



REPORT

1st Annual Advances Pain Discovery Platform

26th of June 2023

Business School South, Jubilee Campus, University of Nottingham



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Overview from the Programme Director

It has been a privilege and delight to convene the first Annual Conference of the Advanced Pain Discovery Platform (APDP). APDP is a consortium-based UK network resource that is breaking through the complexity of pain and revealing new treatment approaches to address a wide spectrum of chronic and debilitating clinical conditions. APDP comprises experts in clinical and laboratory aspects of pain, psychologists, sociologists, and data specialists, linked to key academic and commercial facilities across the UK and beyond. At the heart of the APDP are people with lived experience of chronic pain, ensuring that together we meet their urgent needs.

The APDP's first Annual Conference built on new and established collaborations, sharing knowledge and bringing together diverse perspectives across a broad range of disciplines and stakeholder groups. Delegates shared exciting new findings on the diversity and commonalities of chronic pain across the life-course, new ways of developing treatments for the future, how the mind-body axis might be used to improve pain, how pain depends on specific cells and molecules in the body, what we have learned from large datasets, and the doors that pain research is opening for the future.

The academic programme included Elevator Pitches as short presentations of key outputs from APDP community members, linked to poster presentations where detail could be presented and discussed. Poster sessions covered themes of Patient and Public Involvement and Engagement (PPI/E) in pain research, Sensory and Nociceptive Processing, Psychosocial and Cognitive mechanisms, Neuropathic Pain, Biomarkers, Pain in Populations and Society, and Musculoskeletal Disorders. Workshops promoted learning and networking through engaging discussion, each co-chaired by an academic and patient partner.

The APDP Conference connected an unprecedented network of researchers from Universities across the UK, pharmaceutical companies, people with lived experience of pain, charities, and government sectors. Presentations on new research within APDP has revealed how biology, psychology and society determine the pain that people suffer, pointing the way to new treatments for the future. Our plenary lecture, delivered by Rob Stewart, renowned for his contributions to DataMIND, illustrated the huge potential from linking research and clinical datasets. The conference, as with everything in APDP, was organised and delivered by multidisciplinary team of researchers working hand in hand with members of public.

This report celebrates the immediate successes of the conference and its participants, and forms the foundations for a new way of collaborative pain research across the UK. It documents what has been achieved so far, but the journey is not yet over. A good Conference always leaves delegates begging for more. Feedback suggestions asking for more time, more presentations, access to more workshops, and more (even more!)

networking opportunities reflect the value placed by delegates on the necessarily limited content of APDP's first Annual Conference. I hope that our report captures some of this enthusiasm and optimism.

A handwritten signature in blue ink, appearing to read "David A Walsh".

Professor David A Walsh
Advances Pain Discovery Platform (APDP) Programme Director

Speakers

Prof Annina Schmid, University of Oxford	From deep clinical phenotyping to humanised model systems: the opportunities of translational research
Prof Edmund Keogh, University of Bath	CRIISP – Exploring psychosocial factors in pain
Dr Franziska Denk, King's College London	Pain research at King's – a focus on translational and neuro-immune research
Dr Christian Cole, University of Dundee	University of Dundee - One stop shop for Pain research data
Dr David Andresson, King's College London	Reverse translation of pain syndromes from patients to mice
Dr Allison Barry, University of Oxford	An open database framework to host and visualise cross-species sequencing data using R/Shiny
Prof Simon W Jones, University of Birmingham	Synovial fibroblast pain pathotypes
Prof Timothy Hales, University of Dundee	CAPE – Investigating the impact of childhood adversity on pain
Dr Jim Dunham, University of Bristol	Translational pain medicine in Bristol
Dr Ichrak Drissi, University of Cambridge	Visceral pain ADVANTAGE
Prof Ben Seymour, University of Oxford	Chronic Pain Neurotechnology Network: achievements from working together
Prof Victoria Chapman, University of Nottingham	Innovative approaches to advance mechanistic understanding of pain mechanisms

Plenary Lecture delivered by Prof Robert Stewart on “*Insights into disease mechanism from big data - the experience of mental health*”.

Poster Presentations

Posters were presented in two sessions.

Session one covered the themes: *PPI/E in Pain Research; Sensory and Nociceptive Processing; Psychosocial and Cognitive Mechanisms; Neuropathic Pain*.

Session 2 covered: *Biomarkers; Pain in Population and Society; Musculoskeletal Disorders*

PPI/E in Pain Research - Session 1

Beyond tokenistic involvement: the recruitment of a public contributor network [S Grieve](#), L Austin, CA Chew-Graham, R Harrison, A Higginbottom, C McCabe, E Readman, N Shivji, I Taverner, C Wilkinson

University of the West of England

Embedding Patient and Public Involvement in the Alleviate Pain Data Hub [Antony Chuter](#), Jillian Beggs, Gillian Martin, Gordon Milligan, Prof Blair Smith, Prof Lesley

Sensory and Nociceptive Processing – Session 1

Multi-electrode array analysis of the functional maturation of the spinal dorsal horn over postnatal development Emma Battell, [Neave Smith](#), Lucy Donaldson, Stephen Woodhams, Gareth Hathway

University of Nottingham

Multiplex Spinal Somatosensory-Evoked Potentials as a High Content Biomarker of Analgesic Actions in Rats [Kenneth Steel](#), Jim Dunham, Caterina Leone, Andrea Truini, Rolf-Detlef Treede, Keith Geoffrey Phillips, Jeff Krajewski, Anthony E. Pickering, Anthony Blockeel

University of Bristol

Observing touch: in vivo calcium imaging of Clow threshold mechanoreceptors [Kim I. Chisholm](#), Evangelia Semizoglou, Laure Lo Re, Steven J. Middleton, Jimena Perez Sanchez, David L. Bennett

University of Nottingham

Microfluidic cell culture system to investigate localised subcellular processes underlying sensory neuron sensitisation by PGE2 [Rebecca Pope](#), Alexandra Rathbone, Paul Millns, Gareth Hathway, Victoria Chapman, Federico Dajas-Bailador

University of Nottingham

Multiplexing human microneurography: A route to improved diagnostics and mechanistic understanding in Chronic Pain [James P. Dunham](#), Georgia Peavoy, Rebecca Okubadeyo, Anthony J. Blockeel, Anna C, Sales, Roger Whittaker, Anthony O'Neil, and Anthony E. Pickering

	University of Bristol
Quantifying the Effect of Lidocaine on Mouse Caud A δ -fibre Nociceptors Using Single-Neuron Electrical Threshold Tracking	Graeme W. T. Newton, Anthony E. Pickering, James P. Dunham
The effects of healthy ageing upon spinal somatosensory networks in rats	Stephen George Woodhams, Emma Battell, Victoria Chapman, Gareth Hathway
	University of Nottingham
Measuring the effect of immersive virtual reality (VR) in people with persistent low back pain—what can quantitative sensory testing tell us?	Mr. Mohammed Alghamdi (Phd student), Prof. Valerie Sparkes, Dr. Sharmila Khot, and Dr. Jennifer Davies
	Cardiff University
Implicit body perception at the pelvic girdle with the two-point estimation task: a reliability study	B Halliday, J Freeman, S Chatfield, J Marsden
Pressure Pain Thresholds: Anatomical Standardisation and a Novel Device	George Tackley (joint first author), Sharmila Khot (joint first author), Samuel Moeller, Rebecca Hamilton, Cathy Holt, Ernest Choy
	Cardiff University
<i>Psychosocial and cognitive mechanisms – Session 1</i>	
Recording of Pain within Mental Health Electronic Health Records Text	Jaya Chaturvedi, Sumithra Velupillai, Robert Stewart
	King's College London
A systematic review of psychosocial factors involved in chronic pain state transitions	Carter, L., Gibby, A., Begley, E., Fisher, E., Lillywhite, A., Eccleston, C., & Keogh, E.
	University of Bath
Development of a semantic database for building psychosocial models of chronic pain	Lillywhite, A., Haines, T.S.F., Lutteroth, C., Keogh, E. M
	University of Oxford
A theory of physiological homeostatic injury state: inference, learning and control	Pranav Mahajan, Ben Seymour
	University of Oxford
Modelling behavioural changes under pain Shuangyi Tong, Timothy Denison, Sang Wan in a free-operant foraging task powered by VR	Shuangyi Tong, Timothy Denison, Sang Wan, Lee, Ben Seymour

	University of Oxford
Neural mechanisms of cued pain anticipation during lateralised tonic pain in healthy volunteers	Danielle Hewitt, Shuangyi Tong, Ben Seymour
	University of Oxford
Pain avoidance learning as arbitration between body-model and world-model pain	Yijia Yan, Danielle Hewitt, Laurence Hunt, Ben Seymour
	University of Oxford
Sensing behaviour change in chronic pain? A scoping review of sensor technology for use in the wild	Diego Vitali, Amanda C de C Williams, Temitayo Olugbade
	University College London
Interpersonal mechanisms and their effect on pain over time: two scoping reviews of factors between people with pain, clinicians, and family members	Hollie Birkinshaw, Claire Friedrich, Edmund Keogh, Tamar Pincus
	University of Southampton
<i>Neuropathic Pain – Session 1</i>	
Acute nerve pathology and neuropathic pain after whiplash injury: preliminary cohort findings	Joel Fundaun, Colette Ridehalgh, Georgios Baskozos, Macarena Tejos-Bravo, Jane Greening, Stephen Bremner, Andrew Dilley, Annina B Schmid
	University of Oxford
Understanding the link between neuropathic pain & neuronal injury after nerve injury	Andreas Themistocleous, Jishi John, David Bennett, Jordi Serra
	University of Oxford
Type 2 diabetic neuropathic pain is dependent upon Hypoxia Inducible Factor 1 alpha mediated activation of dorsal horn neurons	Awais Younis, Lydia Hardowar, Richard P Hulse
	Nottingham Trent University
SenseCheQ : Developing novel quantitative sensory testing approaches for early detection of neuropathy	Anthony E Pickering, Chris Geddie, Elizabeth A Cottuli de Cothi, Lottie Adams, Alex Grant, Lesley Colvin, Alan Young, Roger Whittaker, Anthony O'Neil, Anna Sales, Jim Dunham and Johannes Gausden
	University of Bristol

Biomarkers – Session 2

Validation of a questionnaire for Central Aspects of joint Pain: the CAP questionnaire	McWilliams DF, Georgopoulos V, Patel J, Millar B, Smith SL, Walsh DA	University of Nottingham
Predicting “pain genes”: multi-modal data integration using probabilistic classifiers and interaction networks	Allison M Barry, Na Zhao, David Bennett, Georgios Baskozos	University of Oxford
Engineering a path to SenseCheQ nerve function via home quantitative sensory testing	Johannes Gausden, Anna Sales, Tom Bennett, James P Dunham, Allan Young, Gillian Martin, Lesley Colvin, Anthony O'Neill, Anthony E Pickering	Newcastle University
Integrative multi-omics analysis of human synovium to uncover novel pain mechanisms in knee osteoarthritis	Sarubini Kananathan, Sandeep Amberkar, David Airey, Dwayne Thomas, Helen Sanger, Dan McWilliams, Victoria Chapman, Gopuraja Dharmalingam, Lisa Broad, Achim Kless, Emanuele Sher, David Walsh	Eli Lilly and Co.
Modulation of laser evoked potentials (LEPs) by lacosamide, pregabalin & tapentadol in awake rats	Anthony Blockeel, Anna Sales, Nicolás Marco-Ariño, Iñaki Trocóniz, Josep-Maria Cendros, Jose Miguel Vela, Jeff Krajewski, Anthony Pickering, Andrea Truini, Andre Mouraux, Rolf-Detlef Treede & Keith Phillips	University of Bristol
Dysregulation of osteocyte Sema3A by mechanical load and inflammation may drive neuroplasticity and pain in osteoarthritis	Ryan Jones, Sophie Gilbert and Deborah Mason	Cardiff University
Chemogenetic activation of astrogliosis induces spinal cord microvasculature disturbance – a potential mediator of diabetic neuropathic pain	Lydia Hardowar, Richard P Hulse	Nottingham Trent University
Associations between serum oxylipin levels with clinical measures of pain and radiographic osteoarthritis in people with knee pain	James Turnbull, Rakesh R. Jha, Peter R. W. Gowler, Rose Ferrands-Bentley, Dong-Hyun Kim, David A. Barrett, Gwen S. Fernandes, Michael Doherty, Weiya Zhang, David A. Walsh, Ana M. Valdes, Victoria Chapman	

University of Nottingham

Impairment of pro-resolving lipid mediator **Silvia Oggero** & **Marzia Malcangio**
synthesis in macrophages exacerbates
persistent inflammatory pain

King's College London

Pain in Populations and Society – Session 2

Interim overview of the FORECAST Study cohort

Lucy Ridgway, Soraya Koushesh, Louise Hailey, Mohamed Tachroud, Fay Probert, Kathryn R Martin, Whitney Scott, Geert Crombez, Christine Price, Claire Robinson, Sarim Ather, Brigitte Tampin, Marco Barbero, Daniel Nanz, Stuart Clare, Jeremy Fairbanks, Georgios Baskozos, Annina B Schmid

University of Oxford

Factors predicting the transition from acute to persistent pain in people with 'sciatica': the FORECAST longitudinal prognostic factor cohort study protocol

Soraya Koushesh, Lucy Ridgway, Louise Hailey, Mohamed Tachroud, Fay Probert, Kathryn R Martin, Whitney Scott, Geert Crombez, Christine Price, Claire Robinson, Sarim Ather, Brigitte Tampin, Marco Barbero, Daniel Nanz, Stuart Clare, Jeremy Fairbanks, Georgios Baskozos, Annina B Schmid

University of Oxford

An ethnographic understanding of the experience of transition to and from chronic pain in everyday life

Sam Stone, Elaine Wainwright, Cara Ghiglieri, Anica Zeyen, Hannah Sallis, Amanda Ly, Rachael Gooberman-Hill

University of Bristol

Opioid prescribing and cognitive function in a large Scottish population sample

Chloe Fawns-Ritchie, Fionna Chalmers, Harry L. Hébert, Blair H. Smith

University of Dundee

Novel genetic associations for chronic pain by optimised control cohorts using the 450K WES in UK Biobank

Aidan Nickerson, Julian Mutz, Cathryn Lewis, Samuel K. Handelman, Ryan M. Smith, Gopuraja Dharmalingam, Graeme Newton, James P Dunham, David Collier, Anthony E Pickering, **Achim Kless**

Eli Lilly and Co.

Cancer-related pain: a review of patient education to challenge a dominant biomedical view	Emma Mellors, Dr Rodwan Husein, Dr Roman Clegg
Evidence of a genetic background predisposing to Complex Regional Pain Syndrome type 1	Oxford Brookes University Samiha S Shaikh, Andreas Goebel, Michael C Lee, Michael S Nahorski, Nicholas Shenker, Yunisa Pamela, Ichrak Drissi, Christopher Brown, Gillian Ison, Maliha F Shaikh, Anoop Kuttikat, William A Woods, Abhishek Dixit, Kaitlin Stouffer, Murray CH Clarke, David K Menon, C Geoffrey Woods
The Health Data Research Innovation Gateway: a tool for data discovery, access, and transparency in the use of health data for research in the UK	University of Cambridge Clara Fennessy HDR , UK Technology Team Health Data Research UK
Making Pain data FAIR (Findable, Accessible, Interoperable and Reusable) through Data Standardisation	Erum Masood, Gordon Milligan, Christopher Hall, Philip Appleby, Gillian Martin, Jillian Beggs, Antony Chuter, Tom Giles, Armando M Villalon, Philip Quinlan Christian Cole, Emily Jefferson
	University of Dundee

Musculoskeletal Disorders – Session 2

Examination of spontaneous sensory neuron activity in models of rheumatoid- and osteoarthritis	George Goodwin & Franziska Denk King's College London
Neuro-immune interactions in rheumatoid arthritis: an in vitro culture model	Yuening Li, Prof. Leonie Taams, Dr. Franziska Denk King's College London
Pain-associated joint cells: A roadmap to understanding and targeting the complexity of patient-reported joint pain in osteoarthritis	Susanne N. Wijesinghe, Jyoti Agrawal, Caitlin Ditchfield, Hussein Farah, Edward Davies, Federico Dajas-Bailador, Victoria Chapman, Simon W. Jones
Is Central Aspects of Pain a state or trait in people with chronic knee pain?	University of Birmingham Stephanie Smith, Jayamala Patel, Wendy Chaplin, Bonnie Millar, Daniel McWilliams, David Walsh

University of Nottingham

Academic title: Analgesic Prescribing in Patients with Inflammatory Arthritis in England: Observational Studies in the Clinical Practice Research Datalink (CPRD)
Aurum

[Ian C Scott](#), Rebecca Whittle, James Bailey, Helen Twohig, Samantha L Hider, Christian D Mallen, Sara Muller, Kelvin P Jordan

PPI title: How are Pain Medicines Being Prescribed in People with Inflammatory Arthritis Living in England?

Keele University

Experience of recruiting patients with rheumatoid arthritis versus fibromyalgia into longitudinal observational studies: a real world observation

[Amanda Wall](#), Anushka Soni

University of Oxford

Workshops

Workshop Theme	Academic Co-chair	PPI co-chair	Facilitator
Measurement in Pain Research	Dr Jan Vollert, Imperial College London	Michael Prior	Dr Stephanie Smith, University of Nottingham
What is a Pain Mechanism?	Prof Amanda Williams, University College London	Eric Deeson	Dr Hollie Birkinshaw, University of Southampton
Transition From Acute to Chronic Pain	Prof Annina Schmid, University of Oxford	Christine Price	Joel Fundaun, University of Oxford
Pain Across the Life Course	Dr Jemima Collins, University of Nottingham	George Wood	Neave Smith, University of Nottingham
Research with Large Datasets	Dr Christian Cole, University of Dundee;	Karen Mooney	Erum Masood, University of Dundee

Key take home messages

What is a Pain Mechanism?

1. Why does understanding mechanisms matter? What do we need to know about mechanisms?

- Pain is invisible – mechanisms make it visible, legitimate, more comparable to other diseases e.g., diabetes.
- Mechanisms are ‘windows into development of new interventions’
- Treating something successfully doesn’t necessarily tell us the mechanism by which it worked, just as turning computer off and on doesn’t tell us why it was buggy

2. Are there ‘general’ and ‘specific’ mechanisms? Do all mechanisms apply in everyone, and if so, how do we understand their role in individuals?

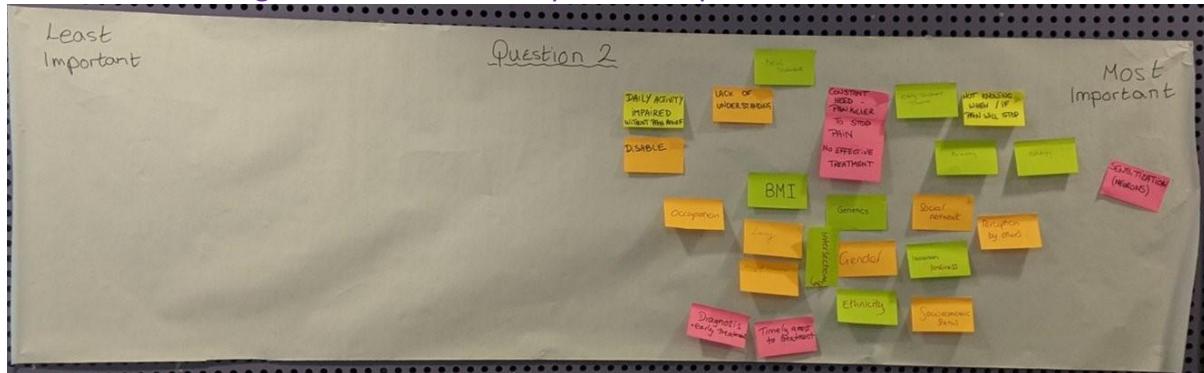
- Agreement that there are both general and specific mechanisms
- Different mechanisms for driving pain, maintaining pain, recovering from pain and protecting from pain?
- Even though we may debate what pain is, people know when they have pain. Does this help us understand mechanisms?
- Mechanisms useful to consider across conditions but also (as in personalised medicine) putting the pain in the context of the person
- Is it possible that the potential for all mechanisms is in everyone? How do we find out which mechanisms are going to trigger someone to have pain?

3. Can we study mechanisms in isolation from one another? What are the issues if we do?

- Balancing reductionism (looking at one mechanism in isolation) vs constructivism (looking at mechanisms together in context).
- Basic scientists will always do basic science, clinicians will always look at the clinical side – need to talk more, collaborate to bridge the gaps.

Transition From Acute to Chronic Pain

1. Factors relating to the transition to persistent pain:



- There is a complex combination of biopsychosocial factors associated with the transition to persistent pain.
- These factors can be highly personal to each individual experiencing persistent pain.
- Clinicians and researchers should perform detailed testing in addition to identifying the factors that are most important for each person.

2. Why have we not been successful in preventing the transition?



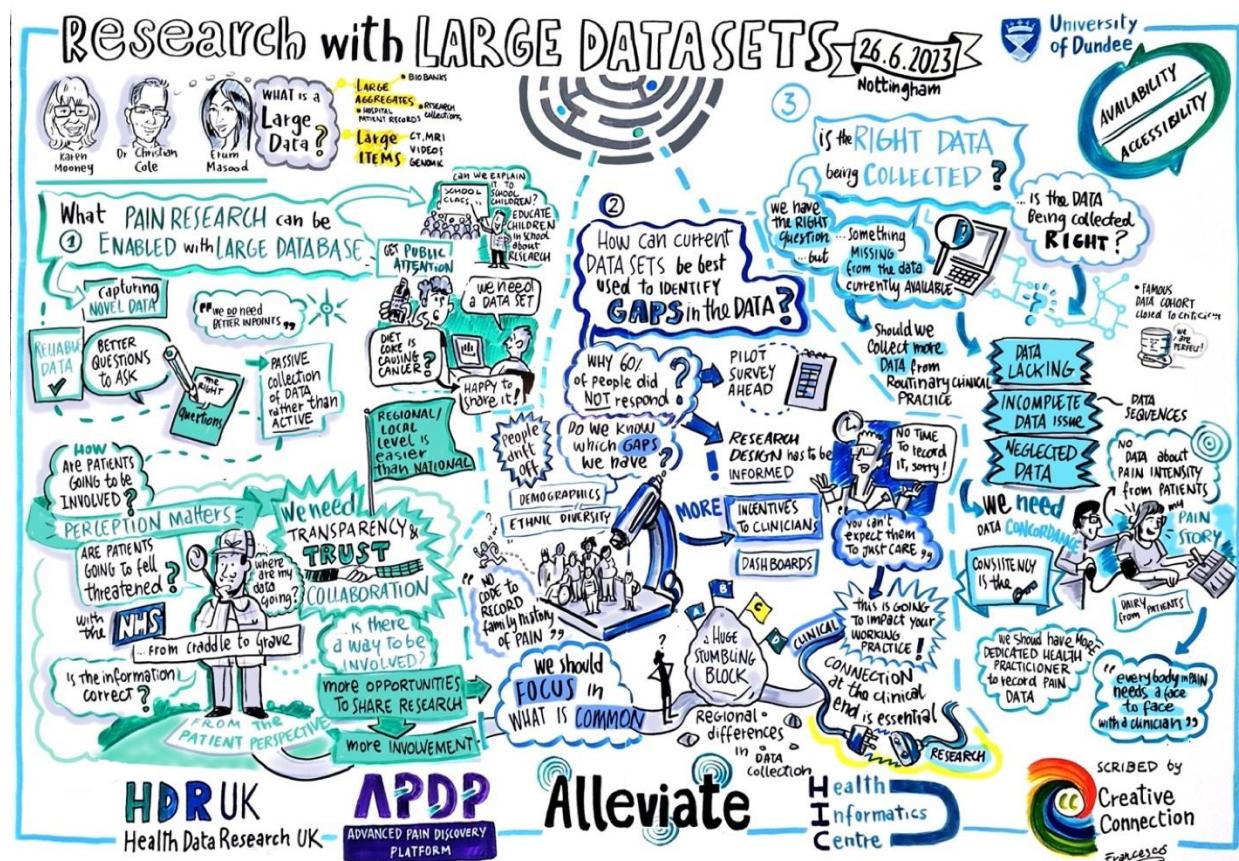
- The challenge of reducing persistent pain includes an array of causes.
- This includes challenges from a systems level in providing adequate care (clinicians' training, NHS organisation and capacity)
- It also involves individual reasons, including better education for expectations, prognosis, diagnosis, and treatment strategies.

Pain Across the Life Course

1. What are acceptable non-pharmacological interventions for pain in older people living with frailty?
 - Interventions should be tailored to this group (co-production is important to consider here).
 - There is a risk benefit analysis that should be down to the individual (personalisation).
 - Individuals often have multiple pain sources which makes this difficult.
 - Fatigue is under researched.
2. How do we keep people living with frailty and pain out of hospital?
 - Deconditioning and loss of muscle strength should worry us.
 - The focus should be to enable the person to be in a familiar environment (often their own home). However, this situation is often financially and geographically driven.
 - Pain should be assessed as part of this process.
 - Examples: Integrated Care Facility (Hull) and Oxford Hospital at Home Team.
3. What are important characteristics which determine how pain is diagnosed and treated in people living with dementia (PwD)?
 - Using digital technologies/AI to help with better assessment of pain.
 - The associations between anxiety and depression in PwD and pain are well established. Despite this, the mechanisms behind this remain unclear. Is this a bidirectional relationship?
 - Carers are very important in this situation- they know the individual.
4. What factors influence as required opiate medication use in people at home having palliative care?
 - Community palliative care is variable.
 - It is important that the individual remains in control- more people are choosing to die at home.
 - Often the carer is takes on the role of a health professional, which presents them with both technical and emotional challenges.
 - Availability of help/advice- the 3am situation.
5. Do babies have the capacity to feel pain and how would we measure it?
 - Most children are undertreated for their pain.
 - Being non-verbal presents a challenge for clinicians.
 - Indirect measurements of pain are insufficient.
 - We need more than sucrose for the treatment of acute procedural pain in babies.
 - Early life pain permanently alters the development of pain systems.

Research with Large Datasets

1. What pain research activities can be enabled with large datasets?
2. How can current datasets be best used to identify gaps in the data (e.g. diversity, bias)?
3. Is the right pain data being collected? If not, which should be?



- Large datasets provide an opportunity to capture novel data and to identify research questions. Discussed the variety of data generated in healthcare and research studies (genomics, phenotype, images, text) and how large datasets can be used to identify the gaps in the existing data (missing and/or incomplete) and what more can be recorded as part of the routinely collected data.
- May be easier to use regional/ local datasets than national due to access issues – e.g., issues with access to GP data in Northern Ireland. Data owners/controllers might feel threatened – change management issues – what's in it for me, my organisation, - from a patient perspective – is it secure? how will it help me, my family, my community?
- Give credit to data owners in the research? Possible incentive for increased collaboration.

- Lack of understanding from patient/public perspective – don't you already have access to my records from cradle to the grave? Many think the research is carried out within the NHS.
- Passive collection rather than active collection, highlighting the need for better questions.
- Improve inconsistent coding and lack of coding for issues such as family history of Pain to consistently record as much information as possible.
- Improved diversity in data required (ethnicity, age, sex etc).
- Build relationships and trust with data owners and incentivise the collection of good-quality data.
- Who captures the data – concerns about impact on working practices for clinicians.
- Should some of this be patient driven? – after a face to face with clinician, patients (who are capable) could input their pain/family history into an APP. Guidance/support from appropriate staff for others – not necessarily the GP/Consultant.
- Education: in schools to raise awareness of the importance of research so that future generations are more engaged and receptive.
- Need to capture the information correctly as well as capture the correct information.
- How to improve methods to record pain intensity? (qualitative & quantitative). Explore methods to standardise pain intensity as pain threshold is relative.
- Building patient trust and relationship. Why many people avoid seeking help or avoid booking follow-up consultations? Identifying reasons and support GP training to avoid lack of
 - 1) Interest and empathy.
 - 2) Specialised knowledge in pain management
 - 3) Communication between healthcare professionals.
- Other healthcare system- barriers:
 - 1) long waiting time for appointments in secondary care
 - 2) Short consultation times with GPs and
 - 3) lack of a fully integrated multidisciplinary approach.

- Long waiting time at pain clinics, improve pain management, care, and data collection. Requires dedicated service and trained staff.
- Improve data concordance through patient reporting.
- Create pilot surveys to identify barriers such as reasons for poor response rates. Which questions were left unanswered? To help optimise the questionnaires, methodology of data collection, enrolment of participants.

Measurement in Pain Research

1. **How should we decide on ideal pain outcomes?**
 - There is global agreement that standard pain scales (0-10), and numerical rating scales have limitations for measuring chronic pain, and single measurements are complicated by multimorbidity.
 - Interference (quality of life, fatigue) may be a bigger problem than pain. Pain often stops people from doing what they could previously do or would like to do.
 - Everyone is different. There might need to be less standardisation in clinical trials, and instead, everyone should declare their individual outcomes in the individual trial.
2. **How do we measure improvement?**
 - People often don't feel listened to, cared for, believed or understood and might overscore pain rating scales to communicate about their pain.
 - The score of current pain might not be the most important thing. Scores might need to combine several aspects of pain to give a global impression. Perception of change might be most important; for example; "Has what we have offered you helped? How much better/worse do you feel from the start of the intervention?"
 - Fear about the abuse of data (e.g., data used against patients' best interests), e.g. from wearable devices
3. **What is the role of laboratory tests in pain measurement?**
 - Laboratory testing may have value for precision medicine to get the right treatment for the right patient in the first instance. Negative results are just as useful as positive results because they can steer the research direction.
 - There is a concern around machine learning where algorithms might not be transparent - 'What if computers say "no!" when actually the person is in pain?' Preclinical researchers measure behaviours, rather than pain; pain in rodents can't communicate in words!
 - Laboratory measures have some merit as proxy measures secondary to what the patient tells us. Asking the patient has more value than any test purporting

to objectively assess whether someone is in pain. However, there is value in tests to see what causes pain.

Conference Feedback and Representation

The conference welcomed 164 delegates from across the UK.



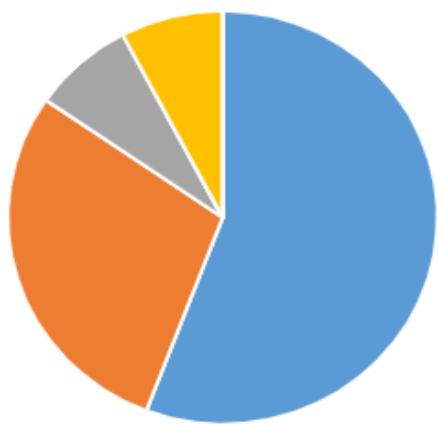
10% of our delegates were our patient partners, many of whom contributed to the APDP development at its earliest stages. They appreciated being able to witness the results of their earlier involvement and expressed interest in further engagement. The conference was attended by 8 delegates from the commercial sectors and 6 partners from the UK charity. Half of our delegates were the early career researchers and their feedback informed us that the conference was very beneficial for their professional development. They appreciated the networking time and an opportunity to present their research to an audience that was very engaging. Their conference feedback inspires us to do more for our junior scientists by flagging funding opportunities and collaborations, organising career and training workshops. Senior investigators appreciated us bringing together numerous pain field and embedding the PPI perspective throughout the conference which they believe was helpful for their research.

Feedback

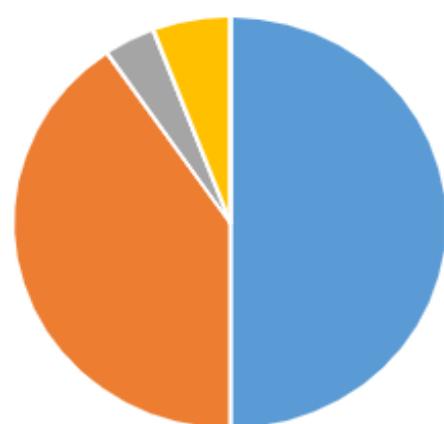
Our feedback form was completed by 53 delegates.

- Very satisfied
- Neither satisfied nor dissatisfied
- Very dissatisfied
- Somewhat satisfied
- Somewhat dissatisfied

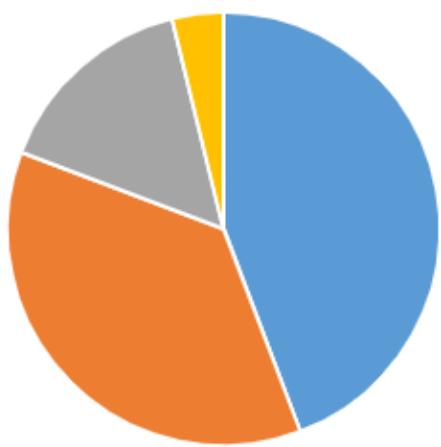
Workshops



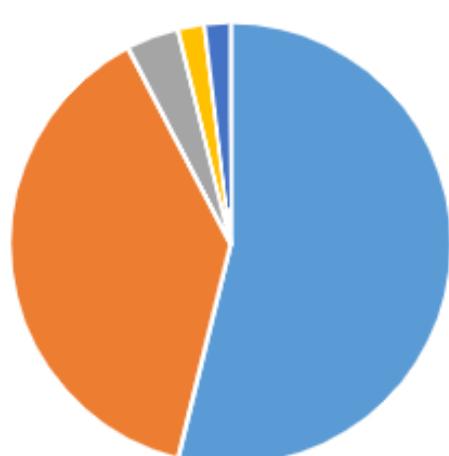
Poster Sessions



Plenary Lecture

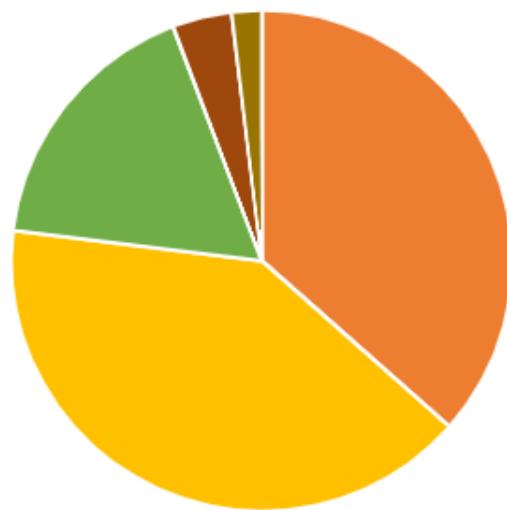


Elevator Pitches

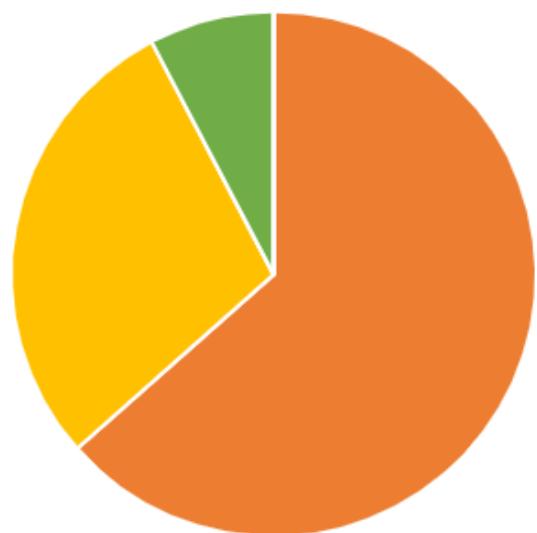


■ Strongly agree ■ Somewhat agree ■ Neutral ■ Somewhat disagree ■ Strongly disagree

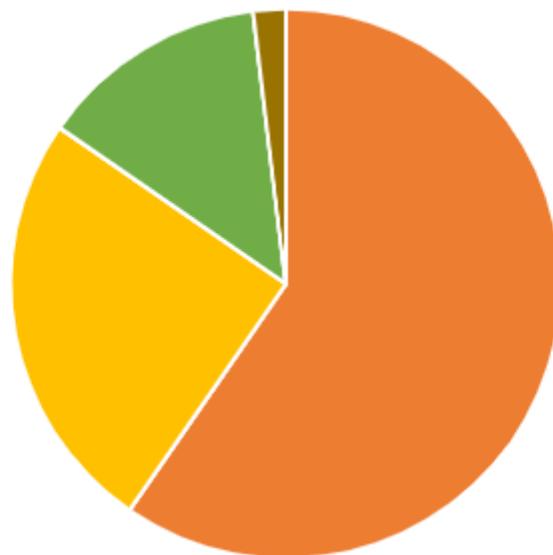
I have deepened my knowledge of pain conditions



The conference was beneficial for my professional or personal development



I have made useful connections at the conference



Conference Venue
Average rating 4.69 out of 5.0

Communication and support before and during the conference
Average rating 4.64 out of 5.0

What did participants say?

- ✓ It was very well organised, and attention was given to time. It felt as if all attendees were part of a unique team.
- ✓ The poster sessions were very friendly and supportive.
- ✓ Embedding of lived experience throughout the event was really evident, and I think was a real strength of the conference.
- ✓ Great inclusion of the voice of patients living with chronic pain and careers, this aspect really added a lot of value to the workshop.
- ✓ I hope this is the first of many APDP conferences, and thanks to the organisers for all of their efforts.

What was the best aspect of this event?

- Enjoyed the amount of time for networking opportunities
- Elevator pitches as they provide a highly efficient means of introducing a topic within a limited timeframe.
- I thoroughly enjoyed the workshop and would have liked to participate in more than one.
- The multiple disciplines working in different areas of pain research.
- Keynote speaker.
- Workshops – it was great to have discussion of specific topics with a diverse range of people. I loved the idea of the workshop round up – not enough conferences do this!
- The excellent array of posters highlighting all the research activates.
- Bringing together multiple pain fields was really interesting and insightful.

Things to consider next year

- Provide more space for poster sessions and networking.
- Focus on the early career researchers and their career development.
- Increase access to workshops and elevator pitches.
- Build upon use of lay summaries in poster presentations.
- Incorporate online activities.
- Consider additional approaches to patient and public engagement in APDP research to complement this academically focussed conference

Conference Organising Committee



Prof David A Walsh,
University of
Nottingham
APDP Programme
Director



Dr Emanuele Sher, Eli
Lilly



Prof Timothy Hales,
University of Dundee



Prof Annina Schmid,
University of Oxford



Dr Milena De Felice,
University of Sheffield



Prof Edmund Keogh,
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