‘Targeted education’ to facilitate ‘right’ care

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‘Targeted Education’ to facilitate ‘right care’

*Right message(s) for the Right audience(s)*
*to facilitate ‘Right care’*

*Key messages appropriate for audience context*

*“Why, Who, What, How”*
What is ‘Right Care’?

- Children being assessed and managed appropriately
  - Right diagnosis and treatment
- By skilled and trained health care professional(s)
  - Right person(s)
- In a timely fashion, closer to home
  - Right time, Right place
- To facilitate better outcomes and patient/family experience of care
Children with musculoskeletal pathology

*Delay in diagnosis and adverse impact is well reported*

Addressing delay is number one priority for families

*BSPAR Parents group survey*


Muscular Dystrophy: Ciafaloni 2009

Childhood Bone Cancer: Dang Tan 2007, Lethaby 2013

Slipped Upper Femoral Epiphysis: Weigall 2010
Improving access to ‘Right care’

Many challenges

• Musculoskeletal presentations are common (1 in 8 children)

• There is a broad differential and many children do not have ’pathology’
  – ‘Right care’ is not necessarily a referral to hospital based sub-specialist care
  – Models of care need to be safe & delivered by an appropriately trained workforce

• Most children present to primary / community care
  – Many doctors (who are likely to first see these children) have little or no training in adult rheumatology or orthopaedics (…and even less in paediatrics) & are not confident in their assessment of children

Tan A et al. Epidemiology of paediatric presentations with musculoskeletal problems in primary care. BMC Musculoskeletal Disorders 2018
Myers A et al. More cries from the joints Rheumatology 2004
Jandial S et al. Low confidence in clinical skills to examine children’s joints Pediatrics 2009
Foster HE and Rapley TR. Access to care as a major challenge for paediatric rheumatology. J Rheum 2010
Henrickson M. Policy challenges for the pediatric rheumatology workforce: international perspectives. Ped Rheum Online 2014
Facilitating ‘right care’ through ‘targeted education’

Our approach

• Identify and understand barriers and drivers to care
• Identify target audience(s) & understand their challenges
• Work with target audience(s) to identify learning needs
• Create resources to address needs & make these open to all
• Targeted education embedded into clinical training and clinical practice
Referral pathways are often complex

Multiple stakeholders


Rapley TR, Smith N, May C, Foster HE. Snakes and Ladders - barriers and drivers to appropriate care (manuscript in preparation)

Foster HE, Rapley TR. JIA : improved clinical outcome requires improved access to care. Rheumatology 2010
Factors influencing access to care

- Awareness
- Clinical skills
- Knowledge
- Socio-cultural factors
- Care Pathways
- Specialist service provision
- Workforce Capacity & skills
- Disease Factors
- Varied clinical presentations

Myers A et al. More cries from the joints Rheumatology 2004
Jandial S et al. Low confidence in clinical skills to examine children’s joints Pediatrics 2009
Foster HE & Rapley TR. JIA: improved outcomes requires improved access to care. Rheumatology 2010
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We asked the question …
‘What’s the problem with paediatric musculoskeletal clinical skills?’

• “Musculoskeletal teaching (medical schools) lacks paediatric themes”
  – Lack of consensus about what to teach (pre pGALS…)
  – Teachers [general paediatricians] not confident to teach joint examination
  – Not included in exams (‘assessment drives learning’)

A revealing quantitative and qualitative study …

• Corroborated evidence of a more widespread problem
  – Primary care training (UK) lacks adequate adult (& paediatric) musculoskeletal training
  – General paediatric and ambulatory medicine doctors lack confidence and competence in musculoskeletal medicine (US, UK, Canada)

Jandial S et al. Low confidence in clinical skills to examine children’s joints Pediatrics 2009
Myers A et al. More cries from the joints Rheumatology 2004
Bonds DE et al., Ambulatory care skills: do residents feel prepared ? Med Educ 2002
Dubey SG et al. Rheumatology training in the UK: the trainees’ perspective. Rheumatology 2004
Hergenroder AC et al. Pediatric residents performance ankle and knee examinations after an educational intervention. Pediatrics 2001
The target audience(s)

Clinical teaching starts with medical students
Target audiences & learning needs

• Clinical skills & knowledge
  – Target audiences: Medical students, Primary Care (GPs)
  – Learning needs: simple messages relevant to learner groups
    • Clinical skills (history taking and pGALS)
    • ‘Red flags’ (cancer, sepsis, non-accidental injury, arthritis)
    • What is “normal” (development, milestones, normal variants)
    • Common presentations (limp & the differential diagnosis)
    • Investigations (& their limitations)
  – Informing curricula (medical schools) & training / CME for GPs
Evidence based tools to facilitate musculoskeletal examination

**pGALS**
- Basic musculoskeletal examination
- Discerns normal from abnormal
- Directs next steps (pREMS)
- **TARGET audience** – students & non-musculoskeletal specialists

**pREMS**
- Detailed musculoskeletal examination each joint
  - ‘Look, Feel, Move, Function’
- Link with other systems (neuro) & overlap with orthopaedics
- **TARGET audience** – postgraduates

**pGALS** - paediatric Gait, Arms, Legs and Spine
**pREMS** - paediatric Regional Examination of the Musculoskeletal System
pGALS
paediatric Gait, Arms, Legs, Spine

• Simple quick basic examination
  – Practical, useful in acute paediatric & community settings performed by non-musculoskeletal specialists
    • Validated in clinical practice (UK, India, Peru, Malawi)
  – Widely taught since launch in 2006
    • UK & internationally (medical schools / postgraduate)
    • Included in many textbooks, e-resources
  – Translated into several languages

Top 5 “Highly accessed articles” since 2013 (>35,000 downloads) data March 2018
pGALS app

• **Targeting medical students (2016) – free**
  – Content & format developed with medical students
  – pGALS manoeuvres line drawings by student
  – Revision notes / ‘Top Tips’ of knowledge
  – Feedback & sharing through social media
  – Signposting to PMM website key pages for more information

• **2018 v2 app with language translations**
Video demonstrations to facilitate teaching and learning

Dissemination of pGALS DVDs then webstreaming: >15,000 downloads / year
An e-platform to host resources
Paediatric Musculoskeletal Matters
www.pmmonline.org

- **Launched 2014**, Free and open access
  - PMM-nursing 2017
- **Spectrum of musculoskeletal medicine**
  - Rheumatology / Orthopaedics / Muscle disease
- **Evidence based content** and format
  - Target users (‘non-specialists’ / students)
  - Essentials of knowledge and skills
  - Contributions from target users (primary care, nurses, trainees and students)
- **Governance and Dissemination**
  - Peer review / Endorsements
    - NICE, Royal Colleges [RCN, RCPCH], Professional societies (BSPAR, PReS, BSCOS), Medical students (Mediwikis, GeekyMedics)

2. Jandial et al. Paediatric musculoskeletal medicine learning needs medical students BMC Medical Education 2015
3. Goff I et al. Paediatric musculoskeletal learning needs for GP trainees. Education for Primary care 2014
PMM Reach

Most users are non-specialists *(medical students, primary care, general paediatrics [trainees]*)

Most popular pages *(clinical skills, pGALS & pREMS videos, cases)*

Data at 15 April 2018

- 198 countries
- 9204 cities
- 104,438 users
- 306,928 hits

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Total Number of countries accessing site: 198

Based on Google Analytic Data Collected up to 15/04/18
PMM User Feedback 2017

- E-survey – anonymised
  - 96 responders (students / trainees / ‘non specialists’) UK / non UK
  - PMM ‘very useful’ (75.93%), ‘useful’ (20.37%) for majority (96.3%)
    • with ‘positive’ impact on learning, highlighting use as a revision or refresher tool to increase both knowledge & confidence in their own learning, teaching of others and their clinical practice

“I use it to teach students about JIA & other musculoskeletal disorders ..

“PMM has changed my practice - I can detect more signs & interpret”

“For first time, know how to do MSK exam”

“Definitely made me more confident to assess children with musculoskeletal problems”

“Strengthens my knowledge, think it makes me a safer practitioner”
PMM User Feedback 2017

• **Suggestions for improvement included:**
  – PMM e-modules and PMM app to highlight key information and test knowledge with evidence of learning
  – More content to reflect global health care contexts and spectrum of different pathologies
• **PMM e-modules (live), PMM International (later 2018), PMM app (2019)**

PMM International (2018) reflecting wider health care context with contributing partners: Australia, Argentina, Brazil, Canada, India, New Zealand, South Africa, Slovenia, Kenya, Thailand & United Arab Emirates
• **PMM e-modules (2018)**
  – Aiming for 1 module for each of the following target audiences
    • Medical students, GPs, paediatricians, physiotherapists and teachers
  – Case based and interactive
  – Relate to learning needs and relevant PMM pages
  – Multi-professional authoring team including target audiences

Cpd.ncl.ac.uk
Harnessing technology to enhance targeted education

• Very relevant to paediatric rheumatology in UK and also in areas of the world with paucity of sub-specialists and training opportunities

• Information sharing and improved working together
  – Telehealth
    • Consultations, Educational events, Shared learning
  – Web-based tools
    • Websites, e-Learning, Decision support
  – Apps
    • Mobile phone networks widely available and low cost

Impact on clinical teaching, training & practice needs further evaluation

Dorsey E et al State of Telehealth. NEJM 2016 375: 154-161
AAP Policy. Use of Telemedicine to address access and physician workforce shortage. Pediatrics 2015
Kessler E et al Decreasing patient cost and travel time through telemedicine visits. Pediatric Rheumatology 2016
Segal M et al Evidence based decision support reduces diagnostic errors. Pediatric Rheumatology 2016
Edgecombe H et al Enhancing emergency care using mobile technology-based training tools. ACDC 2016
Embedding musculoskeletal themes into clinical training for general paediatricians

RCPCH curriculum & MRCPCH

• **MRCPCH** – mandatory for all general paediatricians
  – Musculoskeletal themes included in training and MRCPCH examinations 2009
  – Revised curriculum 2018 (RCPCH Progress) includes pGALS and pREMS

• **Increasing demand for training and resources**
  – Impetus for paediatric trainees to gain experience in paediatric rheumatology
  – Awareness and interest in specialty (*helps recruitment*), ‘knock on’ abilities as future teachers (*for other trainees and medical students*)
  – Increasing role for paediatric rheumatologists as trainers and examiners
Trainees in paediatrics need to acquire musculoskeletal clinical skills and teaching skills

Trainees in paediatric rheumatology to be able to teach essential clinical skills for medical students (pGALS) and approach to detailed joint examination to paediatricians

PReS endorsed ‘Teach the teacher’ workshops since 2016
(Mumbai, Cape Town, Llubjiana)
Changing clinical practice
Standards of care & NHS Specialist commissioning

- Prompt access to specialist care
- Evidence & consensus based - "best practice"
- Specialist teams with appropriate training
- Clinical networks & multidisciplinary working
- Importance of research and clinical trials
- Empowering patients and carers
- Transitional care

Education is an integral role of paediatric rheumatology teams to deliver training
  - Target audiences: clinical networks & medical students to raise awareness and facilitate early recognition of JIA

Davies K, Cleary G, Foster HE, Hutchinson E, Baildam E. Standards of Care for children and young people with JIA Rheumatology 2010
Changing clinical practice
Standards of care & the international context

• Include importance of clinical education to raise awareness and facilitate early recognition of JIA
  – BSPAR Standards of Care : UK
  – SHARE Recommendations for JIA : Europe
  – JAMLess (Juvenile Arthritis Management Less Resource Income countries) :
    • Africa, Asia, South America
Embedding musculoskeletal clinical skills in clinical training

• Survey of GPs, paediatricians and teaching leads at UK medical schools
• “Widespread uptake” of GALS, REMS, pGALS in medical school teaching and assessment”
• Reported increased self confidence in musculoskeletal assessment of adults (and children)
• Impact on clinical practice and patient outcomes not explored
The last decade – our experiences

• More demand for paediatric musculoskeletal teaching
  – Deanery, National, International
    • Undergraduate and Postgraduate programmes
    • RCPCH events, Primary Care Rheumatology Society, BMJ Masterclass
  – Targeting key audiences with key messages
    • Medical students / primary care / paediatrics / orthopaedics
    • Clinical skills (pGALS/pREMS) & essential knowledge related to context
  – ‘Teach the Teachers’ – capacity building
    • Trainees (GP/Paediatrics) working with us deliver pGALS teaching, develop e-Learning resources with training and support
  – Added value has been considerable
    • Awareness and interest in our specialty
    • Educational outputs (publications, e-resources)
    • ‘Better working together’ - interface with primary care
Targeted education – key points

• Identified key target audiences and their learning needs
• Structured approach to examination (pGALS/pREMS) which is included in assessment
• Teaching and learning facilitated by free resources and ‘teach teachers’
• Resources developed with target audiences and with key messages relevant to their learning needs
• Curricula and standards have facilitated uptake in undergraduate and postgraduate programmes with dissemination through learner groups (professional societies, social media)
Take home messages

• Musculoskeletal problems in children often present to providers in the community who are integral to facilitating right care
  – Right care: does not necessarily mean referral to hospital based specialist care

• Targeted education is an integral role for paediatric rheumatology
  – Reach out: identify target audiences and acknowledge different learning needs
  – Get involved: clinical teaching starts at medical school and is reinforced in postgraduate training
  – Enable and empower: ‘Teach the teachers’ increases capacity to cascade knowledge and skills
  – Remember: resources developed with target audiences ensures their relevance & optimises their reach and impact

• Consider models of care and working to optimise workforce capacity
  – Identify and engage: target audiences and other stakeholders to be co-partners to address challenges and ‘work better together’
• Approximately 6-7 million children affected with rheumatic disease worldwide and >2 million with arthritis (many live in Asia and Africa) – true prevalence unknown
• Inequity in access to specialist care

• 300 million children in sub-Saharan Africa
• Burden of infection, poverty and malnutrition. Rheumatic disease relative low priority
• Delay in presentation & diagnosis are major problems
• Low accessibility and affordability to medications
• Low availability of paediatric rheumatologists
• Education & training initiatives are important as potential solutions
Global Musculoskeletal Alliance (GMUSC) working with World Health Organisation

GMUSC Paediatric Task Force set up 2017
Working towards a musculoskeletal strategy for children

http://bjdonline.org
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BSR eLearning team
Dr Joanne May
INCLUSIV

Newcastle University eLearning team
Ashley Reynolds

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& videos
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British Society for Children’s Orthopaedic Surgery (BSCOS)
Royal College Paediatrics and Child Health (RCPCH)
National Institute Clinical Excellence (NICE)
Paediatric Rheumatology European Society (PReS)

Patients and families
BSPAR Parents group

PMM Global partners
Australia (lead Dr Jane Munro)
Argentina (lead Dr Ricardo Russo)
Brasil (leads Professors Virginia Paes Leme Ferriani / Claudia Saad Magalhaes)
Canada (lead Dr Mercedes Chan)
India (lead Dr Raju Khubchandani)
Ireland (lead Dr Charlene Foley)
New Zealand (lead Dr Jackie Yan)
Serbia (lead Professor Jelena Vojinovic)
South Africa (lead Prof Chris Scott)
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