European Network on Myalgic Encephalomyelitis/Chronic Fatigue Syndrome
COST Action - CA15111

Deliverable 8

Summary of evaluated socio-economic impact and direct and indirect costs caused by ME/CFS in Europe

CONTENTS

1. Introduction

1.1 The terms of reference for Working Group 3 (socio-economics) were set out in the Memorandum of Understanding of COST Action 15111 – EUROMENE [1]. Paragraph 1.2.1.4 of the Memorandum states the research coordination objective of the Working Group to be: "To coordinate efforts to determine the social impact of ME/CFS and to appraise the economic damage from the disease."

1.2. As regards the intended long-term impact of the collaboration, this was spelt out as follows:-

"Preventing ME/CFS, determining suitable treatments or avoiding unnecessary treatment will improve patients' quality of life. Since the overall burden of brain diseases in Europe is estimated at EUR 200 bn/year, and the burden of ME/CFS at EUR 48 bn/year, even 1‰ gain will deliver economic value of 48 million/y. Therefore, preventing and effectively treating ME/CFS will significantly reduce economic damage. The Action will promote further research on ME/CFS with high economic impact."

1.3 To achieve this, the intention is to involve the following players:-

- Researchers not yet involved in Action;
- Patient organisations, patient observatories;
- Healthcare funders; and
- National and European regulatory bodies, bodies for guideline approval.

1.4 The specific objective of the Working Group on socio-economics is to:

"… estimate the burden of ME/CFS to society and provide long-term trend estimates for societal impact."

- with the following specific tasks:

1: To survey European countries existing data on economic loss due to ME/CFS;
2: To develop approaches to calculate direct economic loss due to ME/CFS;
3: To develop approaches to calculate indirect economic burden due to ME/CFS;
4: To provide integrated outcome assessment framework;
5: To organize two meetings per year (could be also teleconferences) to discuss and analyse economic loss due to the ME/CFS in order to optimise models of prevention in health and economy aspects.

1.5 The project milestones and deliverables are:

Milestones:

- Survey data on direct and indirect economic loss due to ME/CFS in Europe M6;
- First estimate and outcome assessment presented M36.

Deliverables:

- Summary of evaluated socio-economic direct and indirect costs caused by ME/CFS in Europe;
- Common consensus protocol for economic loss calculation due to ME/CFS;
- Guidelines for health policy makers on prevention losses due to ME/CFS in health and economy aspects.

The first deliverable is due for completion on 30th April 2018. This report represents that deliverable. The second deliverable is due for completion on 31st August 2018.

2. Background

2.1. The current state of the art, and its historical development, have been detailed by two members of the working group [2]. Their report is summarised here. They carried out a comprehensive literature review, and the identified literature was reviewed chronologically, in three different time periods, respectively 1990-1999, 2000-2005, and 2006-2016. As a result of this, they drew attention to the problem of the failure of many patients with this illness to be correctly diagnosed, which renders problematic attempts to determine the economic burden of the disease, though they concluded that costs are mainly related to productivity loss.

2.2. A further problem in determining direct, indirect and intangible costs arose from the lack of consensus agreement over, and inconsistent use of, case definitions, which in turn is reflected in a lack of consensus agreement regarding the prevalence of the condition. What can be said is that, consistently, women are more frequently affected than men, and the peak age of incidence is 20-40. The prevalence in developed countries appears to be within the range of 0.2-1%, but this is course highly dependent on case definition. The countries which have been most active in producing published research on ME/CFS were Australia, USA and the UK.

2.3. The chronological evolution of literature on CFS' economic evaluation from the analysis of overall costs to cost-effectiveness/cost-utility analysis was summarised by Brenna and Gitto in tabular form in their paper. This is reproduced in full below:

Table 1: Chronological review of the literature on CFS

Time Span	Methods	Policy indications	Open issues
1990-1999	- First attempts to identify the nature, the prevalence and the direct costs of CFS.	- In this phase, both the difficulties in appropriately identifying the disease and objectively defining its functional impact and the lack of effective treatment, leave policymakers with little basis for assessing patients' needs. - requirement of investing more resources on the study of CFS.	
2000-2005	1) - Applying health technology assessment (CEA and CUA) in order to find the most cost-effective therapy. 2) - Quality of life starts to become relevant. - First attempts to include productivity costs in the analysis.	- Acknowledgment of the pathology and the related costs. - Searching for a cost-effective therapy, which would produce better outcomes compared with usual GPs therapy. - More attention to quality of life.	Need to determine the willingness to pay for quality improvements in CFS patients
2006-2016	1) - Studies are focussed on the economic consequences related to employment and productivity. 2) - Further attention on quality of life.	- More acknowledgement of economics and social burden of CFS. - Average productivity loss per patient rises concerns among policymakers. - Guidelines for the disease management are required.	- Number of CFS cases that are still not identified. - Low socioeconomic status is a risk factor. - still no consensus on a "best practice" for therapy. - Need to include among costs: i) informal caregiving ii) intangible costs (lower quality of life).

Source: Brenna and Gitto, 2017

2.4. Brenna and Gitto concluded that a clearer definition of the population prevalence of ME/CFS,, would make it easier to reach a general consensus on its economic burden. This in turn would assist the development of appropriate guidelines to manage the disease.

2.5. Furthermore, they concluded, the most important cost elements in ME/CFS are indirect costs due to productivity loss. Attempts have been in the last decade to evaluate the social costs of this syndrome, especially in terms of occupational outcomes, such as absenteeism, work incapacity, and productivity loss. Estimates in the UK population suggest a yearly production loss of £22,684 per patient, with a significant gap between women (£16,130) and men (£44,515) [3]. To these figures should be added other hidden costs, such as informal care provided by a relatives, neighbours or friends, and intangible costs related diminished quality

of life. Finally, they stated, there are relevant policy implication from their review in terms priority setting, and the amount of public money that society is willing to pay for improvements in the quality of life of ME/CFS patients.

3. Issues

3.1. This section of the report summarises our initial conclusions regarding the problems that exist in undertaking work in this area, goes on to consider in more detail the role of cost-of-illness studies, problems of case definitions, lack of recognition of the condition among GPs, and finally flags up the question of the heterogeneity of health care systems and patterns of economic development across Europe.

3.2. Our review of the position regarding the economic impact of ME/CFS has led us to identify a number of problems that need to be addressed if progress is to be made in this area. It is clear that:

i. ME/CFS is a syndrome, defined in terms of its symptomatology rather than its underlying pathology. Work done in this area is therefore dependent on case definitions, which of their very nature are arbitrary. In addition, there are numerous case definitions in use, which vary substantially in sensitivity and specificity, and do not necessarily identify the same population.

ii. Little is known about the incidence or prevalence of ME/CFS. Very little work has been done in this area in Europe, except in the UK. Conclusions drawn from UK experience, or indeed from work done in other countries, in particular the USA and Australia, cannot be readily extrapolated to Europe as a whole, because the extent of natural variation between populations is unknown.

iii. A high proportion of doctors, in particular GPs, refuse to recognise ME/CFS as a genuine clinical entity, and as a result never diagnose it. Even in countries where ME/CFS is officially recognised, this proportion may be as high as 50%. It is not possible therefore to obtain prevalence data through the use of service utilisation data.

iv. Any attempt to determine costs and losses attributable to ME/CFS must take into account direct and indirect costs incurred both by healthcare systems, patients and families, and this applies equally to patients who have been diagnosed as having ME/CFS and those who have not received a diagnosis, including for the reasons outlined in (iii) above. It is likely to be difficult to identify this latter group, for obvious reasons.

v. Against such a background, it is clearly an uphill struggle to reach meaningful conclusions about the costs and losses attributable to ME/CFS across Europe, particularly given the variety of systems of healthcare delivery in Europe, and varying stages of economic development.

3.3. Cost-of-illness studies

3.3.1. There have been few cost-of illness studies of ME/CFS. Those that exist were undertaken in the USA, Australia and the UK, the latter being the only European country where such studies have been carried out. Hunter et al [4] compared three such studies, by Collin et al [5], McCrone et al [6], and Sabes-Figuera et al [7], and two trials which contained cost data, by McCrone et al [8], and Richardson et al [9]. One potential problem in comparing the outcomes of such studies arises from the multiplicity of case definitions that exist for ME/CFS. However, the cost-of-illness studies by both Collin et al and McCrone et al used the 1994 Centres for Disease Control definition, also known as the Fukuda or CDC-1994 definition 10,11]. By contrast, Sabes-Figuera et al [7] undertook a primary care based study of chronic fatigue, not ME/CFS, and used a case definition not dissimilar to, but less stringent than, that of NICE [12], which in turn is less restrictive than the CDC-1994 definition.

3.3.2. Other studies which did not meet the inclusion criteria for the 2020 Health report, include three American studies, by Jason et al [13], Lin et al [14] and Reynolds et al [15]. The study by Jason et al was an archive-based database study which used the CDC-1994 definition, as also did the population-based telephone survey by Lin et al. The study by Reynolds et al involved analysis of data from a population-based epidemiological study in Wichita, Kansas [16], which also used the CDC-1994 definition. The final cost-of-illness identified was an Australian population-based study by Lloyd and Pender [17] which predated the CDC-1994 definition and used the 1990 Australian definition [18].

3.3.3. A final cost-of-illness study was undertaken in the UK in 2007 by Sheffield Hallam University for the charity Action for ME. They surveyed nearly 3,000 people with ME/CFS, recruited through patient organisations, and concluded that, at that time, the total costs of M.E. could have been over £10,000 p.a. per patient, or £0·6 billion and £2·1 billion per year nationally, depending on the prevalence estimate used. More than 90% of this was due to loss of income; NHS healthcare costs being quite small in comparison [19]. However, it was not made clear how cases were defined.

3.4. Case definitions

3.4.1. Brurberg et al [20] have recently reviewed the comparability of case definitions, and have identified papers in which different case definitions have been applied to the same patient populations, making possible direct comparisons of the impact differences of case definition have on apparent prevalence. For example, a study in three English regions [21] found a prevalence of 0.19 % conforming to the CDC-1994 definition, but only 0.10% conforming to the more recent Canadian definition [22]. The authors of the English study concluded that use of both the CDC-1994 and Canadian definitions enables advantage to be taken sensitivity of the former and specificity of the latter [23]. This agreed with the comparative assessment previously reported by Jason et al in 2004 [24], which was that the Canadian criteria selected cases with less psychiatric co-morbidity, more physical functioning impairment, and more fatigue/weakness, neuropsychiatric and neurological symptoms than the CDC-1994 definition. Two papers comparing the CDC-1994 and Australian definitions are cited. Lindal et al, in Iceland, found population prevalences of 2.1% (CDC-1994) and 7.6 % (Australian) respectively [25], while Wessely et al, in England, found that use of the CDC-1994 definition produced a population prevalence of 2.6%, while the equivalent figure using the Australian definition was 1.4% [26]. Brurberg et al attributed this variation in prevalence obtained using the Australian definition to differences in data collection methods; the CDC-1994 definition appeared more robust and less likely to be affected by variations in data collection methods.

3.4.2. In conclusion, it is clear that, if comparable data on costs and losses attributable to ME/CFS are to be collected across Europe, there need to be comparable data on the prevalence of the illness, and this in turn requires agreement on case definitions. Most of the work done to date in this area has used the CDC-1994 definition, which cannot be ignored because of its widespread use in the past, but it is not ideal for epidemiology, as it was not designed for that purpose, but in order to enable well-characterised and relatively homogeneous groups of patients to be identified for clinical trials. The Canadian definition appears to identify more severely affected patients than CDC-1994, and there is some merit in using both, to benefit from the greater sensitivity of the CDC-1994 definition, and the greater specificity of the Canadian definition. As regards economic analysis, one can hypothesise that overall costs, at a national level, will appear greater using the CDC-1994 definition, while costs per case will be greater using the Canadian definition. However, the question of case definitions is being considered by both the epidemiology and the diagnostic methods/biomarkers working groups, so we look forward to receiving guidance in due course as to which case definitions are

recommended for use as European standards, so that we can progress to the next stage of our work on the basis of a consistent approach within the EUROMENE collaboration.

3.5. Primary care ascertainment of ME/CFS

3.5.1. Throughout Europe, many primary care physicians refuse to accept ME/CFS as a genuine clinical entity. Consequently, many patients go undiagnosed and untreated, and it is difficult to determine either the prevalence of the illness, or the costs and losses associated with it. Among the countries participating in the EUROMENE network, the only published work we have been able to identify has come from the UK, Ireland, Norway and Belgium. In Ireland, Fitzgibbon et al in 1997 found that 58% of GPs accepted CFS as a distinct entity [27]. In Belgium, a survey of patients attending a fatigue clinic concluded that only 35% of GPs had experience of CFS, while only 23% had sufficient knowledge to treat the condition [28]. A Norwegian study found that the quality of primary care was rated poor by 60.6% of ME/CFS patients [29].

3.5.2. In a survey of 811 GPs in South-West England, with a response rate of 77%, 48% did not feel confident with making a diagnosis of CFS/ME and 41% did not feel confident in treatment, though 72% of GPs accepted CFS/ME as a recognisable clinical entity [30]. Bayliss et al reiterated that research indicated that many GPs lacked confidence and knowledge in diagnosing and managing people with CFS/ME. They made available to GPs an online training module and an information pack for patients, but nearly half of all patients in their study (47%) failed to receive it [31]. A study in South Wales concluded that the level of specialist knowledge of CFS in primary care was low, and only half the GP respondents in their survey believed that the condition actually existed [32].

3.5.3. We undertook a survey among EUROMENE participants to assess the position regarding GP diagnosis of ME/CFS. Responses were received from Bulgaria, France, Germany, Ireland, Italy, Latvia, the Netherlands, Norway, Rumania, Spain and the UK. No information was available from Belarus, Denmark, Finland, Greece, Portugal, Serbia, Slovenia, or Sweden. The responses are summarised in table 2 below:

Table 2: Responses to the EUROMENE survey of primary care diagnosis of ME/CFS

	Spain (Catalonia)	Italy	Ireland	Latvia	Norway	Rumania	Netherlands	Germany	France	Bulgaria	UK
Do GPs have lists of registered patients?	Don't know	No	Don't know	Yes (all patients)	Yes	No	No	No	No	No	Yes
What proportion of people with ME/CFS in your country present to a GP?	60%	100%	Unknown	It will be about 20 – 30%	100%	N/A	Not known	Not known	more than 90%, because each patient must have an identified treating physician, most of the time a general practitioner	Not known	Most
What proportion of patients with ME/CFS in your country who present to a GP are referred to specialist care?	80%	Unknown	Unknown, but likely to be very low since little or no specialist care is available in Ireland.	About 60%. Diagnosis is not confirmed; patients are referred as different somatic and psychosomatic conditions	Not known	N/A	Not known	Not known	Probably the majority, in fact to exclude another cause of fatigue and confirm the diagnosis	Not known	Not known. This varies from region to region, as in many parts of the country no specialist services exist/
What proportion of patients with ME/CFS in your country self-refer to specialist services?	80%	Unknown (possibly all)	Unknown	Approximately 30 – 40%	0	N/A	Not known	Not known	Not exactly known, but because of the lack of real diagnosis in many cases, patients often contact directly recognized specialists of CFS / ME (little number in France)	Not known	Not known, but the proportion is likely to be very low.
What constitutes "specialist care" for ME/CFS in your country?	, in Vall d¨Hebron CFS Unit – 2009 CFS cases.	No specialist care is planned for ME/CFS patients; However different treatment are carried out such as	Little or no defined ME/CFS specialist care is available in Ireland	It is not regulated – neurologists, rheumatologists, immunologists, infectologists, psychiatrists according to	- Examination for exclusion - Diagnosis for ME/CFS	We do not have a consensus!	Internist, neurologist, rehabilitation	Not existing	No reference center officially designed as a 'fatigue center' as in Barcelona, but different specialists are involved in the care of patients with chronic CFS/ME. Some		This varies. Specialist services may be provided by psychiatrists, neurologists, rheumatolo- - gists,

		rheumatological, neurological, infectivological, rehabilitation treatment		presenting complaints.					of them are offered by the French Patient Association (ASFC) at the request of patients. In a survey (in process of publication) of 228 members of our French Patients Association, they stated that the CFS / ME diagnosis was made by internists (32.5%) or neurologists (9%) or rheumatologists (26%) or algologists (4%), or other specialists (9%).		rehabilitation specialists and others
Is there specific national guidance in your country on treatment pathways (as for example in England via NICE)?	Yes	No	No	Yes for some diseases, but not for ME/CFS	Yes	No	Yes	No	No reference center officially designed as a 'fatigue center' as in Barcelona, but different specialists are involved in the care of patients with chronic CFS/ME. Some of them are offered by the French Patient Association (ASFC) at the request of patients. In a survey (in process of publication) of 228 members of our French Patients Association, they stated that the CFS / ME diagnosis was made by internists (32.5%) or neurologists (9%) or rheumatologists (26%) or algologists (4%), or other specialists (9%).	No	Yes.
If yes, please specify	2011. Fibromyalgia and chronic fatigue			Strong and wide for some cardiovascular, malignant,	Norwegian National Guidelines from the		Report of the health council 2018	No data available	No		NICE guidelines (currently undergoing

	syndrome: recommendations on diagnosis and treatment. Catalan Agency for Health Technology Assessment and To what extent do GPs in in your country recognise ME/CFS as a genuine clinical entity?Research (CAHTA)			infectious diseases. There is guidance on ME/CFS diagnosis, but not on treatment pathways.	Directory of Health, 2015						revision).
To what extent do GPs in in your country recognise ME/CFS as a genuine clinical entity?	Variable, in Catalonia, 60% , in other communities 30%.	The majority of GP do not recognize ME/CFS as a genuine entity, the proportion of GP with this expertiseis is probably growing due to the activities of Patient associations] The majority of GP do not recognize ME/CFS as a genuine entity, the proportion of GP with this expertise is probably growing due to the activities of Patient associations.	Limited knowledge about ME/CFS amongst GPs in Ireland.	Absolute majority of GPs do not recognise ME/CFS Just a few GPs recognise ME/CFS as a genuine clinical entity. Majority of GPs do not believe that it is real illness.	Varies from GP to GP	N/A	Since the publication of the report 2018 the number has increased considerably	No data available	Usually, this disorder is considered as the consequence of various primarily psychological factors. We are trying to change the scene, but to date, there are too few CFS / ME specialists in France.	Not known	The condition has been recognised as a genuine clinical entry since the publication of the Chief Medical Officers' Working Group report in 2004. However, many doctors still refuse to accept this.

How confident are they of diagnosing it?	In Catalonia, yes. In other comunities, variable	It cannot be verify due to the lack of patient databases and the lack of coordination between GP	Unknown	GPs are not so confident with this entity and diagnose it in very rare cases	Varies from GP to GP. . The national advisory unit has arranged seminars for teaching diagnosis etc on CFS/ME for the last 5-6 years. But each GP do not have many patient so they probably lack amount of exercise in diagnosing	N/A	Not confident	No data available	In my experience, the majority of general practitioners do not know the clinical entities of CFS / ME / SEID and do not know the diagnostic criteria.	Not known	Studies indicate that, while up to 70% of GPs accept ME/CFS as a genuine clinical entity, around half lack confidence in diagnosing it.
What proportion of patients with ME/CFS in your country who consult their GPs are in fact diagnosed by them?	Variable, in catalonia 70% and other comunities 20%.	[I think that the proportion of GB able to recognize ME/CFS is very poor and not quantifiable due to the lack of specific database of this pathological condition.	Unknown	In very rare cases	Not known	N/A	Unknown but certainly a very low number		In the survey mentioned above (Q6), members of our French Patient Association stated that the diagnosis of CFS / MS was made by general practitioners in 20% of cases.	Not known	Not known, but the proportion must be substantially less than 50%.

3.5.4. In summary, only in Latvia, Norway and the UK was it reported that GPs have lists of registered patients. In many countries, the proportion of people with ME/CFS presenting to a GP was not known. Where estimates were made, these varied from 20% to 100%. In turn, the proportion of those people with ME/CFS who, having consulted a GP, are referred to specialist care, was estimated at about 60% in Latvia, and 80% in Spain. In France, it was thought that the majority were referred, and in the UK it varied according to region. The proportion of patients with ME/CFS who self-refer to specialist services was thought to be around 30-40% in Latvia, and 80% in Spain. In the UK the figure was thought to be very low, and in most countries this was not known. Specialist care is very variable in nature, and different clinical specialties are involved in the different secondary care centres that offer services. In many countries, such services are non-existent. There is official guidance on treatment pathways for ME/CFS in Spain, Norway, the Netherlands and the UK. In Italy and Latvia, the majority of GPs do not recognize ME/CFS as a genuine entity. This is also true of Spain as a whole, though not of Catalonia. In France, it is generally regarded as psychological in nature. In both the UK and the Netherlands,, it is officially recognised, though many GPs still refuse to accept this. In Catalonia, GPs were said to be confident in diagnosing ME/CFS, but in Latvia, Norway, the Netherlands, France and the UK, there was considerable lack of confidence. The proportion of patients with ME/CFS who consult their GPs and are in fact diagnosed by them was generally said to be low or unknown. In those countries where a proportion was estimated (Spain, France, UK), it was thought to be around 20-50%.

3.5.5. Overall, it is clear that, in Europe, a high proportion of GPs, which is likely to be at least 50%, do not recognise ME/CFS as a genuine clinical entity and therefore never diagnose it. Among those GPs who do recognise its existence, there is a marked lack of confidence in making the diagnosis and managing the condition. Therefore estimates of the public health burden of the illness, even where these exist, are likely to underestimate substantially its true prevalence.

3.6. <u>Heterogeneity of health care systems and patterns of economic development across Europe.</u>

3.6.1. Patterns of healthcare delivery in Europe are extremely diverse, as are patterns of economic activity. In these circumstances, there is clearly a problem of making a comparative evaluation of the economic impact of ME/CFS across Europe, for the reasons outlined above. We shall be considering possible ways forward on this as part of the next phase of the project.

4. Task identification.

4.1 In the months to come, we shall be considering possible ways forward to enable deliverable 16 ("Common consensus protocol for economic loss estimation and forecasting due to ME/CFS") to be achieved.

4.2 In addition, the foregoing analysis has enabled the following specific tasks to be identified for the next phase of the activities of the Working Group. They will be undertaken as contributions to deliverable 16, insofar as it is possible where necessary to identify appropriate funding:-

1. Preparation of paper for publication summarising the present state of the art, the purpose of health economics studies within the EUROMENE collaboration, the issues that have been identified, and the proposed work programme to address these.

2. Replication in at least one other country of survey work undertaken in Italy to assess the economic impact of ME/CFS on individuals with the disease and their families.

3.. Implementation (funding permitting) of proposed prevalence and costs study in Latvia.

4. Brief report on the willingness or otherwise of primary care physicians across Europe to diagnose ME/CFS.

5. Comparison of employment, income and benefits between three groups of individuals (with ME/CFS, with MS, and healthy controls) whose data is held by the UK ME/CFS Biobank (subject to negotiation with and agreement by the UK ME/CFS Biobank).

5. Conclusions

5.1. Deliverable 15 requires that a summary be produced of "... evaluated socio-economic impact and direct and indirect costs caused by ME/CFS in Europe." To this end, we have reviewed cost-of-illness studies, but have been unable to draw detailed conclusions, because there have been none in the European region outside the UK, little is known about the incidence and prevalence of the disease, there is no routine collection of service utilisation data pertaining to ME/CFS, any analysis is dependent on case definitions which are arbitrary in nature and often conflicting, and a high proportion of doctors do not accept it as a genuine clinical entity, and consequently never diagnose it. Even among those doctors who do accept it as a genuine diagnosis, there are many who lack confidence in diagnosing or managing it.

5.2. Nevertheless, having completed the evaluation required for the current deliverable, we have devised a work programme which will enable us to achieve at least the broad outlines of a common consensus protocol for economic loss estimation and forecasting due to ME/CFS to be achieved.

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Appendix A – Membership of the Working Group

The following have participated in the activities of Working Group 3:-

Uldis Berkis	Riga Stradins University, Riga, Latvia
Julia Blanco	Fundacio Institut Germans Trias I Pujol, Barcelona, Spain
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Appendix B – Proposal for estimating the prevalence and costs of ME/CFS in Latvia

1. Introduction

1.1. There is currently no empirical information on the prevalence of ME/CFS in Latvia. However, prevalence estimates in other countries, including the UK [1], the USA [2], and Australia [3], if applicable to the Latvian population, suggest that there may be 8000-10000 people in Latvia who have this illness. This approach has the drawback, however, of not taking into account possible natural variation between populations.

1.2. The only data available concerning the burden of ME/CFS is service utilisation data, i.e. concerning those patients who have been referred to specialist, hospital-based services in Riga. The great majority of these patients are seen by one of two consultants, and number about 250 in all.

1.3. There is clearly a need to determine the burden of ME/CFS in Latvia, in order to determine, among other matters, the impact of the disease on the Latvian economy. This cannot be done without some empirical data on the scale of the disease in Latvia. A proposal is therefore set out below

2. Prevalence

2.1. Review revised criteria used to diagnose ME/CFS, and examine capacity to enable mapping of recorded symptoms to the CDC-1994 [4] and Canadian [5] case definitions.

2.2. In collaboration with the consultants to whom patients with putative ME/CFS are referred, contact the estimated 30-40 GPs who have referred patients subsequently diagnosed with ME/CFS. They will be:-

a) sent the revised (and reviewed) diagnostic criteria;

b) asked to advise of numbers of their patients (by age group and sex) who conform to the revised criteria;

c) asked to indicate (in confidence) their numbers of registered patients (ideally classified by age group and sex), to provide denominator data.

2.3. Data from 2.2 above will be used to generate overall and, if possible, age/sex specific prevalence rates for the population of registered patients of participating GPs. These will be extrapolated to the whole Latvian population, and 95% confidence limits calculated, to generate a range of estimates for the prevalence of ME/CFS in Latvia as a whole.

2.4. The revised criteria will be distributed to all GPs in Latvia (ca. 1200 in toto), in an attempt to enlist some more in this attempt to establish the scale of ME/CFS in Latvia, and also to provide data to validate the original estimates.

3. Cost Calculation

3.1. There have been a number of attempts in different countries to assess the overall costs to society of ME/CFS, for example in the UK [4], Australia [5] and the USA [6]. Such

methodologies can be applied to Latvia, on the basis of the prevalence estimates generated under section (2) above.

3.2. All these attempts to assess the economic costs of ME/CFS involved questionnaires to patients with ME/CFS. Certain disadvantages to this methodology are immediately apparent. The British study involved members of the patient support organisation Action for ME, and were therefore self-selected, while the Australian study involved patients living in one restricted geographical area. As a result, neither group may have been entirely representative of the ME/CFS population as a whole.

3.3. It is proposed to contact by questionnaire those 250 patients in Latvia already known to the health care system, in order to establish patterns of health care utilisation (the costs of which may be determined readily from official statistics) and other costs sustained by them and their families, and to quantify any benefits received. The problem inherent in other studies of lack of representativeness may be avoided in Latvia, given that the guiding principle behind the prevalence study is identify those patients who display clinical features comparable with those patients already in receipt of specialist health care.

3.5. In order to obtain the greatest possible response, a reminder will be sent to non-respondents one month after despatch of the questionnaire.

3.5 Having identified the costs incurred in respect of respondents, these figures will be extrapolated to the national level, on the basis of the prevalence estimates calculated in section (2) above.

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