

for investigation of chronic breathlessness across ten GP practices. The interview guide included questions around experiences of breathlessness, healthcare interactions and the impact of COVID-19 pandemic. Telephone interviews were audio-recorded, transcribed, coded and reviewed by the study team using thematic analysis.

**Results** Over six weeks during the UK lockdown for the COVID-19 pandemic, 20 participants were interviewed (12 female, mean age 65 yrs). Five participants lived alone, two were working and three recently received a confirmed diagnosis for their breathlessness. None of the participants experienced COVID-19. Three key themes were identified.

1. Unintentional de-prioritisation of diagnosis by patients. The COVID-19 pandemic has led to a reduction in seeking healthcare for this group. Some described their breathlessness as a 'non-urgent' problem, and others felt worried about burdening their GP and the National Health Service (NHS) at this time.
2. Following UK 'lockdown' guidance for the general population, is this enough? This group are not identified as vulnerable but have a clear perception that they are at increased risk if they were to contract COVID-19.
3. Impact of lockdown on coping strategies for managing breathlessness. People have expressed modified behaviour to help them cope with lockdown. Some people are obliged by the nature of lockdown to use disengaged coping strategies which has a negative impact on managing their breathlessness and mental health.

**Conclusion** The existing unpredictable pathway to diagnosis for people living with chronic breathlessness has been further interrupted during the COVID-19 pandemic. People expressed concern about only following general population advice, rather than shielding, due to not having a diagnosis. Patients and clinicians need to re-engage with the pathway to diagnosis and management of chronic breathlessness.

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#### RESILIENCE, ANXIETY AND DEPRESSION IN NURSES WORKING IN RESPIRATORY AREAS DURING THE COVID-19 PANDEMIC

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Nurses who work with respiratory patients, have been at the forefront of the pandemic response. Lessons need to be learnt from these nurses' experiences in order to support these nurses during the existing pandemic and retain and mobilise this skilled workforce for future pandemics.

This study explores UK nurses' experiences of working in a respiratory environment during the COVID-19 pandemic. We distributed an e-survey via professional respiratory societies [Association of Respiratory Nurse Specialists (ARNS), British Thoracic Society (BTS) and the Primary Care Respiratory Society (PCRS)] and social media in May 2020. The survey included a resilience scale, the GAD7 (anxiety) and the PHQ9 (depression) tools.

255 complete responses were received, predominately women (89%), aged over 40 (71%). Over 95% of the

respondents were white, with a very small sample of BAME. 58% usually worked in an acute setting, 57% had changed their role due to the pandemic, and 49% were undertaking aerosol generating procedures. There were significant differences in anxiety and depression scores for those undertaking aerosol generating procedures (both  $p < 0.001$ ) and who worked in different clinical settings (depression only,  $p < 0.05$ ). Just over 50% experienced minimal symptoms of anxiety, 28.3% experienced mild symptoms and just over 20.9% experience moderate-to-severe symptoms. Nearly 52% experienced minimal depression symptoms, 30.9% experienced mild symptoms and 17.2% experienced moderate-to-severe symptoms. 45.8% had a moderate or moderately high resilience score. Regression analysis showed that being younger, having fewer years of nursing experience, and feeling unable to support your household were key predictors of increased symptoms of anxiety and depression.

This is the first UK study to look at resilience in nurses working in respiratory clinical areas during the COVID-19 pandemic. The average resilience scores were moderate – indicating some resilience which needs strengthening. Age and experience were shown to be significant predictors of resilience. Anxiety and depression levels were low but a proportion of respondents had high levels of anxiety and depression. Our findings show that younger, BAME, less experienced nurses have higher levels of anxiety and depression. We need to develop interventions to support them and help staff to maintain and improve their levels of resilience.

## An update in lung cancer: interventions and outcomes

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#### EARLY OUTCOMES FROM THE MACMILLAN SCOTTISH MESOTHELIOMA NETWORK – A NATIONAL MULTIDISCIPLINARY TEAM FOR SCOTLAND

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**Introduction** The Macmillan Scottish Mesothelioma Network was launched in April 2019, funded by a consortium of partners, including Macmillan Cancer Support, Mesothelioma UK and NHS Greater Glasgow & Clyde. The network funds sessional time for Lead Clinicians, Clinical Nurse Specialists and administrative support in Glasgow, Edinburgh, Dundee, Aberdeen and Inverness, and coordinates a weekly video-linked MDT meeting. We retrospectively reviewed MDT activity and outcomes over the first 12 months of operations.

**Methods** All 42 MDTs held between 12.4.19–03.4.20 were reviewed retrospectively, using referral and MDT documentation and electronic case records.

**Results** 223 patients from 25 Scottish hospitals were referred, prompting 331 case discussions. 89% (n=199) were male. The median age was 74 years. 140/223 (63%) patients described asbestos exposure. 181/223 patients were diagnosed with Mesothelioma. Performance status was recorded in 210/223 94% of cases, and was 0–1 in 148/223 (66%). 203/223 (91%) had histological sampling, which was definitive in 198/203 (98%) patients, via the following methods: Surgical Thoracoscopy (64/203 (32%)), Local Anaesthetic Thoracoscopy (54/203 (27%)), image-guided biopsy (63/203 (31%)), Abrams biopsy (6/203 (3%)), unrecorded (16/203 (8%)). Standard histology was supplemented by molecular studies in 34% cases (BAP1 in 59/203 (29%): P16 FISH in 37/203 (18%) resulting in the following sub-typing: Epithelioid (68%), Biphasic (13%), Sarcomatoid (12%), Desmoplastic (2.4%), Undifferentiated (1.2%) Transitional (0.6%). Disease stage was recorded 87% of MPM cases (54% stage 1, 10% stage II, 24% stage III, 12% stage IV). 16/203 (8%) patients had Peritoneal mesothelioma.

Clinical trials, including MARS2, CONFIRM, ATOMIC-Meso, INFINITE, SYSTEMS2, TRIZELL, MESO-Trap were recommended in 84/181 (46%) patients. 26/84 (31%) patients were recruited, most frequently to MARS2 trial, representing 16% of the MPM population. A Palliative Care specialist was present for 32/42 (76%) MDT meetings, facilitating direct palliative care referral in 52/223 (23%) patients.

**Conclusion** This review demonstrates the value of a fully funded national clinical network and associated MDT. Over the first 12 months of operation the network has provided high quality diagnostic services and a consistent approach to therapeutic options, based on international guidelines. Ensuring equitable access to a broad portfolio of clinical trials will remain a major priority for the network.

## S118 INTERVENTIONS FOR THE MANAGEMENT OF MALIGNANT PLEURAL EFFUSIONS: A NETWORK META-ANALYSIS

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**Introduction and Objectives** Wider availability of interventions such as indwelling pleural catheters (IPCs) has increased the range of treatment approaches for patients with malignant pleural effusion (MPE). We have updated the 2016 Cochrane review to define the optimal management strategy for MPE in terms of pleurodesis success. Secondary outcomes were adverse events, breathlessness, quality of life, cost, mortality, survival, duration of inpatient stay and patient acceptability.

**Methods** Databases (including CENTRAL, MEDLINE and Embase) were searched to June 2019 for randomised controlled trials of intrapleural interventions for adults with symptomatic MPE. We performed network meta-analysis (NMA) of primary outcome data and secondary outcomes with sufficient data, and pairwise meta-analysis of direct comparisons. Sensitivity analyses explored causes of heterogeneity. We assessed the certainty of evidence using GRADE.

**Results** Our primary NMA on pleurodesis failure included 55 studies of 21 interventions. The pleurodesis failure rate of talc poudrage (TP) compared to talc slurry (TS) was similar (OR 0.50, 95% Cr-I 0.21, 1.02), with direct meta-analysis demonstrating comparable breathlessness control (100 mm visual analogue dyspnoea scale mean difference 4.00 mm, 95% CI -6.26, 14.26).

IPCs were less likely to effect a pleurodesis than TS (OR pleurodesis failure 7.60, 95% Cr-I 2.96, 20.47). Daily IPC drainage or instillation of talc via IPC may enhance

Abstract S118 Table 1

Summary of findings for the primary outcome: pleurodesis failure rate in adults with malignant pleural effusion

Total studies: 55 Total participants: 3758 No. interventions in network: 21	Relative effect Odds ratio (95% Cr-I) Network estimate	Relative effect * Odds ratio (95% Cr-I) Network estimate from studies at low risk of bias	Anticipated absolute effect (95% Cr-I) **		Interpretation of findings
			With talc slurry	With intervention	
Talc slurry	Reference comparator <sup>1</sup> .	Reference comparator	18 failures per 100 participants (11 to 24)	Not estimable	Reference comparator
Talc poudrage	0.50 (0.21 to 1.02)	0.78 (0.16 to 2.08)	18 failures per 100 participants (11 to 24)	10 failures per 100 participants (4 to 19)	Probably comparable
Bleomycin	2.24 (1.10 to 4.68)	3.93 (1.10 to 16.94)	18 failures per 100 participants (11 to 24)	32 failures per 100 participants (17 to 52)	May be inferior
IPC - not daily drainage	7.60 (2.96 to 20.47)	8.60 (2.26 to 30.15)	18 failures per 100 participants (11 to 24)	62 failures per 100 participants (36 to 82)	Probably inferior
Doxycycline	2.51 (0.81 to 8.40)	1.89 (0.32 to 8.84)	18 failures per 100 participants (11 to 24)	35 failures per 100 participants (13 to 65)	May be inferior
Placebo	15.90 (3.76 to 79.90)	17.46 (3.33 to 97.26)	18 failures per 100 participants (11 to 24)	77 failures per 100 participants (42 to 95)	Probably inferior

Footnotes:

\* Network estimate from sensitivity analysis of studies at low risk of bias. These data are included within the summary of findings to reflect the ORs and Cr-Is from the network estimates in which we have the greatest level of certainty in the evidence.

\*\* Calculated using data from primary outcome network of pleurodesis failure.