

**Research into ME/CFS in the United Kingdom:
Can the National Research Register inform future policy?**

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February 2002

This analysis was funded by MERGE (ME Research Group for Education and Support) and consent to present the information was obtained from the National Research Register. A copy of this report has been placed with the NRR, and with the relevant statutory bodies, including the offices of the Chief Medical Officers of England and Scotland.

EXECUTIVE SUMMARY

There is presently a debate in the United Kingdom about future direction of public policy regarding research into Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS). Energising the debate is an apparent increase in the scale of the problem nationally and, recently, publication of a report by an independent working group to the Chief Medical Officer of England. However, policy must be guided by good data and great reliance has been placed on the UK National Research Register (NRR) of completed and ongoing medical studies as a resource for informing debate. This register is a database of ongoing and recently completed research projects funded by, or of interest to, the United Kingdom's National Health Service. This analysis of the information on ME/CFS contained within the NRR was designed to answer a specific question: given the interest in the development of a research policy for ME/CFS in the medium to long term, is the information contained in the NRR records robust and accurate enough to inform policy-makers?

The total raw number of studies on ME/CFS retrieved from the NRR was 28 ongoing and 133 completed studies (partial records are presented in a 35-page Appendix to this report). From each, the following key data were extracted: Title; End date; Contact person; Principal research question; Sample group description; Funding source and amount. Each record was assigned to an *ad hoc* “research category” (of interest to researchers), and a “clinical category” (of more interest to the public and policy-makers) on the basis of the professional and/or departmental affiliation of the “contact person”.

Of the 161 NRR reports retrieved, 10 appeared not to involve ME/CFS patients directly, and 12 appeared to be duplicates of existing reports. Thus, only 139 (23 ongoing and 116 completed) could be classed as “relevant” reports - representing 0.17% of the 80,000 on the entire NRR database. Eighteen reports (5 ongoing and 13 completed) concerned research in Scotland. Many reports were incomplete: 35% and 31% of ongoing and completed study records, respectively, had missing descriptions of the proposed sample group; 22% and 28%, respectively, had missing details of sources of funding; and the amount of funding received was not stated in more than a half of all entries. In addition, some records had very similar content, despite a difference in “end dates” which varied by up to 18 months, raising the possibility that some records describe extensions of an existing project rather than separate discrete investigations.

When classified by clinical category, 41% of reports had “contact persons” whose professional association was with “psychiatry, psychological medicine or mental health”. The second and third largest categories were neurology, neurosciences or neurophysiology (13%) and general medicine/medical care research (12%), respectively. When classified by research category, investigations with some scientific rationale and some relevance to the pathophysiology of the illness constituted the largest group of records (43%), but many of these were smaller exploratory studies (evidenced by relatively small sample sizes) that are unlikely to have given a definitive answer to the initial research question. The main other categories contained clinical trials or other investigations of essentially biopsychosocial interventions (17%), followed by surveys pertaining to biopsychosocial interventions (14%), and surveys of welfare or social aspects (9%).

Given that the amount of funding received was not stated in more than a half of all entries, no definitive conclusions can be drawn from the information on source or amount of funding. However, the clinical category “psychiatry, psychological medicine or mental health” is the most successful in attracting research funding. Overall, however, few public resources (NHS or Research Council) have been directed towards researching this illness.

In conclusion, the NRR records tend to be incomplete; to contain inadequate descriptions of the research proposed; and to have no cross-reference to the results emanating from the research. The records relating to ME/CFS reveal that comparatively little research has been done given the scale of the problem in the UK and that few public resources have been directed towards research, particularly into the pathophysiological basis of the illness. Much of the research undertaken has been led by investigators with a professional or departmental affiliation to Psychiatry, Psychological Medicine and Mental Health, and none of the 139 studies were conducted on the most severely-ill patients.

Given the recent recommendations of the Chief Medical Officer of England that government investment in research on ME/CFS should be comprehensive and include a range of studies designed to “*elucidate its aetiology and pathogenesis, clarify its epidemiology and natural history; characterise its spectrum and/or subgroups; and assess a wide range of potential therapeutic interventions including symptom control measures*”, we conclude that the NRR is not robust enough, as an information source or as a research resource, to inform the direction of future policy.

BACKGROUND

The quotation in the box below is a reply from the Health Minister of the Scottish Parliament – Susan Deacon MSP – in response to a question raised by Linda Fabiani MSP relating to Scottish Executive funding for chronic illnesses such as MS and ME (1).

S1W-12857 - Linda Fabiani (Central Scotland)(SNP): To ask the Scottish Executive: *how much was spent on research into the treatment of and possible cures for (a) multiple sclerosis and (b) myalgic encephalomyelitis in (i) 1997-98, (ii) 1998-99 and (iii) 1999-2000 and how much is expected to be spent in 2000-01 and 2001-02.*

Answered by Susan Deacon (26 February 2001): *Details of expenditure on all research into the treatment and possible cures for multiple sclerosis (MS) and myalgic encephalomyelitis (ME) is not held centrally..... CSO had no expenditure on MS and ME research projects in 1997-98, 1998-99, and will have none in 2000-01. Nearly £7,000 was spent by CSO on ME projects in 1999-2000 but there was no expenditure on MS.*

CSO is aware of 162 ongoing or recently completed ME research projects in the UK, (17 of which are or were in Scotland) and 254 ongoing or recently completed MS research projects (15 of which are or were in Scotland). The projects' details are available from the National Research Register (NRR), a copy of which is in the Parliament's Reference Centre. The results of these research projects will inform the future direction of research and treatment in this area.

The reply illustrates the growing interest in the future direction of public policy regarding research into chronic diseases. In the case of Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS), interest is fuelled by an apparent increase in the scale of the problem and, recently, by the publication of a report of the CFS/ME Working Group to the Chief Medical Officer (CMO) of England (2). Part of the brief of the CMO's report was to 'make recommendations for further research into the care and treatment of people with CFS/ME' (Section 1.1).

Policy must be guided by good data, however. As can be seen from the quotation above, great reliance has been placed on the UK National Research Register of completed and ongoing medical studies as a resource for informing debate. This register (3), assembled and published by Update Software Ltd on behalf of the United Kingdom's Department of Health, is a database of ongoing and recently completed research projects funded by, or of interest to, the United Kingdom's National Health Service. While the primary purpose of the NRR is to inform the public about the direction and nature of the research done in its name and with its resources, the longer term aim is to prevent duplication of research and facilitate the best use of scarce resources.

In theory, the NRR should be a reliable indicator of the amount of research activity in a specific clinical area, such as ME/CFS. It should be a premier resource, containing outlines of all identified United Kingdom research studies and supplementing information from medical databases such as MEDLINE and BIDS-ISI which give details of only published, completed studies generally in higher-quality scientific journals.

This investigation into the NRR was designed to answer a specific question: **given the interest in the development of a research policy for ME/CFS in the medium to long term, is the information contained in the NRR records robust and accurate enough to inform policy-makers?**

METHODS

National Research Register

The issue of NRR available at February 2002 has information on approximately 80,000 research projects collected on or before the 7th of September 2001. Projects with an end date before the 31st of October 2001 have been classified by NRR as *complete*, and all others have been classed as *ongoing*. Projects are indexed on an ongoing basis, using the Medical Subject Headings (MeSH) thesaurus of the US National Library of Medicine, allowing fast access to relevant projects by keyword.

Each NRR record can contain the following sub-headings:

Title
Publication ID number
Start date
End date
Contact person
Principal research question
Methodology description
Sample group description
Control definition
Outcome measure description
Project status (complete or ongoing)
Funding Information (Funding organisation name, reference number and amount)
Primary keywords
Secondary keywords
NRR data provider
Region

Ideally, each of these headings should have information attached to it, but in many cases, some or most of the categories are unfilled. Since the NRR relies on the information submitted by the “data providers” and takes no responsibility for its accuracy, the quality of information given in any particular record cannot be assumed to be high as a matter of course. Some categories require a little explanation: the contact person, for example, need not necessarily be either the investigator or the lead scientist, while the primary or secondary keywords may be only vaguely related to the particular project (hence, the occurrence of several “rogue” hits when “chronic fatigue syndrome” is used as a search term).

Extraction and classification of data

The NRR was sampled using the keywords, “myalgic encephalomyelitis” and “chronic fatigue syndrome”. The total raw number of studies accessed by these keywords was 28 ongoing studies, and 133 completed studies. These were downloaded and read by the two investigators (NCA and VAS), and the information tabulated. The resulting Table is presented as an Appendix to this report. This Appendix is intended only as a quick reference guide for interested parties, and not as a reproduction of the contents of the NRR data records which are in the public domain and available on the website (3). For this reason, only the following key data have been extracted: Title; End date; Contact person; Principal research question; Sample group description; Funding source and amount. Most of the entries in the Appendix are shown as they occur in the NRR record; however, in the interests of space, address details of the contact person have been truncated, and - in a few cases only - the principal research question, if enormously long, has been reduced in size to the reveal the “core” question.

After examination, the research projects were assigned to *ad hoc* “research categories” as follows:

- Scientific or laboratory investigations attempting to elucidate some aspect of the pathophysiology of the illness.
- Investigations designed to treat symptoms (including pharmacological interventions).
- Surveys of welfare/social aspects of the illness, including studies of quality of life or quality of life instruments, and assessments of outcomes of community care packages.
- Studies of the epidemiology/prevalence of the illness and the characteristics of patient group subsets.
- Clinical trials or other investigations of biopsychosocial interventions, primarily designed as coping strategies.
- Surveys or qualitative studies of biopsychosocial factors which may be involved in the perpetuation or perception of illness.
- Studies which appear to involve ME/CFS patients but which do not fall into any of the foregoing categories.
- Studies which do not appear to involve ME/CFS patients directly.

In several NRR records, the information provided was so rudimentary that a project could be assigned to a category only on the basis of its title, though the likelihood of incorrect assignment was small. In some cases, a record might have been assigned to another category had more information been available, or its remit could have warranted its inclusion into several categories. Records which were *apparently* duplicates of others (i.e., having the same contact name, very similar titles and similar end dates) have not been included in the analysis, though they have been identified in the Appendix. In some cases, records were very similar but had end dates differing by more than 6 months: these have been assumed to be separate studies, though they may be extensions of an existing study, or parts of a larger study for which an NRR record already exists.

While grouping records by research category is of interest to researchers, a “clinical category” may be of more interest to the public and policy-makers. For this reason, each record was also coded by the professional and/or departmental affiliation of the “contact person”. In the absence of other evidence, this *ad hoc* classification should be an indicator of the clinical subject area in which the research work was done. For some records, it was not possible to determine a “clinical category”, and these have been coded “undetermined”. These clinical groupings are shown in Tables 3 and 4.

The paucity of information contained within these records meant that no assessment of their *scientific quality*, for example, on the Jadad scale, could be undertaken. No attempt was made in this investigation to acquire published results which may have emanated from any of the completed studies, so it is impossible to quantify the number of studies finalised to the point of publication in the peer-reviewed literature. In addition, the fact that >50% of records gave no information on the amount of funding prevented analysis of expenditure by clinical or by research category.

RESULTS

Table 1 shows the numbers of investigations in each “research category”, as far as it could be ascertained from the NRR record. Scientific investigations into the pathophysiology of the illness constitute the largest group (43%), followed by clinical trials or other investigations of essentially biopsychosocial interventions (17%) and surveys pertaining to these interventions (14%). While 161 NRR reports of ongoing and completed studies were retrieved, 10 of these appeared not to involve ME/CFS patients directly, and 12 appeared to be duplicates of existing reports, resulting in 139 “relevant” NRR reports. Eighteen reports (5 ongoing and 13 completed) concerned research in Scotland.

Table 1. Numbers of investigations in each broad “research category”, and numbers of apparently duplicated or apparently non-relevant NRR records

Research Category*	Ongoing studies	Completed studies	Total (%)
Scientific/laboratory investigations into some aspect of the pathophysiology of the illness	7	53	60 (43)
Investigations designed to treat symptoms (including pharmacological interventions)	3	10	13 (9)
Surveys of welfare/social aspects of the illness, including studies of quality of life or quality-of-life instruments, and assessments of outcomes of community care packages	1	11	12 (9)
Studies of the epidemiology/prevalence of the illness and the characteristics of subset patient groups	2	6	8 (6)
Clinical trials or other investigations of essentially biopsychosocial interventions, primarily designed as coping strategies	5	18	23 (17)
Surveys or qualitative studies of biopsychosocial factors which may be involved in the perpetuation or perception of illness	3	17	20 (14)
Studies which appear to involve ME/CFS patients but which do not fall into any of the foregoing categories	2	1	3 (2)
Total discrete records of research on ME/CFS patients	23	116	139 (100)
Studies which do not appear to involve ME/CFS patients directly	3	7	10
Apparently duplicate NRR records	2	10	12

* classification determined on the basis of the title, research question or sample group description given in the original NRR record

Table 2 gives the prevalence of missing entries from the 7 key categories examined in each record. While no titles, end dates or contact person names were missing from the NRR records, 35% and 31% of ongoing and completed study records, respectively, had missing descriptions of the proposed sample group. Sources of funding were omitted in 22% and 28% of ongoing and completed study records respectively. The amount of funding received was not stated in more than a half of all entries.

Table 2. Prevalence of missing entries from the 7 key categories examined for the NRR records of the 23 ongoing and 116 completed studies on ME/CFS. The values represent the number (% of total ongoing or completed studies).

Category	Ongoing studies	Completed studies
Title	0	0
End date	0	0
Principal research question	1 (4)	4 (3)
Sample group description	8 (35)	36 (31)
Contact person	0	0
Funding source	5 (22)	32 (28)
Funding amount	12 (52)	59 (51)

Table 3 shows the distribution of relevant 23 ongoing and 116 completed NRR records by the professional designation or departmental affiliation of the “contact person”. The largest category consisted of “contact persons” whose professional association was with “psychiatry, psychological medicine or mental health” (41% of studies). The second and third largest categories were neurology, neurosciences or neurophysiology (13%) and general medicine/medical care research (12%), respectively.

Table 3. Numbers of studies in each “clinical category” for the 23 ongoing and 116 completed studies.

Clinical category	Ongoing studies	Completed studies	Total (%)
Psychiatry/Psychological Medicine/Mental Health	10	47	57 (41)
Neurology, Neurosciences, Neurophysiology	2	16	18 (13)
General Medicine and Medical Care Research	3	13	16 (12)
Not determined*	1	9	10 (7)
Immunology, Haematology & Biochemistry	1	7	8 (6)
Infectious Diseases		5	5 (4)
Primary care/Community/Occupational Therapy	1	3	4 (3)
Microbiology	1	1	2 (2)
Clinical Investigation inc. imaging		2	2 (2)
Epidemiology, Public Health, NHS reviews		2	2 (2)
Child Health & Paediatrics		2	2 (2)
Diabetes		2	2 (2)
Obstetrics & Gynaecology		2	2 (2)
Pharmacology		1	1 (1)
Gastroenterology		1	1 (1)
Hepatology	1	1	2 (2)
Respiratory Medicine		1	1 (1)
Health Studies		1	1 (1)
Anaesthetics	1		1 (1)
Rheumatology	1		1 (1)
Social and Political	1		1 (1)

*Classification could not be determined from the NRR record

Table 4 shows the sources of funding and amount (where these categories had an entry) grouped by clinical category for all 139 relevant records. There are indications that the clinical category “psychiatry, psychological medicine or mental health” has received more funding than the others, particularly from The Linbury Trust and the NHS through Health Trusts or the R&D scheme. However, given that the amount of funding received was not stated in more than a half of all entries (see Table 2), no definitive conclusions can be drawn from this information.

Table 4. Sources of funding and amount (where stated) grouped by “clinical category” for all 139 relevant records. The source and amount are as given in the original record.

Clinical Category	Funding sources (number of records receiving funding)	Amount (£)
Psychiatry/Psychological Medicine/Mental Health	BKCW Mental Health NHS Trust (1)	Not stated
	Chief Scientist Office (1)	53003
	“Internal” (1)	Not stated
	Joint Research Board St Bartholomew's Hosp (1)	38436
	Linbury Trust (12)	Not stated; Not stated; 34872; 36265; 43578; 52000; 68181; 85000; 111119; 112000; 115623; 30740
	Linbury Trust/Medical School (2)	111000; 22500; 125000; 22500
	Linbury Trust/North West London Mental Health NHS Trust (1)	100000
	Medical Research Council (1)	Not stated
	“Medical School” (1)	22500
	NHS Executive London/R&D/HTA (5)	Not stated; 18210; 77093; 59034; 75432
	No Funding (1)	
	NW London Mental Health NHS Trust (1)	110000
	Own Account (6)	Not stated (6)
	PPP Healthcare (1)	55660
	“Research account” (1)	7500
	Shire Pharmaceuticals.(1)	28000
	South Thames Regional Health Authority (3)	60000; 55955; 59590
	Stanley Foundation (1)	85576

Table 4 (Continued)

Clinical Category	Funding sources (number of records receiving funding)	Amount (£)
Neurology, Neurosciences, Neurophysiology	Wellcome Trust (2)	105574; 106000
	Action for ME (1)	3750
	Barclay Trust/ Wellcome Trust (1)	Not stated
	British Lung Foundation/ME Association (1)	69000
	Hospital Savings Association Charitable Trust (1)	5000
	Linbury Trust (2)	5000; 116389
	Linbury Trust/Acute Healthcare Research (1)	Not stated
	ME Association (1)	56027
	No funding (1)	
	Persistent Virus Disease Res. Foundation (3)*	30000 (3)*
	Shire Pharmaceuticals (1)	6800
	Stanley Foundation (1)	85576
	Waverley Trust/ Margaret Bell Bequest Endowment Fund (1)	70000
	General Medicine and Medical Care Research	Department of Health (PRP) Policy Research Program (1) [CFS funding only part of a large programme grant]
Linbury Trust (2)		Not stated; 83000
ME Association (1)		1500
MERGE (1)		8788
No Funding (2)		
Own Account (1)		Not stated
P F Charitable Trust/MERGE (1)		50000; 13421
Persistent Virus Disease Research (1)		6814
Rowbotham Trust (1)		5000
“Various” (1)		49800
Wales Office of R&D for Health and Social Care (1)		5000
Wellcome Trust (1)		650000
“WORD” (1)		Not stated
Not determined		Linbury Trust (1)
	MRC (1)	Not stated
	NHS Executive West Midlands (1)	73487
	No Funding (1)	
	No Funding (1)	
	No funding (1)	
	Own account' (1)	Not stated
	RHT R&D (1)	37882

Table 4 (Continued)

Clinical Category	Funding sources (number of records receiving funding)	Amount (£)
Immunology, Haematology & Biochemistry	Industry (1)	96000
	Linbury Trust (1)	75656
	Newport Pharmaceuticals (1)	5000
	No Funding (1)	
	Salford Royal Hospitals NHS Trust (1)	Not stated
	Wellcome Foundation (1)	Not stated
Clinical Investigation inc. imaging	ME Association (1)	77000
Epidemiology, Public Health, NHS reviews	Not stated (1)	38713
Pharmacology	Linbury Trust (1)	Not stated
Child Health & Paediatrics	ME Association (1)	Not stated
	No Funding (1)	
Diabetes	Linbury Trust (1)	156000 (1)
Microbiology	Linbury Trust (1)	98405
	Medical Research Council (1)	Not stated
Social and Political	Economic and Social Research Council (1)	9500
Respiratory Medicine	West Midlands NHSE (LORS) (1)	66807
Infectious Diseases	Dept of Behavioural Medicine, University of Manchester (1)	Not stated
	Libyan Govt (1)	85000
	Linbury Trust (3)	Not stated;
		Not stated;
Primary care/ community/OT	No Funding (1)	74500

* one of 3 entries, possibly representing one large programme grant

**ME/CFS work part of a much larger programme grant

COMMENT

In the BMJ in 1998 (4), Ian Roberts, writing of the NRR, pointed out that the public pays for the NHS, and for the NHS research and development programme, and that this fact is more than adequate justification for making information on research projects taking place within the NHS publicly available. This author envisaged a world where patients could scan the database of ongoing trials to see if they can take part in any, and where taxpayers could audit research funding and make their feelings known about research they consider “trivial”, challenging the notion that health research is owned by funders and investigators rather than the unwell from whose health experience new knowledge is constructed. His conclusion, in 1998, was that the NRR had the potential to become an important resource, but that this potential remained unfulfilled. This is also the conclusion of the present authors in 2002, on the basis of records relating to ME/CFS.

It is clear that the data obtained from the original records of the NRR database are not robust enough to inform decision-making about the future direction of ME/CFS research resource allocation. The reasons concern the NRR itself, and the nature of individual studies conducted into ME/CFS.

The NRR: current limitations of the records

- The information contained within NRR is supplied by feeder data providers – principally NHS Trusts via the investigators themselves – and the sparseness of information in some of the entries (particularly incomplete descriptions of the experimental protocols, and omission of funding sources and amounts) makes it a far from complete instrument for researchers, patients or policy makers. For example, proposed sample group was missing in 35% and 31% of ongoing and completed study records, respectively; sources of funding were omitted in 22% and 28%, respectively; and the amount of funding received was not stated in more than a half of all entries.
- It is clear that a simple count of the number of studies being performed within a discrete clinical category, such as ME/CFS or MS, is (most probably) not meaningful except as a crude indicator of research activity. This investigation has uncovered apparently duplicate entries (probably due to duplicate registration by different NHS trusts - since there may be multiple authors on the same research grant - rather than attempts by authors to claim credit for more than 1 study). In addition, some records have very similar content, despite a difference in end dates which can vary by up to 18 months, raising the possibility that some records describe extensions of an existing project rather than separate discrete investigations.
- There is also a suspicion - but no more - that not all current investigations are, in fact, registered with NRR, given that the onus is on authors to supply information to their institutions or Health Trusts which submit them to the NRR.
- It is possible that some records supplied to the NRR by the “data providers” are inaccurate. Five of the 139 relevant records concern studies sponsored by MERGE or by research grants awarded to its Chairman (VAS), and in 4 of these there are substantial inaccuracies.
- While the high number of unfilled categories with only partial records limits their usefulness in the planning and implementation of policy by interested parties, it is still the case that even if all records were complete, and gave a full description of the proposed study, they are still no more than proposals, generated for the most part at the funding application stage and passed on, unaltered, by the investigator. This makes no allowance for the fact that protocols can alter before the start of projects, or during the experimental stage as investigations continue.
- Even with perfect submission and recording, a major limitation to the usefulness of the NRR is the omission of the results of research or references to publications emanating from completed research projects. In only one record identified in this analysis was there a reference to a published report emanating from the research (viz. Lane et al., Journal of Neurology, Neurosurgery and Psychiatry 1998; 64:362-367). At the moment, the gap between the intention of the proposed study (as stated, often incompletely, in the skeletal NRR record) and the final published report must be bridged by consulting databases, such as MEDLINE, or corresponding with the “contact person” listed in the NRR for a reprint or update on findings. The ideal,

completed NRR record would contain either a copy of the full-text article emanating from the research (or a website-link to a copy) or, at least, a structured abstract of the basic findings, especially of publicly-funded research.

ME/CFS: conclusions from the NRR records

- The number of research studies on ME/CFS is small – 139 of direct relevance out of a total of 80,000 on the whole database (0.17% of the total). In fact, had more information been available, this tally might have been even smaller, given the suspicions of the authors that extensions to existing projects have been accorded a “new” record, and that some apparently discrete entries may, in fact, be duplicates.
- Most of these studies seem to have been funded by non-Governmental sources (chiefly, Linbury Trust, but also smaller patient-based ME organisations), and few public resources (such as NHS or Research Council funding) have gone into ME/CFS research, concurring with the recent comment from a debate in the House of Commons: “*we invest virtually nothing in research into an incredibly destructive illness that varies in intensity among people. Are we therefore surprised that so little is known about the illness right across the board from patients to professionals in health care?*” (5). The data indicate that much of the (limited) NHS or Class I funding has been given to investigate management strategies, such as cognitive behavioural therapy. However, given that less than half of the NRR records give details of the amount of funding, no definitive analysis is possible.
- In terms of types of research undertaken, 23% of the studies were surveys or qualitative research, probably designed to elucidate factors involved in the management of the illness but not the cause or cure. A further 17% of studies were clinical trials or investigations of essentially biopsychosocial interventions, particularly cognitive behavioural therapy, which, in an ideal world, “*...clinical researchers and funding agencies would note that, even though these interventions appear effective, the evidence is based on a small number of studies and neither approach is remotely curative, and would continue their efforts to develop better treatments*” (6). Only 6% of the NRR-listed studies were related to the epidemiology/prevalence of the illness; only 9% appeared to be designed to treat symptoms. While it might be considered heartening that 43% of the NRR records could be considered relevant to the central issue, namely, uncovering the pathophysiological mechanisms of ME/CFS, many of these appear to be smaller exploratory studies (as evidenced by relatively small sample sizes). Like many of the 139 investigations, these are unlikely to have given a definitive answer to the initial research question, mirroring the statement in Chapter 6 of the recent report of the CFS/ME Working Group to the Chief Medical Officer (2): “*...there is a paucity of good research evidence (and very little research investment) for a serious clinical problem that in likelihood has a pervasive impact on the individual and the community.*”
- Irrespective of the research category to which studies can be assigned, NRR records on ME/CFS appear to be dominated by investigators with a professional or departmental affiliation to Psychiatry, Psychological Medicine and Mental Health: 41% of contact persons of completed studies come into this group compared with 13% in Neurology, Neurosciences, Neurophysiology and 12% in General Medicine and Medical Care Research. It may be that funding, from public or non-governmental sources, has been preferentially available to professionals in this speciality, or it may reflect the fact that it is mainly clinicians from this clinical category who are active in the ME/CFS research field and that the biopsychosocial model of illness which they propose is expedient given the limited treatment options available.
- As far as can be ascertained, none of the 139 studies, from whatever group or speciality, were conducted on the most severely-ill patients, generally recognised to comprise 25% of ME/CFS sufferers. Surveys (7) have shown that some 57% of these sufferers have been either housebound or bedridden for 6 years or more; that 55% have been ill for more than 10 years; that 25% - probably 6 to 8,000 people in the population if these figures are correct - describe themselves as bedridden; and that 29% report having had no appropriate medical advice or treatment during the course of their illness. Research that includes these sufferers is urgently

required. As Section 2.3.1.1 (Primary Care) of the report of the CFS/ME Working Group to the Chief Medical Officer (2) states: “*In general, this group is excluded from research, so they may not fulfil criteria used to test evidence-based approaches. For example, many comment on the inappropriateness of extreme exercise regimens that have been studied in less adversely affected patients.*”

- The small number of research studies described in the NRR records barely begin to address the 6 recommendations of the CFS/ME Working Group for research into the illness (Box).

A programme of research on all aspects of CFS/ME is required. Government investment in research on CFS/ME should encompass health-services research, epidemiology, behavioural and social science, clinical research and trials, and basic science. In particular, research is urgently needed to:

- *Elucidate the aetiology and pathogenesis of CFS/ME;*
- *Clarify its epidemiology and natural history;*
- *Characterise its spectrum and/or subgroups (including age-related subgroups);*
- *Assess a wide range of potential therapeutic interventions including symptom control measures;*
- *Define appropriate outcome measures for clinical and research purposes; and*
- *Investigate the effectiveness and cost-effectiveness of different models of care.*

(Section 6.5, Research)

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7. Survey of Housebound/Bedridden severely-ill ME patients. (Re-analysis by MERGE). Copies available from Simon Lawrence, The 25% Group, Troon, Ayrshire, Scotland KA10 6SQ.

MERGE

MERGE exists to fund scientific investigation into the causes and treatment of myalgic encephalomyelitis (ME), to provide information and education about the condition, and to support sufferers. The charity was founded by Dr Vance Spence and Mr Robert McRae, both ME sufferers forced to retire early from their professions. With Roger Jefcoate CBE as its founding patron, MERGE obtained charitable status in April 2000 and, after establishing itself successfully, commenced its five-year plan of expansion from May 2001.

Dr Neil Abbot is a biologist by training, gaining an MSc in Bioengineering and a PhD in Clinical Physiology. He has conducted research studies in India, Iran and Spain, and has held post-doctoral posts at the Universities of Dundee, Glasgow and, latterly, Exeter where he designed and conducted clinical trials. He is experienced in systematic reviewing and meta-analysis and, in 2001, completed an MSc in Medical Statistics. He is currently Research and Development Co-ordinator at MERGE, and holds an Honorary Research Fellowship and a Statistical Fellowship. He has published 49 scientific papers.

Dr Vance Spence is a graduate of the Universities of London and Dundee. He has a special interest in the biology of the circulation and was Principal Clinical Scientist responsible for the development of services to vascular patients and for vascular research in University of Dundee Medical School. He personally supervised 20 graduate and post graduate research theses and retired in 1988 at the age of 39 with ME. In 1997 he rejoined the Department of Medicine in University of Dundee as Honorary Senior Research Fellow with an objective of establishing an ME research interest within that department – an objective that is currently being sponsored by MERGE of which he is Chairman. Dr Spence has 47 Medline-listed research publications.

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APPENDIX

Summary of data included in the 161 NRR records retrieved. Missing entries indicate that the entry was missing from the original NRR record. The records are numbered 1a to 28a (ongoing studies) and 1 to 133 for completed studies. The order of records reflects only the order in which they were displayed by the NRR following the initial data search.

Project title	End date	Principal Research Question as stated	Patient type and number	“Contact Person” *	Source of funding (if stated)	Cost (if revealed)
1a Group therapy for CFS	19/02/2002	Group therapy for CFS	20	Mr John Gibson-Saxty, Dept of Clinical Psychiatry, Addenbrooke's NHS Trust, Cambridge		
2a A twin study of prolonged disabling fatigue associated psychiatric morbidity and operationally defined CFS (CCFS) in childhood and adolescence	28/02/2002	To examine the familiarity of chronic disabling fatigue in children and adolescents aged 5 to 17 years, and estimate the contribution of genetic and environmental risk factors, using two large population based twin samples; to determine the prevalence of operationally defined CFS in this age group; to assess the psychiatric morbidity, educational and social disability, service use, and illness attributions associated with chronic fatigue in twins.	Population based series of over 4000 twins from Manchester	Prof Ann Farmer, SGDP Research Centre, Institute of Psychiatry, London	PPP Healthcare	£ 55660
3a Childhood experiences and parenting in adults with CFS, adults with multiple sclerosis and a normal control group: a pilot study	01/08/2002			Dr T Chalder	“other”	
4a Epidemiology of CFS in childhood (in the process of application)	31/12/2002	Establishing general population prevalence rate of CFS	Children with CFS [Oxford criteria] under 17 years of age	Professor Elena Garralda	BKCW Mental Health NHS Trust	
5a Erythropoietin deficiency in CFS	01/01/2002	Do patients with CFS have anaemia and if so is it due to erythropoietin deficiency?	20 CFS patients between ages 18 to 60	Dr Tony Cleare	Own Account	
6a Family Focused	01/10/2003	The study members have developed a family	All patients	Dr Trudie Chalder	NHS	£ 77093

Cognitive Behavioural Therapy for Adolescents with CFS		oriented cognitive behavioural approach for adolescents with CFS . The approach is based on a model of understanding the condition which makes a distinction between precipitating and perpetuating factors. The model will be tested via a randomised controlled trial.	between the ages of 11 and 17 who are referred to Kings or St Mary's Hospital, Paddington, for an assessment of their CFS will be eligible. Approximately 40 patients per year are currently assessed		Executive London	
7a Family focussed Cognitive Behavioural Therapy for Adolescents with CFS DUPLICATE OF 6a	30/09/2003	To improve understanding and management of CFS in adolescents by means of a randomised controlled trial in which patients between the ages of 11 and 17 who fulfil criteria for CFS are randomised to either family focused cognitive behavioural psychotherapy (CBT) or treatment as usual (TAU)	All patients who fulfil criteria for CFS will be eligible. All patients will have been investigated by a paediatrician prior to referral, to exclude alternative causes for their illness.	Ms Trudie Chalder	NHS R&D Executive	£ 77093
8a Identity and Illness in Context: The Case of CFS	01/09/2002	How can the lay views of CFS be understood as they relate to sufferers' conceptions of themselves and how does it change over time and during interaction with others?	15 CFS locally from GP practices and the CFS clinic	Mrs S Robinson, Dept of Social & Political Science, Royal Holloway, University of London	Economic and Social Research Council	£ 9500
9a Neuropsychometric testing of patients with mild hepatitis C and/or the CFS	01/05/2002	Are there neuropsychometric abnormalities in non-cirrhotic hepatitis C. [Questionnaire and computer based neuropsychometric testing]	Non cirrhotic hepatitis C/B patients. CFS patients	Dr Janice Main		
10a Randomised controlled	01/07/2002	CBT based on altering beliefs and behaviours,		Dr T Chalder	Medical	

trial of cognitive behaviour therapy versus graded exercise in the CFS		is a more effective treatment than graded exercise therapy, based on reversing deconditioning, in patients with the CFS referred for secondary care.			Research Council	
11a Cognitive behavioural therapy in CFS : A randomised controlled trial of an outpatient group programme	31/01/2004	To test the hypothesis that group CBT will produce an effective and efficient management strategy for patients in primary care with CFS.	43 CFS: International Case Definition (Fukuda et al 1994)	Dr Hazel O'Dowd, Clinical Psychology, Pain Management Centre, Frenchay Hospital, BS16 1LE	NHS R&D Health Technology Assessment Programme	£ 75432
12a MEDICAL CARE RESEARCH UNIT: NEW PROGRAMME [CFS mentioned only as part of a large programme grant]	31/12/2001	The efficacy of homeopathy for CFS		Professor Jon Nicholl, Medical Care Research Unit, Faculty of Medicine's Sheffield	Department of Health (PRP) Policy Research Program	£ 2214210 [CFS funding only part of a large programme grant]
13a A study of parvovirus B19 in CFS	01/04/2003	To investigate parvovirus B19 in CFS		Professor RC MATTHEWS, Manchester Royal Infirmary, Manchester	Libyan Govt	£ 85000
14a CFS Questionnaire	01/08/2002	To identify subsets of patients suffering from CFS according to symptomatology	200 patients recruited from Professor Daymond's outpatient clinics or people attending Sunderland and South Tyneside ME group	Professor T J Daymond, Dept Rheumatology,, Sunderland Royal Hospital,, Sunderland		
15a Randomised double-blind cross-over trial of proglumide in patients with chronic pain and or fatigue	31/01/2002	Does proglumide offer benefit to fearful chronic pain patients, and/or patients with CFS?	40	Dr D Haines, Anaesthetic Department, Hull Royal Infirmary, Hull		
16a Chronic inflammation and apoptosis in CFS	13/11/2001	The aim of this study is to investigate markers of apoptosis, chronic inflammation and oxidative stress in patients who have CFS,	100 CFS patients and 50 volunteers.	Dr G Kennedy, Ninewells Hospital Medical School,	MERGE (Myalgic Encephalom	£ 8788

		comparing them with patients exposed to organophosphates and to sex and aged matched healthy control subjects. If we are correct then patients with CFS may, in addition to their plethora of symptoms, be at risk of developing signs associated with vascular risk factors. We also wish to investigate their vascular response to various chemicals.		University of Dundee	yelitis research group)	
17a EBV and Infectious Mononucleosis	30/09/2002	To elucidate the variable clinical syndromes produced by primary Epstein-Barr virus (EBV) infection including X-linked lymphoproliferative disease (XLP) which is an inherited fatal form of infectious mononucleosis (IM) caused by EBV infection. To exploit identification of the XLP gene, the function of which is to suppress the lymphocytic activation molecule (SLAM).	20 subjects within Lothian	Dr H Williams, Department of Medical Microbiology, The University of Edinburgh	Medical Research Council	
18a Investigation of Rnase L and PKR antiviral pathways in CFS	30/09/2002	Are the Rnase L and PKR antiviral pathways activated in CFS?	50 patients with CFS. 50 patients with infectious diseases. 50 healthy volunteers	Dr Wilhelmina MH Behan	British Lung Foundation; ME Association	£ 69000
19a The effect of exercise on cardiopulmonary and skeletal muscle function in central fatigue disorders	30/04/2003	Are the responses to exercise the same in all disorders of central fatigue?	20 patients with CFS. 20 patients with multiple sclerosis	Dr Wilhelmina MH Behan	The Barclay Trust; Wellcome Trust	
20a Use of Cytotoxic T Cell Immunotherapy to treat Epstein-Barr Virus-Associated Post Transplant Lymphoproliferative Disease	31/05/2004	The aim of this study is to provide a highly specific, evidence-based form of treatment for Epstein-Barr virus (EBV)-associated post transplant lymphoproliferative disease (PTLD) in immunocompromised transplant recipients.	Around 100 - all that occur during the 5 year study period.	Prof DH Crawford, Department of Medical Microbiology, University of Edinburgh	Cancer Research Campaign	£ 222152 [This project is part of a multi-centre study]
21a Natural history and prognostic indicators of	31/7/2003	A prospective study of the natural history of upper limb disorders that present to primary		Dr Keith T Palmer, MRC Environmental	NHS Executive	£ 64768

upper limbs disorders presenting to primary care		care, utilising these diagnostic criteria. The focus will be on determining the impact of these disorders and identifying prognostic indicators that may be of practical value to general practitioners confronted with these problems.		Epidemiology Unit, Southampton General Hospital, Southampton	South East	
22a The clinical relevance of hypothalamo-pituitary-adrenal axis abnormalities in CFS	01/01/2002	Abnormal function of the hypothalamo-pituitary-adrenal (HPA) axis in patients with CFS has now been demonstrated in several centres. The exact HPA axis disturbance which might underlie this reduction in cortisol (CORT) output remains unclear. We aim to discover whether those patients with abnormal HPA axis function are less likely to respond to cognitive-behaviour therapy (CBT), a treatment known to be effective in around 70% of cases of CFS in the specialist setting. We also wish to see what effect CBT has on the HPA axis in CFS, and whether CBT is an effective remedy for the HPA axis dysfunction	15 patients	Dr Eleanor Feldman, Department of Psychological Medicine, John Radcliffe Hospital, Oxford	Linbury Trust	£ 112000
23a CFS/ME Service Outcomes Measurement	01/05/2005	Analysis of the outcome measurements of the CFS/ME service from November 1998 to date and on-going.....Analyse the variations in presentation of the illness.....	All patients referred to the service	Dr William Tudor-Thomas, Dorset Group of the ME Association, Corfe Mullen, Wimborne, Dorset	No funding	
24a Cognitive behaviour therapy (CBT) in CFS : a randomised controlled trial of a group programme for the primary care population POSSIBLE DUPLICATE OF 11a	31/3/2002	To assess the effectiveness of Cognitive behaviour therapy (CBT) in a group setting to treat patients with CFS based in a primary care population. Also a cost utility analysis will be undertaken to compare the alternative options in terms of improvement in QALYs	Patients referred to the pain management team for treatment of CFS, as defined by the definition of the centre for Disease Control, from primary care in the age range 18 to 70	Ms H O'Dowd, Department of Pain Management, Frenchay Hospital, Bristol	NHS Executive (Health Technology Assessment Program	£ 60000

			years of age			
25a The Galantamine Chronic Fatigue Trial	01/01/2002	What is the therapeutic efficacy, tolerability and dose-response relationship of Gallantamine in the treatment of CFS?	Patients diagnosed with CFS from five national centres.	Dr Russell Blacker, Department of Mental Health, University of Exeter, Exeter	Shire Pharmaceuticals	£ 28000
26a Accounting for chronic fatigue: patient narratives and professional perspectives	21/02/2004	How do CFS patients represent their condition in a non-clinical setting? How do these representations differ from those given in a CFS clinic? How might a close analysis of patients' representations inform and instruct in the provision of health care for patients?	Patients attending CFS clinic at the University Hospital of Wales.	Professor LK Borysiewicz, Department of Medicine, University of Wales College of Medicine, Cardiff	WORD	
27a The 'MATHS' syndrome - new diagnostic procedures with pathogenic mechanisms from sugar metabolites	30/04/2003	Sugar overload of bacteria in the large intestine results in the generation of hydrogen and small organic toxins which have pathological effects on peripheral tissues.	[CFS only one of 6 patient groups examined]	Professor A K Campbell, Department of Medical Biochemistry & Immunology, University of Wales College of Medicine, Cardiff	Wellcome Foundation	
28a An investigation of the nature of sleep disturbance in athletes diagnosed with overtraining similarities with CFS?	01/01/2002	We propose to conduct a sleep study using a cohort of overtrained athletes and matched controls to investigate whether....: ii. The previously described changes in sleep architecture in CFS are mirrored by those in athletes diagnosed with overtraining syndrome	A group of 10 overtrained and 10 healthy endurance-trained athletes (either sex, aged between 18-35) will be recruited from amongst those living and training in the West Midlands. Both Professor Jones and Dr Mike Gleeson have close links with local coaches and athletics clubs.	Professor MJ Kendall, Clinical Investigation Unit, University of Birmingham, Birmingham	ME Association	£ 3500

Complete Projects (133 records selected)						
1 A phase II randomised, placebo-controlled study to assess the safety and efficacy of galantamine hydrobromide 25mg TID , 5mg TID, 75mg TID and 10mg TID taken for a period of 16 weeks in patients with a diagnosis of CFS	01/06/2000	Phase II, multi centre trial of Galantamine Hydrobrom in CFS.	[16 subjects with CFS]	Dr Alexander Joel Mitchell, Addenbrooke's NHS Trust, Cambridge		
2 Exploratory study of a group of children (and their families) to look at the effects of living with ME	19/11/1996	Study of effects of ME in Children [Qualitative questionnaire to be completed by parents - children]		Ms Janet Anne Rand, Cambridgeshire College of Health Studies, Addenbrooke' s Hospital Cambridge		
3 Family history study of CFS	09/12/1999	Family history study of CFS[This study is to explore the role of familial factors in CFS by comparing familial rates of CFS in CFS subjects vs. matched controls (patients with fatiguing illness of known medical aetiology). We will investigate whether there are familial links between CFS and depression vs rates in families of controls].		Dr Nor Zuraida Zainal, Box No 189, Dept of Psychiatry, Addenbrooke's NHS Trust. Cambridge		
4 Identification of intracellular magnesium deficiency in patients with CFS and the effect of intramuscular magnesium sulphate in its treatment	01/09/1998	Red cell magnesium in CFS [Patients with a deficiency will be randomised to receive a 10 week course of injections of either MgSO4 or NaCl. Fatigue levels will be assessed using a standard questionnaire].		Dr John O Hunter, Box No 210A, Dept of Gastroenterology, Addenbrooke's NHS Trust, Cambridge		
5 Investigation of neuroendocrine and serotonin abnormalities in the CFS	02/02/1997	Are there (a) abnormalities in glucocortizoid secretion in the CFS and (b) are there serotonin abnormalities in the brain in this disorder		Dr Veronica O'Keane, Dept. of Outpatients Psychiatry, Addenbrooke's Hospital, Cambridge	Lindbury Trust	£ 30740
6 The use of sertraline in	30/06/1998	Sertraline use in non-depressed chronic fatigue		Dr Veronica O'Keane,		

none-depressed patients suffering from CFS		patients [There is evidence that sertraline is beneficial in CFS, and it is the hypothesis that the non-affective symptoms of CFS are improved by serotonergic drugs that is the rationale for the development of this clinical trial in a non-depressed patient population].		S3 Dept. of Outpatients Psychiatry, Addenbrooke's Hospital, Cambridge		
7 24 hour hormone profiles in CFS	01/01/2001	do the profiles in CFS differ from those in controls, and is this important in symptomology	CFS patients from clinic in psychological medicine	Dr Tony Cleare	Medical School	£ 22500
8 A comparison of patients attending KCH and primary care with CFS	01/04/1999	Are patients seen in primary care with CFS different from those in the community		Professor S Wessely	South Thames Regional Office	£ 55955
9 A cross-sectional study of the prevalence and aetiological associations of fatigue in patients with bleeding disorders and Hepatitis C infections	01/07/1999	What is the risk of fatigue and CFS in association with Hepatitis C viral infection in patients with bleeding disorders?	101 patients with bleeding disorders who have contracted hepatitis C infection. [Cross-sectional study using questionnaires]	Dr Mark Weaver, Consultant Psychiatrist, Department of Psychological Medicine, St Bartholomew's Hospital, London	Joint Research Board of St Bartholomew's Hosp	38436
10 A neurophysiological investigation of voluntary control of movement in CFS/ME	01/10/1999	How is the corticospinal system affected by ME?		Dr Nick Davey, Human Neurophysiology Laboratory, Imperial College School of Medicine, Charing Cross Hospital, London	Action for ME	£ 3750
11 A neurophysiological investigation of voluntary control of movement in CPS/ME DUPLICATE OF 10	31/12/1999	Investigation into the physiology of the corticospinal system controlling voluntary movements.	20-40 CFS/ME patients and 20-40 volunteers	Dr NJ Davey, Paterson Wing, Bays 6-10 South Wharf Road, Paddington, London	Action for ME	£ 3750
12 A phase II randomised	31/03/2000	Study to assess the safety and efficacy of	Patients will be	Dr Janice Main	Shire	£ 6000

<p>placebo controlled study to assess the safety and efficacy of galantamine hydrobromide 25mg tid and 10mg tid taken for a period of 16 wks in patients with a diagnosis of CFS</p> <p>DUPLICATE OF 1</p>		galantamine hydrobromide 2.5mg tid and 10mg tid taken for a period of 16 wks in patients with a diagnosis of CFS (MREC).	recruited through the CFS Clinic run by Dr Main.		Pharmaceuti cals Ltd	
13. A phase II, randomised, placebo controlled study to assess the safety and efficacy of anti cholinesterase drugs in patients with a diagnosis of CFS	01/09/2000	Do anti cholinesterase drugs help patients with CFS?	60 patients from the Allergy Clinic with CFS	Professor J Brostoff, Immunology Department,, The Middlesex Hospital, London	Industry	£96000
14 A pilot study for a community randomised controlled trial of self help versus no treatment in the prevention of chronic fatigue and CFS following glandular fever.	31/12/2000	1) What are the immune predictors of chronic fatigue and CFS following glandular fever? 2)Are pts with lower levels of 24 hr urinary free cortisol and its metabolites at the time of acute glandular fever at greater risk of subsequent CFS? 3)What psychological risk factors exist for the development of CF and CFS following glandular fever? 4)Can brief psychosocial intervention, aimed at reducing fear and avoidance of activity improve outcome from glandular fever?	Patients identified from participating virology laboratories in the South Thames Region. Their GPs will be contacted before they are approached	Dr M Hotopf, Dept of Psychological Medicine, GKT School of Medicine, London	Linbury Trust	£43578
15 A pilot study for a community randomised controlled trial of self-help versus no treatment in the prevention of CFS following glandular	31/12/2000	What are the risk factors for the development of chronic fatigue following glandular fever	Individuals aged 16-45 with acute glandular fever	Dr Matthew Hotopf, GKT School of Medicine, London	Linbury Trust	£49878
DUPLICATE OF 14						
16 A prospective randomised, controlled trial	01/07/2001	Can a single session of cognitive based intervention influence the beliefs that patients	49 patients	Dr T Chalder	Own Account	

of a single interview session designed to correct misconceptions regarding myocardial infarction thus optimising recovery and uptake of cardiac rehabilitation		who have suffered myocardial infarction hold regarding their heart condition?				
17 A randomised controlled trial of CBT for CFS in primary care	01/04/1999	Having shown that we have developed an effective treatment package for CFS does it work in primary care		Professor S Wessely	Wellcome Trust	£ 105574
18 A randomised controlled trial of cognitive behaviour therapy for CFS	01/04/2000	“Expressed in title”		Professor S Wessely	South Thames Regional Office	£ 59590
19 A randomised, placebo controlled study to assess safety and efficacy of galantamine hydrobromide in CFS	31/03/1999	Does this centrally acting anticholinesterase reverse cognitive dysfunction and improve clinical state in CFS?	4 CFS patients (300 Nationally)	Dr Russell J M Lane	Shire Pharmaceuticals	£ 6800
20 A retrospective study of outcome in children presenting with chronic fatigue/ME at Great Ormond Street Hospital and follow up	30/11/1998	To identify psychosocial factors which predict good outcome, as indicated by follow-up information, in particular whether the pattern of presenting symptoms and willingness to engage in psychological treatment influence outcome	Children presenting CFS [Case-note review; Database analysis; Interviews; Questionnaires]	Dr ME Meadows, c/o Research & Development Office, Great Ormond Street Hospital, London		
21 A study of TH1/TH2 cytokine ratios in adult patients with CFS	30/09/1999	To define a significant difference in T Cell subsets and TH1/TH2 cytokine ratios in respect of (i) CFS patients. (ii) normal controls and (iii) depressed controls.	20 CFS patients; 20 control group members; 20 depressed patients prior to anti-depressant therapy.	Dr William RC Weir, Department of Infectious Disease, Royal Free & University College Medical School, London, NW3 2QG	Linbury Trust	
22 A study of the immunology, virology and therapy of the CFS	31/03/1997	Is there immune activation in CFS and if so, what upregulates the immune responses? Particularly, are viral gene products involved? Does interferon therapy antagonise the	72 patients crossover study	Dr Barbara A Bannister, Department of Infectious & Tropical	Linbury Trust	£ 74500

		process?		Diseases, The Royal Free Hampstead NHS Trust, London		
23 A study of the quality of life and clinical characteristics of patients with CFS attending a psychiatric fatigue clinic and an immunology fatigue clinic	01/01/2001	What is the quality of life of patients with CFS? Are there differences in the clinical presentation or demographic characteristics of patients who choose to attend a psychiatric fatigue clinic compared to an immunology fatigue clinic?	100 patients from two fatigue clinics at St. Bartholomew's Hospital	Dr Peter White		
24 A study of the quality of life and clinical characteristics of patients with CFS attending a psychiatric fatigue clinic and an immunology fatigue clinic DUPLICATE OF 23	01/01/2001	What is the quality of life of patients with CFS? Are there differences in the clinical presentation or demographic characteristics of patients who choose to attend a psychiatric fatigue clinic compared to an immunology fatigue clinic?	100 patients from two fatigue clinics at St. Bartholomew's Hospital	Dr Peter White		
25 Ambulatory study of the Psychophysiological Responses to Activity in Patients with CFS and Sedentary Controls	01/05/2000	Do patients with CFS have abnormal psychophysiological response to exercise?	41 subjects with CFS; 42 subjects who are healthy but sedentary	Dr Peter White	Linbury Trust	£ 85000
26 An investigation of neuroendocrine abnormalities in the CFS	01/05/2000	“Expressed in title”	25 adults aged 18-65 years over a 2 year period	Professor Alan McGregor, Department of Medicine, King's College Hospital, London	Own Account	
27 Attention training in CFS: a case series evaluation	01/11/1999	1) Attention training will reduce symptom focussing in pts with CFS. 2) Reduced symptom focus will lead to improved mood, reductions in frequency and severity of somative symptoms; reduction in health related anxiety and maladaptive illness beliefs.	10 CFS patients on the waiting list for cognitive behaviour therapy in the CFS Research Unit.	Dr A Deale	Own Account	
28 Autoantibodies to	20/08/2000	Is antibody to nuclear envelope antigen		Professor S Wessely	Linbury	£ 36265

nuclear envelope antigen in CFS		associated with CFS			Trust	
29 Causal attributions for somatic sensations in patients with CFS and their relatives	01/08/1998	To see if there is a pattern in the way patients with the CFS explain symptoms. This will then be compared with the views of their relatives.	Patients referred to department for specialist assessment of their CFS	Dr Simon Wessely		
30 CBT versus relaxation for CFS: outcome at 5 year follow-up	01/09/1999	The proposed study is an evaluation of the long-term efficacy of cognitive behaviour therapy (CBT) for CFS. Clinical trials have shown CBT to be an effective intervention for CFS, with gains maintained for up to 8 months post-treatment. However, no long-term follow-up studies have been conducted. Such follow-up is important because CFS is characterised by periods of remission and relapse: apparent treatment gains may therefore be transient or cyclical. The study will evaluate outcome at 5-year follow-up in 60 CFS patients treated with either CBT or Relaxation in an earlier randomised controlled trial, funded by South Thames...[TUNCATED]	60 CFS patients from London and the South East	Dr Alicia Deale, King's College Hospital, Department of Psychological Medicine, London	NHS Executive London	£ 18210
31 Childhood experiences of illness and parenting in adults with CFS and adults with diabetes mellitus: A pilot study	01/04/2000	This study may indicate that childhood exposure to illness in significant others is a risk factor for the later development of CFS. If this is the case there are implications for the children of parents and carers who are ill. Further work would be needed to establish the mechanisms by which ill health in the immediate environment affects children and to develop ways to minimise that effect	Pts aged 18-60 with diagnosis of CFS on waiting list at CFS Research Unit	Ms Trudie Chalder	Stanley Foundation	£ 85576
32 Children and Adolescents with fatigue syndromes: a follow-up study	31/08/1998	What is the short-term outcome of fatigue syndromes in children/adolescents treated in a tertiary paediatric unit? Are there child and family vulnerability factors associated with the development of fatigue states and are these risk factors linked to outcome?	NHS patients but not beyond normal treatment	Professor E Garralda	Linbury Trust	£ 34872
33 Chronic hepatitis and	01/03/2001	Do patients with chronic hepatitis C infection	8 patients	Dr Russell J M Lane		

fatigue		show similar abnormalities as those with CFS and if so can this be linked to the presence of viral RNA sequences in blood and muscle?				
34 Clinical neurophysiological, neuroimaging and psychosocial investigations of children and adolescents with CFS[This project is part of a multi-centre study]	01/01/2001	Do children and adolescents with CFS show abnormalities in membrane phospholipid metabolism and manifest decreased facilitation and deficit within the corticospinal system?	Children with CFS	Dr R Refaat, Psychological Medicine, Great Ormond Street Hospital, London	No funding	
35 Cognitive Behaviour Therapy vs Relaxation for CFS: Outcome at five year follow-up DUPLICATE OF 30	01/06/1999	Are treatment gains maintained at 5 year follow-up: what proportion of patients in each group have made clinically significant, stable gains in fatigue and disability, and what proportion continue to fulfil criteria for CFS? Is there any long term economic benefit associated with CBT (i.e. reduced health service use, improved employment status)?	60 CFS pts who participated in original trial will be studied (provided they can be traced and agree to participate).	Professor S Wessely	South Thames Regional Office	£ 18210
36 Cognitive Behavioural therapy and neuroendocrine abnormalities in CFS	01/09/2001	Abnormal neuroendocrine function in CFS predicts a poorer response to cognitive behavioural therapy, successful treatment of CFS with CBT normalises neuroendocrine function		Dr Tony Cleare	Linbury Trust - Medical School -	£ 111000 £ 22500
37 Correlation of muscle pathology to metabolic, psychiatric and molecular biology studies in patients with CFS	01/01/1998	Are there histological changes present in the muscle of patients with CFS? Published: Journal of Neurology, Neurosurgery and Psychiatry (1998) 64:362-367	105 CFS patients	Dr Russell J M Lane	Persistent Virus Disease Res. Foundation	£ 30000
38 Cross-sectional and prospective studies of women diagnosed as suffering from ME (Post viral fatigue syndrome)	01/03/1997	To demonstrate that many women have been incorrectly diagnosed as suffering from ME and in fact have 1) oestrogen deficiency manifesting in low bone density and 2) symptoms responding to oestrogen replacement therapy		Mr J Studd, Dept of Obstetrics & Gynaecology, Chelsea & Westminster Hospital, London		
39 Cross-sectional and prospective studies of women diagnosed as suffering from ME (post	01/06/1998	To demonstrate that many women have been incorrectly diagnosed as suffering from ME and in fact have (1) oestrogen deficiency manifesting in low bone density and (2)	1) 30 women with symptoms previously diagnosed as	Mr N Panay, Dept of Obstetrics & Gynaecology, Chelsea & Westminster		

viral fatigue syndrome)		symptoms responding to oestrogen replacement therapy	ME will have bone densities and hormone profiles measured and compared to the normal reference range. (2) These women will be treated with transdermal oestradiol (100ug twice weekly) and cyclical provera, 5mg for 10 days each month for a year. Sample size 30 overall.	Hospital, London		
40 Enteroviral persistence in inflammatory and non-inflammatory muscle disease	01/01/2000	Can the demonstration of enteroviral RNA in muscle be linked to the pathogenesis of muscle disease processes in polymyositis and CFS?	20 cases	Dr Russell J M Lane	Persistent Virus Disease Res. Foundation	£ 30000
41 Evaluation of a multi-disciplinary service for patients with CFS	01/12/1999	This study aims to evaluate the utility of a multi-disciplinary service for patients referred with the primary problem of fatigue	15 consecutive referrals to a neurology unit for assessment of chronic fatigue	Dr C Bench, Psychiatry, Imperial College School of Medicine, Charing Cross Hospital, London	Internal	
42 Evaluation of a multidisciplinary specialist chronic fatigue service	01/07/2000	Evaluate characteristics of patients presenting to a specialist chronic fatigue service	Cases from Infection & Immunity chronic fatigue clinic	Dr B Hedge, Andrewes Unit, St Bartholomew's Hospital, London	RHT R&D	£ 37882
43 Family focused cognitive behaviour therapy for adolescents with CFS: a randomised controlled trial	01/01/2001			Dr T Chalder	NHS Executive R&D	

44 Family focused cognitive behaviour therapy for adolescents with CFS: a randomised controlled trial	01/09/2001	Does CBT improve CFS in adolescents? This project will improve understanding of the management of CFS in adolescents	29 adolescents in each group	Dr T Chalder	South Thames Regional Health Authority	£ 60000
45 Family-focused cognitive behavioural family therapy for adolescents with CFS	31/07/2001	Cognitive behavioural family therapy will be superior to no treatment.	Patients with CFS attending tertiary paediatric/psychiatric clinics	Professor Elena Garralda	North West London Mental Health NHS Trust	£ 110000
46 Fatigue syndrome of childhood: a study on its nature and treatment	31/12/1998	Fatigue syndrome of childhood: a study on its nature and treatment	SMH patients.	Professor E Garralda		
47 Functional adjustment in chronic ill health in childhood and adolescence	31/03/2000	To compare children with juvenile arthritis, children with CFS and children with emotional disorders to clarify the specificity of CFS in terms of psychiatric morbidity physical disability and biological parameters	1) Group of children with CFS using Oxford criteria, n=10 from NPH; 2) Group of children with chronic juvenile arthritis 3) Group of children with emotional disorder, n=15 from NPH	Dr T Leverton, Northwick Park Hospital, Watford Road, Harrow, Middx	Linbury Trust	
48 Future directed thinking in CFS : a comparison with anxiety and depression	01/09/2001	To compare the nature of future thinking, in terms of their anticipation of future positive and negative experiences between controls and clients with CFS, anxiety and depression.	18 with a diagnosis of CFS, and 18 controls and 18 with a diagnosis of either anxiety and depression	Dr T Chalder		
49 Hopelessness and deliberate self harm	01/04/2000	To investigate the role of hopelessness in predicting repetition of deliberate self harm	King's A&E Attenders	Dr T Chalder	Own Account	
50 Identification of enteroviral RNA detected in	01/01/1999	Is there an association between enterovirus infection and skeletal muscle disease,	13 cases of myositis, 14	Dr Russell J M Lane	Persistent Virus	£ 30000

muscle biopsies from patients with myositis using reverse transcription, nested polymerase chain reaction and nucleotide sequencing		analogous to that seen in dilated cardiomyopathy?	control muscle biopsies		Disease Res. Foundation	
51 Inosine prabonex in CFS patients	31/03/2001	To assess tolerability and any benefit of Inosine prabonex in CFS patients	Patients who received IP in addition to standard therapy	Prof Anthony Pinching, Department of Immunology, St. Bartholomew's Hospital, London	Newport Pharmaceuticals	£ 5000
52 Interaction of primary care teams with CFCS in Hackney: an exploration of variation in referral rates and a pilot of a joint waiting list initiative	31/03/2001	What factors influence the wide variation in referral rates from primary care teams to the CFCS in Hackney? Does a joint discussion session in the practice influence attitudes to the CFCS, referral patterns, and the quality of referral letters? Is a RCT of a joint CFCS/primary care assessment versus usual waiting list feasible? What outcome measures would be appropriate for such a RCT?	Stratified purposive sample of all Hackney practices	Dr Claire Highton, Lower Clapton Health Centre, London	"ELENOR"	
53 Investigation of 5-HT function in depression and CFS using PET	01/01/1999	To look at the way the brain works in two clinical illnesses (depression and CFS) compared to healthy controls.	With depression or CFS	Dr Anthony Cleare		
54 Investigation of cell signalling in lymphocytes in patients with CFS [This project is part of a multi-centre study]	01/07/2000			Dr K/J Nye/Parkin, Academic Immunology, St Bartholomew's Hospital, London		
55 Nature of CFS in children	01/01/2000	We investigate the specificity of CFS in childhood.	Children with CFS, with juvenile arthritis and with emotional disorders.	Professor Elena Garralda	Linbury Trust; North West London Mental Health NHS Trust	£ 100000
56 Neuroendocrine studies in CFS	01/04/2000	To understand the pathophysiological basis of CFS		Dr John Miell, Department of Medicine, King's	Linbury Trust	£ 83000

				College School of Medicine and Dentistry, London		
57 Neuroendocrine studies in CFS	01/09/1998	This is a programme of four studies investigating the neuroendocrinological basis of CFS.	CFS	Dr Simon Wessely		
58 Personality traits in CFS	01/08/2001	Subjects with CFS will have distinct personality profiles from those seen in other chronic mental or physical illness, more specifically a tendency towards higher neuroticism and higher conscientiousness	45 female CFS patients and 45 female patients with depression from the unit's waiting list and 45 age and social class matched diabetic controls	Mr Vincent Deary, Chronic Fatigue Research Unit, King's College Hospital, London	Own Account	
59 Pilot investigations into the prevalence of anti-neuronal antibodies in CFS [This project is part of a multi-centre study]	01/03/2001	A subgroup of patients with CFS have an autoimmune disorder occurring after streptococcal infection leading to production of antibodies reactive against specific components of the nervous system	Patients with CFS	Dr R Dale, Neurology, Great Ormond Street Hospital, London	No funding	
60 Positron emission tomography and serotonergic activation in CFS and depression	01/01/2001	1) Is Serotonergic receptor responsivity as measured by PET scanning altered in CFS and depression? (2) Is 'fatigue' associated with cerebral blood flow changes.		Dr Tony Cleare	Linbury Trust ; Medical School	£ 125000; £ 22500
61 Psychological effects of skin problems - PILOT	01/05/1999	patients with an obvious disfigurement will be more distressed and disabled than those without an obvious disfigurement	patients with skin problems presenting in the dermatology outpatients department at KCH, 100 subjects in all [to devise a cognitive behavioural model and treatment based	Dr T Chalder	Own Account	

			on the model to overcome specific cognitive and behavioural problems which result from disfigurement]			
62 Quality of Life and Performance Perception in Patients with CFS [A multidisciplinary research project]	01/11/2000	To examine the quality of life in patients with CFS who are attending clinics in departments of Immunology and Psychiatry	100 patients attending clinics for chronic fatigue departments of Infection & Immunity and Psychiatry.	Dr B Hedge, Andrewes Unit, St Bartholomew's Hospital, London	Own account'	
63 Quantitative studies of putative biochemical markers for ME/CFS: CFSUM1, Amino Acids and Carnitines	30/09/1999	Quantitative studies of putative biochemical markers for ME/CFS: cfsu1, Amino Acids and Carnitines.	A minimum of 30 patients with ME/CFS will be obtained for the study. A similar number of age and sex-matched subjects without ME/CFS, non-smokers and without clinical disease, will be studied as healthy controls. Two other groups of patients with other relevant disease will also be studied as controls, with a minimum	Professor R A Chalmers, Paediatric metabolism unit, Department of Child Health, St George's Hospital Medical School, London	ME Association	

			number of 30 patients in each group: these will be (i) patients with depression but without ME/CFS and (ii) patients with chronic inflammatory disease associated with rheumatoid arthritis.			
64 Randomised controlled trial of counselling or CBT for patients with chronic fatigue in general practitioners	01/02/1999	Which psychotherapy is most cost effective?		Prof Michael B King, Department of Psychiatry, The Royal Free & University Medical School, London,	Wellcome Trust	106000
65 Randomised controlled trial of cognitive behaviour psychotherapy in CFS. Culyer Initiative research bid for this project for o42,832 payable to researchers and Maudsley Hospital	01/06/1999	To compare the effectiveness of two types of cognitive behavioural treatment (CBT) for patients with CFS .	Outpatients fulfilling current criteria for CFS, randomly assigned to one of the 2 treatment groups	Dr Simon Wessely		
66 Risk of Fatigue and CFS in association with Hepatitis C viral infection in Patients with bleeding disorders	01/08/1999	To test the hypothesis that individuals with hepatitis C experience excessive fatigue compared to controls.	100 patients Inclusion - hepatitis C positive, age 18-65, mild to moderate bleeding disorder.	Professor Christine Lee, Department of Haemophilia, Royal Free Hampstead NHS Trust, London		
67 Self esteem, attribution an coping in CFS	02/06/2000	Do people with CFS have underlying low self-esteem and similar thought processes to people		Dr M Barnard, Department of		

		with depression?		Diabetes, Whittington Hospital LONDON		
68 Self-esteem, attribution and coping in CFS	01/05/2001	Do people with CFS have underlying low self-esteem and similar thought processes to people with depression?	30 Patients.	Dr Janice Main		
69 Serotonin 5HT1A receptor function in patients with CFS, assessed with Positron Emission Tomography and 11C-WAY100635	01/10/1999	What is serotonin 5HT1A receptor function in patients with CFS?		Dr Tony Cleare	Own Account	
70 Serotonin 5HT[1A] receptor function in patients with CFS, assessed with positron emission tomography and [11C]-WAY 100635	15/03/2000	Are 5HT[1A] receptor numbers increased in CFS?	10 patients with CFS.	Dr PM Grasby, PET Neurosciences MRC Cyclotron Unit, Hammersmith Hospital, London	Linbury Trust	£ 5000
71 Short synacthen test in CFS	01/01/1999	that the adrenal cortical response to low dose synacthen in CFS differs from that seen in healthy controls	CFS patients from the CFS research unit, 20 patients and controls aged 18-65	Dr Tony Cleare	The Linbury Trust	£ 68181
72 The Adrenal Glands in CFS	01/03/1999	To study the adrenal glands on CT in a group of patients with CFS and to see whether the biochemistry points to adrenal dysfunction		Professor R Reznick, R&D Lead, Diagnostic Imaging, St Bartholomew's Hospital, London		
73 The biological and psychological predictors of chronic fatigue following glandular fever	31/05/2001	Can the fatigue syndrome following glandular fever be prevented with a simple self help intervention; are there measurable biological correlates?	A cohort of 60 subjects prospectively followed up.	Dr Anthony Cleare	Linbury Trust	£ 52000
74 The clinical relevance of HPA axis abnormalities in CFS	30/09/2001	Do abnormalities of the HPA axis in CFS affect the response to CFS	60 patients with CFS, free from medication for at least 2 months.	Dr Anthony Cleare	Linbury Trust	£ 111119

75 The nature of chronic fatigue in childhood (CFS)	01/07/2001	Are the characteristic handicap of associated psychiatric problems of childhood CFS explained by having a chronic disease? How different is CFS from emotional disorders of childhood?	Outpatients: 1990/2001: 28 subjects per yr	Professor E Garralda	Linbury Trust	£ 115623
76 The neurobiological determinants of repetitive violence in people with schizophrenia; an in vivo MRS study	30/09/2000	This study may indicate that childhood exposure to illness in significant others is a risk factor for the later development of CFS. If this is the case there are implications for the children of parents and carers who are ill. Further work would be needed to establish the mechanisms by which ill health in the immediate environment affects children and to develop ways to minimise that effect	Pts aged 18-60 with diagnosis of CFS on waiting list at CFS Research Unit	Prof Steven Williams, Dept of Neuroscience, Institute of Psychiatry, London	Stanley Foundation	£ 85576
77 The relationship between pregnancy, childbirth and fatigue syndromes: a prospective study	01/12/2000	To examine the relationship between pregnancy, childbirth & fatigue syndromes (chronic fatigue, CFS, Post Viral Fatigue Syndrome, ME & fibromyalgia). The main hypotheses are: (1) Symptoms of fatigue syndromes will worsen during pregnancy & post-partum. (ii) Women with a fatigue syndrome will have a high incidence of post-partum depression. (iii) There will be no correlation between higher levels of fatigue and complications during childbirth	30 pregnant women who believe that they have a fatigue syndrome or fibromyalgia.	Dr A Deale	Own Account	
78 The relationship between social support and severity of symptoms in CFS	01/07/2000	The study aims to investigate the level of support people with CFS perceive they receive, both practical and emotional, from significant others in their life, and then to relate this to symptomatology. In turn, how these variables relate to satisfaction with support, relationship change, psychological health and demographics will be investigated. It is hypothesised that greater levels of support will be related to higher levels of symptomatology. Two hypotheses are proposed to account for this a) CFS symptomatology requires that more support be given to the patient; b) The need for	Postal surveys will be sent to 100 patients in the first instance. The design does not require control subjects. Age 18-65 years. A subset of 10 patients will be given semi-structured	Dr A Denman, Department of Immunopathology, Northwick Park Hospital, Harrow, Middx	Unfunded	

		more support leads to, increases or maintains CFS symptoms. Measures of satisfaction with support received and positive/negative relationship change will provide information to suggest which one of these hypotheses may be more likely. However, causal direction will not be able to be identified clearly and it is recognised that the cause and effect relationship is likely to be interactional rather than linear. Qualitative data will help to inform conclusions and direct future research.	interviews to elicit more information about their experience of support through their illness, and gain a greater understanding of the role and influence of support.			
79 The response to adenosine triphosphate, the cytokine cascade, and muscle creatinine to exercise in patients with the CFS	01/12/2000	To examine the mechanisms of the temporary exacerbation of symptoms that patients with CFS suffer after exercise. Analysis of ATP metabolism in immune system, changes in serum cytokines and creatinine concentrations	Pilot study of 10 patients with CFS	Dr Peter White	Own account	
80 Trial of cognitive behaviour for chronic fatigue in General Practice DUPLICATE OF 17	01/05/1999	“Expressed as title”		Professor S Wessely	Wellcome Trust	£ 105574
81 Tryptophan depletion in CFS	01/09/2000	Are changes in 5-HT causally related to fatigue in CFS?	20 patients and 20 controls from the CFS clinic at King's College Hospital.	Dr Tony Cleare	Research account	£ 7500
82 CFS/ME: SYSTEMATIC REVIEW	05/06/2000	The primary aim of this review is to determine which treatments and interventions are clinically effective for which patients	literature review	Dr Amanda J Sowden, NHS Centre for Reviews and Dissemination, University of York, York		£ 38713
83 A pilot study of a new instrument to measure family responses to CFS	01/06/1998	To develop a reliable and valid questionnaire for assessing family responses in CFS	Relatives/carers of patients with CFS	Prof L Appleby, University Department of Mental	Linbury Trust	£ 15237

				Health, Withington Hospital, Manchester		
84 Aerobic exercise and Fluoxetine in the treatment of CFS	31/10/1995	Does aerobic exercise and/or Fluoxetine improve outcome in CFS?	Patients with CFS	Prof L Appleby, University Department of Mental Health, Withington Hospital, Manchester		
85 CFAS cognitive decline and dementia : consolidation and exploitation of analytical potential and banking of material (Liverpool Centre)	31/10/2000	The incidence and prevalence of cognitive decline and dementia and their risk factors.	Stratified sample [of 10,000 subjects] over the age of 65 years [CFS only a small part]	Prof. JRM Copeland, EMI Academic Unit, St. Catherine's Hospital, Birkenhead	MRC	
86 Studies of circadian variation in prolactic response in shift workers and CFS	31/01/2001	Studies of circadian variation in CFS.	D&E Patients with CFS	Dr Ian Andrew MacFarlane, Diabetes/endocrinology, University Hospital Liverpool	Linbury Trust	£ 156000
87 The variety and prevalence of alternative and conventional medical therapies and tests offered to patients with CFS/Myalgic Encephalitis	01/01/2000	The potential exploitation of the CFS/ME sufferer by the medical and paramedical professions	CFS patients	Professor G Williams, University Clinical Building/Respiratory, University Hospital Liverpool	Linbury Trust	
88 Using beliefs to predict exercise tolerance in patients with CFS	31/08/2000	To use psychosocial variable to predict persistence on an exercise bike	Chronic fatigue sufferers	Ms A Silver, Immunology, Hope Hospital, Salford	Salford Royal Hospitals NHS Trust	
89 CFS: A controlled trial of the efficacy of homeopathic treatment	01/01/2001	To test the hypothesis that homeopathic remedies described in the context of the homeopathic consultation are more effective in improving overall health of patients presented with CFS than a placebo	Male and female patients aged 18 to 45 who meet the oxford criteria for case definition of CFS	Dr PJ Stanley, General Medicine, Department of General Medicine, Seacroft Hospital, Leeds	No funding	
90 Does a group occupational therapy programme for clients with	01/12/2000	To investigate whether a group occupational therapy programme improves functioning scores of clients with CFS, using the	16 - 20 people from the waiting list for the	Ms T O'Brien, York, England	No funding	

CFS improve functioning scores as measured by the functional limitations profile?		Functional Limitations Profile.	Group Therapy programme at St James, previously diagnosed as having CFS.			
91 Evaluation of a rehabilitation programme for patients with CFS	01/06/2000	Can a rehabilitation programme help in the management of CFS?	Patients with CFS	Prof Peter Campion, Department of Public Health & Primary Care, The University of Hull, Hull		
92 Short term intervention for people with CFS: The Patient's Perspective	01/10/1999	To investigate the patient's experience of an eight week rehabilitation programme. To find out patient's beliefs about the cause of their condition and their attitude towards activity before and after the programme.	People with CFS	Ms SE Stanley, Occupational Therapy, Leeds	No funding	
93 A study of the buspirone augmented I[123] - Iodobenzamide (IBZM) cerebral Single Photon Emission Computerised Tomography in CFS	31/01/2001		16 patients SGH (8 CFS - 8 healthy)	Dr K R Chaudhuri, King's College Hospital, London		
94 Cholinergic supersensitivity of blood vessels in CFS/ME	31/05/2001[truncated] preliminary studies by us have revealed a blood vessel sensitivity to acetylcholine stimulation. What we would now like to do is to explore the mechanisms governing this sensitivity	30 CFS patients and 30 age/sex matched volunteers.	Dr V Spence, Department of Medicine, University of Dundee, Ninewells Hospital and Medical School, Dundee	P F Charitable Trust; MERGE (ME research group)	£ 50000; £ 13421
95 CFS - The Cholinergic hypothesis	30/08/1999	The objective of this research project is to investigate the possibility of a deficit in acetylcholine/cholinergic activity other than in the CNS. The research would focus on the abundant muscarinic receptors in the skin blood vessels of the forearm. If successful, there would be significant advantages of having such a test. First, it would provide objective evidence for a systemic pathological process in	ME/CFS patients	Dr F Khan, Medicine, Ninewells Hospital and Medical School, University of Dundee, Dundee	ME Association	£ 1500

		ME/CFS patients, affecting the whole body, not just the CNS. Second, the skin is easily accessible. Third, testing would be safe. Fourth, testing would be repeatable and so changes could easily be monitored and drugs evaluated.				
96 Energy expenditure in relationship to potassium metabolism in patients with CFS	30/09/1999	Why is resting energy expenditure raised in patients with CFS ?		Prof P O Behan, Southern General Hospital, Neurology, Glasgow		
97 Internal Validation of a Questionnaire for Assessing Outcome in CFS Sufferers: A Modified Version of the TSK	31/12/2000	To validate(the modified version of the TSK) this altered questionnaire on the CFS population.	170 participants (50 participants within Lothian)	Dr D Wilks, Regional Infectious Diseases Unit, Western General Hospital, EDINBURGH,	Dept of Behavioural Medicine, University of Manchester	
98 Molecular characterisation of the mechanisms of enteroviral persistence in CFS	31/05/1999			Dr Wilhelmina MH Behan	The Linbury Trust; Acute Healthcare Research	
99 Molecular Characterization Of The Mechanisms Of Enteroviral Persistence And Elucidation Of The Role Of Enteroviruses In Chronic Fatigue	31/10/1999	“see title”		Dr JW Gow, University of Glasgow, Neurology		
100 Personality Dimensions and family functioning in CFS: A comparison with depression [This project is part of a multi-centre study]	01/06/2001	What are the similarities and differences between the three groups of subjects in terms of Personality and family functioning	22 in each group 64 in total	Dr D Wilks, Regional Infectious Diseases Unit, Western General Hospital, Crewe Road, EDINBURGH		
101 Personality dimensions and family functioning in CFS: A comparison with depression DUPLICATE OF 100	01/08/2000	The project will examine personality dimensions and retrospective family functioning in three patient groups diagnosed with CFS, depression	22 patients in each group	Ms Fiona Simpson, Kennedy Tower, Royal Edinburgh Hospital, Edinburgh		

102 Preliminary work on Vascular Hypothesis of CFS	31/10/1999	Recent research has pointed to dysfunction in acetylcholine - cholinergic activity in CFS suggesting abnormal CNS acetylcholine neurotransmitter function resulting in post synaptic cholinergic receptor suppressor activity. While the three main symptoms of CFS namely fatigue, myalgia and sleep disturbance result from a central cholinergic deficit there is as yet little to support a peripheral deficit	20 patients with CFS and 20 control volunteers.	Professor JFF Belch, Medicine, Ninewells Hospital and Medical School, University of Dundee, Dundee	Rowbotham Trust	£ 5000
103 Search for Persistent Viruses in Patients with Myalgic Encephalopathies	31/01/1998	Search for Persistent Viruses in Patients with Myalgic Encephalopathies		Dr John Gow, Department of Neurology, University of Glasgow, Institute of Neurological Sciences, Glasgow	Myalgic Encephalopathies (M.E.) Association	£ 56027
104 Study of CFS	30/04/1999	What is the aetiology of the CFS?	Patients with CFS	Dr Wilhelmina MH Behan	Waverley Trust; Margaret Bell Bequest Endowment Fund	£ 70000
105 The biology of CFS and depressive illness	31/01/1997			Dr Stephen Lawrie, Psychiatry, Royal Edinburgh Hospital, Edinburgh	Chief Scientist Office	£ 53003
106 The cardiovascular hypothesis of CFS	01/06/1999	The hypothesis to be tested is that CFS or ME is associated with cholinergic dysregulation. This research is focused on the abundant muscarinic receptors in the skin of the forearm. Utilising iontophoresis substances will be concentrated below the epidermis and the reaction of the blood vascularity assessed by Laser Doppler Scanning. Skin blood flow changes following concentration gradient of acetylcholine infusion and nitroprusside used to release nitric oxide will be measured in	30 ME patients and 30 healthy volunteers, age and sex matched.	Dr V Spence, Medicine, Ninewells Hospital and Medical School, University of Dundee, Dundee	Various	£ 49800

		patients with CFS and compared to age and sex matched controls.				
107 The Role Of Breakdown Of The Blood-Brain Barrier In The Pathogenesis Of CFS	14/08/2000	What is the role of the breakdown of the blood-brain barrier in the pathogenesis of CFS ?		Dr W M H Behan		
108 The role of breakdown of the blood-brain barrier in the pathogenesis of the CFS DUPLICATE OF 107	30/09/2000			Dr Wilhelmina MH Behan	ME Association; Acute Healthcare Research	
109 5-HT _{2c} receptor function in patients with CFS	01/04/2000	To determine the sensitivity of 5-HT _{2c} receptors in patients with CFS.	30 male and female healthy subjects aged 18-70 years. Good physical health, no personal history of psychiatric disorder. 30 male and female patients aged 18-70 years. Meet Oxford criteria for CFS syndrome, and ICD-10 for neurasthenia.	Professor Philip J Cowen, Neurosciences Building, University Dept of Psychiatry, Warneford Hospital, Oxford	Linbury Trust	£ 116389
110 A comparative study of functional adjustment in chronic ill health during childhood and adolescence	01/12/1998	A comparative study of functional adjustment in chronic ill health during childhood and adolescence.	Children and adolescents (aged 10-19) with chronic ill-health. A comparison of children with CFS at St Mary's Hospital, Paddington and	Dr Louisa Rangel, St. Mary's Hospital, Child Psychology Department, London	Linbury trust (Sainsbury Foundation)	

			children with Juvenile Chronic Arthritis at Wexham Park Hospital.			
111 A pilot project involving muscle biopsies to look at altered gene expression in the muscle of patients suffering from CFS	01/12/1999	Is there altered gene expression in CFS?	6 patients suffering from CFS	Dr George Lewith, Medical Specialties, Southampton General Hospital, Southampton	Persistent Virus Disease Research	£ 6814
112 Amino Acids in fatigue and immunosuppression: Overtraining as a model for CFS	31/03/2000	This study concerns the role of glutamine in fatigue and immunodepression. Evidence is growing that that glutamine is a conditionally essential amino acid in stress and that low levels in the blood may lead to immunodepression	10-12 patients	Ms Linda M Castell, University Department of Biochemistry, Oxford	Linbury Trust	£ 75656
113 OPREC 9745 -5-HT receptor sensitivity in patients with CFS	31/12/1999	To establish whether or not patients with CFS have abnormal 5-HT receptor function in brain regions other than the hypothalamus	30 healthy subjects and 30 patients	Dr Phil Cowen, Psychopharmacology Research Unit, Warneford Hospital, Oxford	Linbury Trust	
114 Outcome of CFS	31/12/1999	Does the programme at Bursledon House provide positive outcome		Dr Margaret Thompson, Child Health, Southampton General Hospital, Southampton	No Funding	
115 People with CFS and their perspective of 'self'	29/08/1997	How does the experience of a hidden illness such as CFS affect the person?		Mr Lee Price, Hospital Services, Southampton General Hospital, Southampton	No Funding	
116 Rehabilitation in the CFS - a controlled trial of cognitive-behavioural therapy	31/03/1995	Does cognitive behaviour therapy reduce disability in CFS? CFS is an ill-understood condition associated with severe disability and poor prognosis for which no accepted treatment exists. A pilot study has suggested that cognitive behaviour therapy may be	60 patients with CFS will be recruited from regional referrals, and randomly	Simon Wessely	NHS Executive South Thames	£ 59034

		effected, and can be administered by a trained nurse therapist. Outcome will be measured by self-administered measures of functional impairment fatigue, somatic and psychological symptoms and objective tests of muscle function. Follow up will be at 3 and 6 months	allocated to active or control treatment. The study will exclude those with severe disability confined to a wheelchair.			
117 The effects of Mindfulness-Based Stress Reduction (MBSR) in the treatment of CFS in a Group Setting	20/06/2001	In the context of CFS is an eight week programme of MBSR training effective in : reducing symptoms increasing functioning improving mood, and reducing the needs for subsequent CBT.	15 patients - 15 controls	Dr Christina Surawy, Dept of Psychological Medicine, John Radcliffe Hospital, Headington, Oxford	Linbury Trust	
118 Treatment of patients with CFS: follow-up study of 100 patients treated by a general hospital psychiatric service	01/08/1998	Treatment of patients with CFS: follow-up study of 100 patients treated by a general hospital psychiatric service	100 patients aged 18-65, a diagnosis of CFS.	Dr Christopher Bass, Dept. of Psychological Medicine, John Radcliffe Hospital, Oxford	“Department al resources”	
119 A study to investigate health beliefs of people with non-epileptic seizures (NES) and people with CFS	30/04/2001	To understand health beliefs and illness perceptions of people with non-epileptic seizures (NES) and people with CFS .	Patients with non-epileptic seizures (NES) and people with CFS	Mr A Green, Department of Neurology, Frenchay Hospital, Bristol	Hospital Savings Association Charitable Trust	£ 5000
120 Frequency of attendance in general practice before development of CFS: a case control study	01/03/2000	To investigate the number and type of general practitioner consultations by patients with CFS for 15 years before they develop their condition.	Patients with CFS, satisfying the Centers for Disease Control (1994) criteria; age, sex and general practice matched controls; patients with multiple sclerosis all selected from	Dr William Hamilton, Barnfield Hill Surgery, Exeter		

			the general practices' computerised databases			
121 Biochemical and nutritional abnormalities in the CFS	01/06/1998	Are membrane fatty acids abnormal in patients with CFS and is Evening Primrose Oil more effective than placebo in its treatment?		Dr Malcolm Peet, University Department of Psychiatry, Northern General Hospital, Sheffield		
122 CFS: a controlled trial of the efficacy of homoeopathic treatment	31/12/1999	To test the hypotheses that homoeopathic remedies, prescribed in the context of a homoeopathic consultation, are more effective in improving overall health of patients presenting with CFS than a placebo prescribed in the context		Dr Michael McKendrick, Infectious Diseases, Directorate of Communicable Disease, Royal Hallamshire Hospital, Sheffield	Linbury Trust	
123 Evasion of MHC class 1 restricted cytotoxic T cells by human cytomegalovirus and Epstein-Barr virus	01/09/2001	The mechanism of down-regulation of MHC class 1 and evasion of infected cell destruction by cytotoxic T cells.		Professor LK Borysiewicz, Department of Medicine, University of Wales College of Medicine, Cardiff	Wellcome Trust	£ 650000
124 Pilot study for a narrative analysis of patient accounts of CFS DUPLICATE OF 125 (?)	01/03/2000	To examine the accounts given by patients attending the Chronic Fatigue Clinic, and to study the discursive representation of symptoms and the illness experience of these patients	Patients with CFS	Professor LK Borysiewicz, Department of Medicine, University of Wales College of Medicine, Cardiff	WORD	
125 Pilot study for a narrative analysis of patient accounts of CFS	15/12/1999	Among the aims of the main research project, for which this study is a pilot, will be an assessment of (i) patients' accounts to health professionals in the CFS clinic, (ii) patients' written accounts which they provide on first attending the CFS clinic, and (iii) the in-depth oral accounts of illness experience which we will elicit through open-ended interviewing of		Dr Richard Gwyn, Health Communication Research Centre, Cardiff University Cardiff	Wales Office of R&D for Health and Social Care	£ 5000

		around 60 patient subjects. Our task then will be to ascertain the correspondences between these media and the ways in which any divergences occur. One research question which the main study will address will be whether the discursive representation of symptoms and illness experience differs noticeably and consistently in the non-clinical setting from the clinical, and if so, what can be learnt from these differences, regarding patients' own understanding of their illness, to further a biopsychosocial approach to CFS. For the purposes of the pilot study, we will be selecting a small sample from only (ii) and (iii), in order to test the methodology, and prepare against possible areas of difficulty in the main study.				
126 Study of enterovirus infections in patients with CFS	01/06/1999	To help understand the possible role of enteroviruses in the pathogenesis of CFS	CFS patients	Dr J Fox, Department of Medical Microbiology, University of Wales College of Medicine, Cardiff	Linbury Trust	£98405
127 The Narrative representation of illness in CFS [This project is part of a multi-centre study]	01/09/1998	(1) To examine how the sufferers understanding of CFS compares or contrasts with the understanding of the medical profession. (2) To identify and evaluate factors that inhibit or facilitate effective communication with the medical profession. (3) To examine the clinical interaction between sufferers and professionals focusing on how the sufferers present their condition to the medical profession and how the issue of therapeutic responsibility is negotiated. (4) To examine the social response, from work colleagues, friends, family etc and assess the effect it has had on the sufferers management of the condition. (5) To identify social and	Patients with CFS	Dr M B Llewellyn, Department of Medicine, University Hospital of Wales, Cardiff	Unfunded	

		cultural factors (eg media, CFS support groups) that have shaped the sufferers understanding of their condition.				
128 Viral infection and CFS; a different approach DUPLICATE OF 126	30/09/1999	Do virus infections cause or exacerbate CFS		Dr J Fox, Department of Medical Microbiology, University of Wales College of Medicine, Cardiff	Linbury Trust	£ 98405
129 An investigation of the nature of sleep disturbance in athletes diagnosed with overtraining syndrome: similarities with CFS?	01/12/2000	What is the nature of sleep disturbance in athletes diagnosed with overtraining syndrome: are there similarities with CFS?	10 healthy athletes (control group) 10 athletes with over training syndrome	Dr M Allen, Department Respiratory Medicine, City General, Stoke on Trent	Birmingham University	£ 6266
130 Chronic fatigue in the Q fever outbreak group: is cardiomyopathy the underlying cause?	31/12/2000	Is a cardiomyopathy the cause of the undue fatigue seen in patients following acute Q fever?		Professor Jon Ayres, Respiratory Medicine or Research & Development, Birmingham Heartlands & Solihull NHS Trust, Birmingham	West Midlands NHSE (LORS)	£ 66807
131 CFS after acute Q fever: a follow up study of the 1989 outbreak cohort	01/01/2000	to determine whether those patients involved in the 1989 Q fever outbreak in Birmingham, with more severe acute symptoms, are more likely to suffer chronic fatigue symptoms at follow up; ii) to determine whether those subjects with chronic fatigue (CDC definition of CFS) following acute Q fever suffer from sub-clinical cardiomyopathy as a cause of their symptoms.	Case definition - A case of Q fever is a patient identified as being involved in the original outbreak who had an acute febrile illness plus either a sustained Phase II antibody titre to Coxiella burnetti by complement	Prof. Jon G. Ayres, Birmingham Heartlands & Solihull NHS Trust, Birmingham Heartlands Hospital, Birmingham	NHS Executive West Midlands	£ 73487

			<p>fixation test greater than 1:250 or greater than four fold rise in titre. Control definition - Optimally, matched for age and sex who had had non-Q fever pneumonia in the spring of 1989. Practically, community controls without a history of pneumonia, matched for age, sex and approximate area of residence whose GP records confirmed no febrile episode. For the case-control part of the study - 28 pairs of subjects will be required. Controls will be excluded if their Coxiella titre exceeds 1:16.</p>			
132 Chronic widespread pain in Primary Care and its	01/09/2001	To study chronic widespread musculoskeletal pain (CWP) conditions in the Primary Care	Cases and Controls:	Dr Jens Rohrbeck, Primary Care		

Association with functional somatic syndromes		Setting		Sciences Research Centre, Keele University, Keele		
133 Neuroendocrine function and the symptoms of fatigue: a longitudinal study of patients with ME, glandular fever and athletes at risk of developing CFS	01/01/2001	The overall aim of the study is to test the hypothesis that in CFS/ME a viral infection leads to an up-regulation of central serotonergic pathways which is responsible for the symptoms of excessive fatigue. This can be broken down into two subsidiary objectives:1. To test the hypothesis that a change in neuroendocrine function (specifically the sensitivity of the serotonergic pathways) is central to the development of symptoms of excessive fatigue in patients with CFS/glandular fever.2. To identify the events (including infection) which singly or in combination are responsible for the development of the clinical condition. AIM 1 will be achieved by carrying out a longitudinal study of CFS/glandular fever patients as their condition improves, but this could equally be carried out in patients in whom the condition was deteriorating. AIM 2 will be achieved by a prospective study of a cohort of athletes to identify the sequence of events leading to the development of a CFS.		Professor MJ Kendall, Clinical Investigation Unit, University of Birmingham, Birmingham	ME Association	£ 77000

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