - Repeat measures
  - Referral refinement
Multi-stakeholder document, including representation from CoO, LOCSU, RNIB, UKOPG, IGA

Series of recommendations to assist care commissioners responsible for purchasing glaucoma care pathways

Decodes NICE CG 85 and NICE QS7 for care commissioners (and is NICE accredited)

Explicitly sets out skills, qualifications and experience required by HCPs to deliver services by differing case complexity

(conveniently) Uses current CoO qualifications as examples

Defines ‘enhanced case finding’
# Commissioning Guide; mapping roles to qualifications - case finding and diagnosis

<table>
<thead>
<tr>
<th></th>
<th>Repeat measures</th>
<th>Enhanced case finding</th>
<th>Referral refinement; diagnosis of OHT/COAG suspect</th>
<th>Glaucoma diagnosis</th>
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<td>CoO Cert</td>
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<td>CoO higher Cert; Old Cert A</td>
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<td>CoO Diploma</td>
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<td>Consultant supervised</td>
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# Commissioning Guide: Mapping Roles to Qualifications - Monitoring & Management

<table>
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<th>Role</th>
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<th>Low risk (monitoring and management)</th>
<th>Medium risk</th>
<th>High risk</th>
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<td>Core competence</td>
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*“prior to CoO cert, local accreditation and LOCSU level 2 in common use”*
Example pathways in Bristol - CCG; BEH

Primary Care - Community Optometry

*Bristol CCG commissioned Locally Enhanced Services*

1. IOP GAT repeat measures – commissioned for patients referred for NCT IOPs <27mmHg; no other findings suggesting of glaucoma
2. OHT/suspect monitoring scheme

Secondary Care - Hospital Eye Service

*Bristol Eye Hospital Glaucoma Service Clinics*

1. New patient clinics
   All patients referred due to probable glaucoma, or risk of glaucoma development
   Single clinic model; 11 optometrist/clinic sessions per wk

2. Follow-up clinics
   Different clinic models used according to risk-stratification/clinical case-mix
Follow-up Clinic Models utilising Optometrists

≈ 50 staff sessions per wk;
23 ‘glaucoma optometrists;
5 different clinic models

1. Virtual OHT/Suspect clinic
   - optometrists undertake virtual reviews
2. Suspect/OHT/low risk glaucoma
   – optometrist only
3. ‘Stable glaucoma ‘
   - optometrist working alongside supervising ophthalmologist;
   - prescribing where appropriate
4. ‘Medical/complex glaucoma ‘
   – optometrists working on same clinic list with supervising ophthalmologist
Multidisciplinary Glaucoma Care at BEH

Optometric % of glaucoma FU capacity

- 2000 – 50%
- 2004 – 76%
- 2007 – 88%
- 2009 – 94%
- 2012 – 79%
- 2014 – 85%
Summary

• Increasing demand for glaucoma care episodes
• Evolution of optometric roles in glaucoma care over past 20 years; involvement beyond case-finding well established and accepted
• Evidence and National guidance supporting multidisciplinary glaucoma patient care
• Optometrists now embedded and integral to multidisciplinary team; variety of roles precisely defined by national recommendations
• Optometric post-graduate qualifications available; closely mapped to defined roles
Acknowledgements - Dr Robert Harper

VERY, VERY MANY THANKS DAVID!

AND THANKS FOR LISTENING!