

National Centre for Neuroimmunology and Emerging Diseases



December 2020

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Our Mission

The National Centre for Neuroimmunology and Emerging Diseases (NCNED) is a research team located at Griffith University on the Gold Coast. Led by Professors Sonya Marshall-Gradisnik and Donald Staines, the team has a focus on Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS).

Our mission is to translate research findings into preventative medicine, social and clinical care, and public health outcomes. By collaborating with local, national and international research institutes, we aim to create sustained improvements in health and health care for not only those affected by ME/CFS but also other immune disorders.



Brain MRI Presentation at the University of Queensland

NCNED researcher, Dr. Leighton Barnden, was invited to present his findings on ME/CFS at The Centre for Advanced Imaging at The University of Queensland on 20 October, 2020. His talk discussed the detection of brain dysfunction in Chronic Fatigue Syndrome using multimodal brain MRI. Please click on the link below to access the presentation:

[CAI Seminar Series: Detection of brain dysfunction in CFS using multimodal brain MRI - YouTube](#)



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NHMRC Grant

NCNED has been awarded \$1.46 million in National Health and Medical Research Council funding for research into Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS).

Our researchers will investigate potential diagnostic tests as well as suitable pharmaco-therapeutic interventions.



PUBLICATIONS

Congratulations to Ms Shara Close and NCNED researchers who just published an important paper on the Economics of ME/CFS in an Australian cohort. "The economic impacts of Myalgic Encephalomyelitis/Chronic Fatigue Syndrome in an Australian cohort" Authors: Shara Close, Sonya Marshall-Gradisnik, Joshua Byrnes, Peter Smith, Son Nghiem, Donald Staines, published in Frontiers in Public Health, section Health Economics. Link to article: [Frontiers | The Economic Impacts of Myalgic Encephalomyelitis/Chronic Fatigue Syndrome in an Australian Cohort | Public Health \(frontiersin.org\)](https://www.frontiersin.org/articles/10.3389/fpubh.2020.00000/full)

This paper reports the mean annual cost of health care related expenditure and associated income loss among survey participants meeting diagnostic criteria for ME/CFS was estimated at \$14.5 billion. For direct OOP and Government health care expenditure, high average costs were related to medical practitioner attendance, diagnostics, natural medicines, and device expenditure, with an average attendance of 10.6 referred attendances per annum and 12.1 GP visits per annum related specifically to managing ME/CFS.



Dr Kiran Thapaliya, Dr Leighton Barnden and NCNED researchers have just published an important neuroimaging paper. The findings were published in Neuroimage: Clinical.

This paper reports a significant increase in white matter as well as in basal ganglia in ME/CFS in contrast to healthy controls and other neurodegenerative diseases like multiple sclerosis and schizophrenia. An increase in T1w/T2w in white matter and basal ganglia regions could potentially relate to increase in myelination in ME/CFS patients.

"Mapping of pathological change in chronic fatigue syndrome using the ratio of T1- and T2-weighted MRI scans". Authors: Kiran Thapaliya, Sonya Marshall-Gradisnik, Don Staines and

Leighton Barnden. Link to article: <https://www.sciencedirect.com/.../pii/S2213158220302035>



Mr Sean Holden and NCNED researchers are proud to report "A systematic review of mitochondrial abnormalities in myalgic encephalomyelitis/chronic fatigue syndrome/systemic exertion intolerance disease" has been published in the Journal of Translational Medicine. Link to article: [A systematic review of mitochondrial abnormalities in myalgic encephalomyelitis/chronic fatigue syndrome/systemic exertion intolerance disease | Journal of Translational Medicine | Full Text \(biomedcentral.com\)](https://www.biomedcentral.com/jtm/fulltext/10.1186/s13047-020-00000-0)

This systematic review reports there is currently no conclusive evidence that suggests mitochondria function in the pathomechanisms of ME/CFS/SEID due to inconsistencies across the studies examined. Future well designed studies using the same ME/CFS/SEID diagnostic criteria and analysis methods are required to determine possible mitochondrial involvement in the pathomechanisms of ME/CFS/SEID. Our research was based on a review of 3191 publications of which 19 studies met rigorous scientific standards for analysis. Quality assessment was undertaken on study design, methodology and level of evidence.

RESEARCH VOLUNTEERS

NCNED is still looking for more participants for our Quality of Life and Burden of Illness associated with illness study. It is open to Australian residents aged 18-65 years old and will involve the completion of two online surveys. Participants will receive a \$5 Coles e-voucher and enter the draw to win \$50, \$75 and \$100 Coles e-vouchers drawn half-yearly.

We will also be starting new ME/CFS studies in 2021. If you are interested in participating, please contact NCNED on (07) 56789283 or email ncned@griffith.edu.au and we can send you a questionnaire to fill in to determine your eligibility.

APPRECIATION AND ACKNOWLEDGEMENT OF GRANTING ORGANISATIONS, AGENCIES, BENEFACTORS AND FUNDRAISERS

Thank you to the Stafford Fox Medical Research Foundation, McCusker Charitable Foundation, Mr Douglas Stutt, the Mason Foundation, Mr and Mrs Ian and Talei Stewart, the Alison Hunter Memorial Foundation, the Blake Beckett Foundation, Mr Adrian Flack, the Buxton Foundation, the Henty Community, Change for ME Charity, QLD ME/CFS/FM Support Association QLD Inc., the ACT ME/CFS Society and ME/CFS and Lyme Association of WA Inc.

