Report of the Committee to Review Neurology and Neurophysiology Services

April 2003
REPORT OF THE COMMITTEE
TO REVIEW NEUROLOGY
AND NEUROPHYSIOLOGY
SERVICES

~April 2003~
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1.1 CONTEXT
Following a request from the Minister of Health and Children to review and update the 1991 Comhairle Report on Neurology Services, Comhairle na nOspidéal, at its meeting on the 28th February 2001, established a committee with the following terms of reference:-

“To examine the existing arrangements for the provision of consultant – level neurology and neurophysiology services nationally and following consultation with the interests concerned, to make recommendations to Comhairle na nOspidéal on the future organisation and development of neurology and neurophysiology services.

The review will focus on updating the 1991 Comhairle report taking into account recent advances in and increasing demand for neurological and neurophysiological services.”

1.2 MEMBERSHIP OF THE COMMITTEE
1.2.1The following members of Comhairle na nOspidéal were appointed to serve on the Neurology and Neurophysiology Committee:-
Dr. D. Ormonde (Chairman), Consultant Radiologist, Waterford Regional Hospital.
Mr. J. Cregan, Principal Officer, Department of Health and Children.
Prof. M. Fitzgerald, Consultant Respiratory & General Physician, St Vincent’s Hospital/UCD.
Dr. K. Ganter, Consultant Child & Adolescent Psychiatrist, Lucena Clinic.
Dr. R. McQuillan, Consultant in Palliative Medicine, St Francis Hospice.
Ms. M. Topham, Planning & Development Manager, South Infirmary-Victoria Hospital.
Mr. T. Martin, Chief Officer, Comhairle na nOspidéal.
Ms. S. Downing (Executive Officer) was secretary to the committee. She assisted the Chief Officer in researching and drafting this report.

1.2.2At the first meeting of the committee on 4th April 2001, it was agreed that the principal tasks of the committee would be to evaluate the extent to which the recommendations of the 1991 Committee have been implemented, to determine how neurological and neurophysiological services and related services have developed to date both nationally and internationally, and to formulate recommendations for the future development of services in Ireland. The remit of the committee would also include paediatric neurology.

1.3 THE CONSULTATION PROCESS
1.3.1The initial phase of the committee’s work was to engage in a wide-ranging information gathering process. Each health board, relevant voluntary hospitals, relevant professional bodies and other interested parties were informed of the establishment of the Committee, its membership, terms of reference and work programme. Each health board and relevant voluntary hospital was invited to make a submission detailing current staffing, facilities, workload and the additional consultant staffing envisaged. This information was used to examine and compare existing neurology and neurophysiology staffing and services throughout the country. Submissions were also received from a range of professional bodies, patient advisory groups and individual consultants. The bodies which made submissions are listed in Appendix A. Consideration was also given to documents outlining
standards of care for people with neurological conditions published by the Neurological Alliance of Ireland\textsuperscript{1,2,3}.

1.3.2 The committee met with representatives from the bodies listed in Appendix B. Representatives of the committee visited two neuroscience centres in Sweden - Karolinska University Hospital in Stockholm and Uppsala Hospital - to ascertain and discuss the organisation of neurology and clinical neurophysiology services and staffing in Sweden.

1.3.3 A number of national and international documents on various aspects of neurology and neurophysiology and related medical disciplines were considered by the committee. These are listed in the references in Section 8.

1.3.4 The programme of consultation and information compilation, including the submissions received, together with the study of national and international literature, had a significant influence on the committee’s deliberations. The committee wishes to record its sincere appreciation to the many people and organizations that contributed to the formulation of this report.

1.3.5 The committee recognises that there are aspects of a number of other specialties and services, such as rehabilitation medicine, geriatric medicine and old age psychiatry, which are related to, and overlap with, neurology services. These are outside the remit of this committee. However, the committee wishes to highlight the need for a multi-disciplinary study of rehabilitation services generally, including consultant staffing. Given the diversity of patients, service providers, medical specialties and health agencies, other disciplines and therapists involved, the committee believes that this is an area that would benefit from a multidisciplinary national review. The committee is aware that the Department of Health and Children is intending to develop a national rehabilitation plan arising from the proposed action plan (action plan 30) in the National Health Strategy\textsuperscript{15}.

1.3.6 This report is written and its recommendations are made in the context of the existing medical staffing system, hospital network and health board configuration. The committee is aware that the report of the National Taskforce on Medical Staffing is due to be published shortly which may have an additional impact on hospital medical staffing requirements.
2.1 DEFINITION AND SCOPE OF NEUROLOGY

2.1.1 Clinical neurology is the medical specialty concerned with the prevention, diagnosis, treatment, continuing assessment and care of patients with diseases of the central and peripheral nervous system including disorders affecting the muscles. The neurologist may be the sole provider of care, or may provide it in collaboration with other physicians or surgeons. Recent developments in the understanding and treatment of neurological conditions have ensured that consultant neurologists can perform comprehensive clinical investigations to identify the most efficient method of controlling and managing neurological conditions and symptoms. Most neurological disorders have been recognised as resulting from multiple risk or etiologic factors. In its policy document, the Irish Consultant Neurologists Association (ICNA) has indicated that the nature of neurological practice is developing rapidly with new expensive, effective and complex therapies for many disorders including multiple sclerosis, epilepsy and Parkinson’s disease. The growth in public awareness that neurological disorders are best treated by consultant neurologists has led to an increased demand for both diagnosis and treatment of neurological disorders by consultant neurologists. A substantial portion of neurology services can be delivered on an out-patient basis.

2.1.2 The aim of a modern paediatric neurology service is to improve the quality of care offered to children with neurological disorders. Consultant paediatric neurologists are responsible for the assessment of children with disorders relating to the nervous system, including those affecting the muscles.

2.2 DEFINITION AND SCOPE OF CLINICAL NEUROPHYSIOLOGY

2.2.1 Clinical neurophysiology is a relatively new but expanding investigative and diagnostic specialty, which has evolved from neurology. Clinical neurophysiologists undertake a variety of recordings and measurements of the electrical activity of the central and peripheral nervous systems. This information can be used to aid the diagnosis and the management of a wide range of neurological conditions in all age groups. There are four principal groups of investigations carried out by consultant clinical neurophysiologists:- electroencephalography (EEG), electromyography (EMG) including nerve conduction studies (NCS), evoked potential studies (EP) and intra-operative monitoring (IOM).

2.2.2 Many of the studies (particularly EEG and EP and some NCS) are recorded by technicians, while most NCS and all EMG studies are carried out by consultant neurophysiologists. All investigations are interpreted and reported by consultants. The ICNA policy document states that the main specialties referring patients to clinical neurophysiologists are neurology, plastic surgery, orthopaedic surgery, neurosurgery, rheumatology, endocrinology, psychiatry and paediatrics. The neuroscience specialties account for approximately half of the referral sources. The document also states that the number of consultants in the referring specialties throughout Ireland is increasing, resulting in increased rates of referrals for investigation, particularly as the potential diagnostic value of the services has become more widely appreciated.

2.2.3 Clinical neurophysiology is a separate specialty in Ireland, the UK, the Nordic countries, Italy and Spain. In other European countries, clinical neurophysiology is a part of neurology. Traditionally neurologists carried out neurophysiology studies. As these studies become more complex and with
the development of clinical neurophysiology as a separate specialty, these are now being undertaken by clinical neurophysiologists.

2.3 TRAINING IN NEUROLOGY

2.3.1 TRAINING IN NEUROLOGY IN IRELAND

In Ireland, the Irish Committee on Higher Medical Training (ICHMT) is responsible for the approval, review and inspection of medical posts for higher specialist training. The five-year Specialist Registrar training programme in neurology involves rotations through teaching hospitals in Dublin, Galway and Cork. It is recommended that each trainee in the neurology programme undertakes training at two or more centres. The entry requirements for candidates for the five year programme are the completion of a minimum of two years of general professional training (GPT) and possession of the MRCP or equivalent. While a full training programme in neurology is possible in Ireland, the ICHMT recommends that all trainees should consider spending at least one year overseas in order to obtain exposure to specialised neurological disorders. In the final two years of training, the trainee has the opportunity to develop a special interest in one of the sub specialties of neurology. Following satisfactory completion of the five year programme, the candidates will be awarded a Certificate of Satisfactory Completion of Specialist Training (CSCST) in Neurology and will be eligible for a Certificate of Specialist Doctor from the Medical Council and entry on the division of neurology of the Register of Medical Specialists maintained by the Medical Council in Ireland.

There are ten ICHMT recognised SpR training posts in neurology, which have been approved by Comhairle na nOspidéal. Three of the ten SpR posts are based in Beaumont Hospital, with one each in the Mater Hospital, St. James’s Hospital, St. Vincent’s Hospital, Tallaght Hospital, Cork University Hospital, Mercy Hospital and University College Hospital, Galway.

The Faculty of Paediatrics is responsible for the organisation of the Higher Specialist Training (HST) programme in Paediatrics, including that in Paediatric Neurology, which is of five years’ duration. The entry requirements are completion of the two year general professional training (GPT) programme and possession of the MRCP, MRCPCH, or MRCP of one of the UK Colleges. Prior to entering the HST programme in Paediatrics, GPT must consist of both 6 months in general paediatrics and 6 months in neonatology. Higher training in General Paediatrics is divided into two phases, a common trunk of general training – 3 years and specialty training – 2 years. Successful candidates are awarded the Certificate of Satisfactory Completion of Specialist Training (CSCST) in the specialty of Paediatrics. There are two SpR training posts in paediatric neurology in Ireland.

2.3.2 TRAINING IN NEUROLOGY IN THE UK

Higher Medical Training in the UK is organised by the Joint Committee on Higher Medical Training (JCHMT). Training in neurology in Ireland and the UK is similar. The entry requirements are similar also. By the end of the five year training period, the trainee will have obtained experience in the same areas as those specified in the Irish training programme.

In the UK, paediatric neurology is usually practised as a single specialty, without any general paediatric duties. The minimum educational requirements for entry to the SpR grade in paediatrics are: a minimum of two years general professional training in the SHO grade, including at least 6 months in adult neurology and Parts 1 and 2 of the MRCPCH examination, or equivalent, must have been passed. The duration of the training programme is five years.

It is also possible to achieve dual certification in neurology and clinical neurophysiology in the UK. The duration of the dual programme is six years and six months. This includes; 3.5 years training in neurology; two years in clinical neurophysiology and one year in research. Five of thirty three recently qualified neurophysiologists in the UK were dually trained in neurology and neurophysiology.
2.3.3 Training in Neurology in North America
The duration of the residency programme in neurology in the USA is four years and includes training and experience in adult and paediatric neurology. The American Board of Psychiatry and Neurology has approved a combined psychiatry and neurology training programme.

The duration of training in child neurology in the USA is three years. The requirements for entry onto the residency programme are two years of residency training in paediatrics in the USA or Canada or one year in paediatrics plus one year of basic neuroscience training.

In Canada, the residency training programmes in neurology and paediatric neurology are each of five years duration.

2.4 Training in Clinical Neurophysiology

2.4.1 Training in Clinical Neurophysiology in Ireland
Higher medical training in clinical neurophysiology is included in the five year neurology curriculum and is not offered as a separate course in Ireland.

2.4.2 Training in Clinical Neurophysiology in the UK
The entry requirements in the UK are the same as those required for entry onto the higher medical training programme in neurology. In the UK, the duration of higher medical training in clinical neurophysiology is four years. The programme includes at least one year of neurology, two years of clinical neurophysiology and either one or more years in clinical neurophysiology or approved research. (See also paragraph 2.3.2 above re dual training)

2.4.3 Training in Clinical Neurophysiology in North America
The residency training in neurophysiology is one year which must be preceded by the completion of a residency programme in neurology, child neurology, or general psychiatry accredited in the United States or Canada.

2.5 Qualifications Specified by Comhairle na nOspidéal for Consultant Posts in Neurology and Clinical Neurophysiology
Under the Health Act, 1970, it is a function of Comhairle na nOspidéal to regulate the number and type of appointments of consultant medical staff in publicly funded hospitals in Ireland and to specify qualifications for such appointments. The following qualifications are specified by Comhairle na nOspidéal for consultant appointments in neurology, clinical neurophysiology and paediatric neurology:

2.5.1 Consultant Neurologist
(a) Full registration in the General Register of Medical Practitioners maintained by the Medical Council in Ireland or entitlement to be so registered and
(b) The possession of the MRCPI or a qualification in medicine equivalent thereto and
(c) (i) Inclusion on the division of neurology of the Register of Medical Specialists maintained by the Medical Council in Ireland or
(ii) Seven years satisfactory postgraduate training and experience in the medical profession including five years in neurology.
2.5.2 CONSULTANT PAEDIATRIC NEUROLOGIST  
(a) Full registration in the General Register of Medical Practitioners maintained by the Medical Council in Ireland or entitlement to be so registered and  
(b) The possession of the MRCPI in Paediatrics or a qualification equivalent thereto and  
(c) (i) Inclusion on the division of paediatrics of the Register of Medical Specialists maintained by the Medical Council in Ireland or  
(ii) Seven years satisfactory postgraduate training and experience in the medical profession including four years in paediatrics and one year in neonatology and  
(d) including two years in paediatric neurology.

2.5.3 CONSULTANT CLINICAL NEUROPHYSIOLOGIST  
(a) Full registration in the General Register of Medical Practitioners maintained by the Medical Council in Ireland or entitlement to be so registered and  
(b) The possession of the MRCPI or a qualification in medicine equivalent thereto and  
(c) (i) Inclusion on the division of clinical neurophysiology of the Register of Medical Specialists maintained by the Medical Council in Ireland or  
(ii) Seven years satisfactory postgraduate training and experience in the medical profession including four years in clinical neurophysiology and neurology.
The key recommendations of the 1991 report and their subsequent level of implementation are given below. The current committee is concerned that some of the fundamental assumptions and key recommendations of the of the 1991 Report have not been fully realised, in terms of the increased numbers of consultant posts, operational arrangements including linkages between hospitals and the provision of out-patient clinics in some identified areas.

3.1 EQUITY OF ACCESS
The report recommended that all patients in Ireland should have equal access to neurology services. A ratio of one consultant neurologist per 200,000 population was recommended as a target for this country.

3.2 LOCATION AND ORGANISATION
3.2.1 The report recommended that neurology services should be linked to major neuroscience/neurosurgical centres, where feasible, and that the two existing neuroscience/neurosurgical centres in Ireland i.e. Beaumont Hospital and Cork Regional Hospital should be focal points for the organisation and development of the neurology services. While the 1991 committee noted that there was no neuroscience/neurosurgical centre in Galway, the committee was of the opinion that a neurology service based in University College Hospital, Galway was justified given its catchment population of about 500,000 dispersed over a wide geographical area and its role as a major university teaching hospital with an associated medical school. It was recommended that access at Beaumont and Cork Regional Hospitals should be made available to neurologists based elsewhere to practise their sub-specialist interests and in order to have access to special investigative facilities and an appropriate pool of neurology beds for investigative purposes. It was recommended that no consultant neurologist should work in isolation except, perhaps as an initial step in the development of a minimum two consultant unit.

3.2.2 The recommendations of the 1991 Report were aimed at strengthening the three existing neurology centres rather than increasing the number of centres. At the time, the Irish Neurologists Association was firmly of the view that consultant neurologists should be clustered in groups in Dublin, Cork and Galway and should radiate outwards from these centres to provide outpatient clinics/ward consultation in the major hospitals in each catchment area. The 1991 Comhairle report recommended that greater emphasis should be put on out patient clinics, both in the neurologists’ base hospitals and in the catchment area served by the neurology centre and that arrangements should be worked out between the group of neurologists in Dublin to provide out-patient clinics at the hospitals in Blanchardstown, Tullamore, Cavan and Drogheda. With the exception of JCM, Blanchardstown, where a formal two sessions commitment from a post based at Beaumont was structured by Comhairle na nOspidéal, this has not happened. The report also recommended the expansion of outpatient clinics for Cork based neurologists to Waterford, in addition to those already provided at Limerick and Tralee. This proposed expansion was not implemented and the service to Tralee and Limerick is no longer provided by the permanent consultants. Recommendations that the Galway based neurologists provide outpatient clinics in Sligo, Castlebar and Ballinasloe have only recently been implemented in respect of Castlebar and Ballinasloe with the appointment of a second neurologist at Galway.
3.2.3 The 1991 committee envisaged that the consultant neurologists based at the major centres in Dublin, Cork and Galway would provide outreach services to other hospitals, such as those at Waterford, Sligo, Drogheda and Tullamore. This goal has failed to be realised, due to a number of factors, including the large and increasing workload of the relatively small number of neurologists based in hospitals in Dublin, Cork and Galway, the distance from base, a reluctance to spend significant time away from the base hospital particularly given the volume of work to be dealt with there and the absence of formal agreements between the authorities of the base hospitals and the health boards without a local service.

3.2.4 It was recommended that the group of neurologists in north Dublin would function as a team providing cover for each other. This has not happened. The 1991 report envisaged that each of the Dublin-based posts would have a sessional commitment to Beaumont Hospital, to provide an opportunity for the development of sub-specialisation, research and teaching. It would appear that this goal has not been fully realised as, with one exception, the two sessions commitment of each of the Dublin based posts to Beaumont is confined mainly to participation in a weekly conference at Beaumont. In reality, neurology is practised at five adult neurology units and at two paediatric neurology units in Dublin each linked to the neuroscience centre at Beaumont Hospital, as distinct from one centre in Dublin. The recommendation that the three consultant neurologists in Cork city function as a team and participate in a 1 in 3 city wide rota for acute neurological emergencies has been initiated. However, the 3 posts have not been restructured as identical joint appointments spanning the three hospitals.

3.2.5 It was proposed that a “Neuroscience Users Committee“ be established which would serve as a forum for examining the delivery of neurosurgical services from the perspective of those health boards and agencies which depend on the services centralised at Beaumont Hospital. This has not been established.

3.3 CONSULTANT STAFFING IN NEUROLOGY (ADULT)

A long-term target of 17 consultant posts in adult neurology was set, with an initial 13 posts being identified as immediate priorities. It was recommended that the posts be based in three centres – Beaumont Hospital in Dublin, Cork Regional Hospital and University College Hospital, Galway. Table 1 below sets out the situation in October 1990 when the former committee was established, the 1991 recommendations and the current situation in terms of consultant neurology staffing levels. The interim targets have been met in Galway and have been exceeded in Dublin. However, the number of consultant neurologists in Cork has not changed.

Table 1 Consultant Staffing in Neurology (Adult)

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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dublin (ERHA, MHB, NEHB, PART OF SEHB) c. 2,000,000</td>
<td>3</td>
<td>7</td>
<td>9</td>
<td>c. 2.2 million</td>
<td>1 / 245,000</td>
</tr>
<tr>
<td>Cork (SHB, MWHB, PART OF SEHB) c. 1,000,000</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>c. 1.1 million</td>
<td>1 / 375,000</td>
</tr>
<tr>
<td>Galway (WHB, NWHB) c. 550,000</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>c. 600,000</td>
<td>1 / 300,000</td>
</tr>
<tr>
<td>Total 3,525,000</td>
<td>7</td>
<td>13</td>
<td>14</td>
<td>3,917,336</td>
<td>1 / 280,000</td>
</tr>
</tbody>
</table>

3.4 **CONSULTANT STAFFING IN PAEDIATRIC NEUROLOGY**

A target of one paediatric neurologist per million general population was set. A total of four paediatric neurologist posts was recommended – three in Dublin and one in Cork, as set out in table 2. This target has been met in Cork and exceeded in Dublin.

*Table 2 Consultant Staffing in Paediatric Neurology*

<table>
<thead>
<tr>
<th>PAEDIATRIC NEUROLOGY CENTRES (POPULATION 1990)</th>
<th>CONSULTANT POSTS (OCT 1990)</th>
<th>TOTAL CONSULTANT COMPLIMENT RECOMMENDED (1991 REPORT)</th>
<th>CONSULTANT POSTS APRIL 2003</th>
<th>CURRENT POPULATION</th>
<th>CURRENT CONSULTANT/POPULATION RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUBLIN</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>c. 2.8 million</td>
<td>1 / 700,000</td>
</tr>
<tr>
<td>CORK</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>c. 1.1 million</td>
<td>1 / 1,100,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>3,917,336</td>
<td>1 / 800,000</td>
</tr>
</tbody>
</table>

3.5 **CONSULTANT STAFFING IN NEUROPHYSIOLOGY**

The report recommended one consultant clinical neurophysiologist per million population (3 posts) in the short-term – two to be based in Dublin and one in Cork. The interim target has been met, as shown in table 3. The longer-term targets of a post in Galway and a post shared between the two children’s hospitals in Dublin linked to Beaumont Hospital were also identified, but have not materialised.

*Table 3 Consultant Staffing in Clinical Neurophysiology*

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<tbody>
<tr>
<td>DUBLIN</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2,800,000</td>
<td>1/1,400,000</td>
</tr>
<tr>
<td>CORK</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1,100,000</td>
<td>1/1,100,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3,900,000</td>
<td>1/1,300,000</td>
</tr>
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4.1 CONSULTANT WORKFORCE

In Ireland, consultant neurology services are located in three cities i.e. Dublin, Cork and Galway. There are 14 posts of consultant neurologist, 3 posts of consultant clinical neurophysiologist and 5 posts of consultant paediatric neurologist. Of the 14 consultant neurologist posts, 9 are based in Dublin, 3 are located in Cork and 2 are based in Galway.

4.2 CONSULTANT NEUROLOGY SERVICES (ADULT)

4.2.1 NEUROLOGY SERVICES IN DUBLIN

Table 4 below shows the current sessional commitment of the 9 permanent Comhairle approved consultant neurologist posts in the Dublin region. There are no outpatient clinics provided by Dublin based consultant neurologists outside of Dublin.

Table 4  Current sessional commitment of the nine permanent Comhairle approved consultant neurologist posts in the Dublin region.

<table>
<thead>
<tr>
<th>HOSPITAL</th>
<th>BEAUMONT</th>
<th>MATER</th>
<th>JCM</th>
<th>ST. JAMES’S</th>
<th>TALLAGHT</th>
<th>ST. VINCENT’S</th>
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<tbody>
<tr>
<td>ECAHB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7 sessions</td>
</tr>
<tr>
<td>POST 1</td>
<td>2 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2 sessions</td>
<td>9 sessions</td>
</tr>
<tr>
<td>POST 2</td>
<td>2 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>9 sessions</td>
</tr>
<tr>
<td>NAHB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POST 3</td>
<td>9 sessions</td>
<td>2 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>POST 4</td>
<td>11 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>POST 5</td>
<td>9 sessions</td>
<td>-</td>
<td>2 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>POST 6</td>
<td>2 sessions</td>
<td>9 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>POST 7</td>
<td>2 sessions</td>
<td>9 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SWAHB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POST 8</td>
<td>2 sessions</td>
<td>-</td>
<td>-</td>
<td>7 sessions</td>
<td>-</td>
<td>2 sessions</td>
</tr>
<tr>
<td>POST 9</td>
<td>2 sessions</td>
<td>-</td>
<td>-</td>
<td>2 sessions</td>
<td>7 sessions</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>41 sessions</td>
<td>20 sessions</td>
<td>2 sessions</td>
<td>9 sessions</td>
<td>9 sessions</td>
<td>18 sessions</td>
</tr>
</tbody>
</table>

4.2.2 NEUROLOGY SERVICES IN CORK

Table 5 below shows the current sessional commitment of the three permanent Comhairle approved consultant neurologist posts in Cork. Out-patient clinics were provided until recently at the Mid-Western Regional Hospital, Limerick and Tralee General Hospital by the permanent consultant neurologists based at Cork University Hospital. The consultant neurologist based at the Mercy Hospital provides a consultation service on request to the South Infirmary-Victoria Hospital. A temporary part-time consultant neurologist post at Tralee General Hospital linked to CUH was recently approved by Comhairle na nOspidéal until 31st December 2003.

Table 5  Current sessional commitment of the three permanent Comhairle approved consultant neurologist posts in Cork.

<table>
<thead>
<tr>
<th>HOSPITAL</th>
<th>CUH</th>
<th>MERCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST 1</td>
<td>10 sessions</td>
<td>1 session</td>
</tr>
<tr>
<td>POST 2</td>
<td>10 sessions</td>
<td>1 session</td>
</tr>
<tr>
<td>POST 3</td>
<td>2 sessions</td>
<td>9 sessions</td>
</tr>
<tr>
<td>TOTAL</td>
<td>22 sessions</td>
<td>11 sessions</td>
</tr>
</tbody>
</table>
4.2.3 NEUROLOGY SERVICES IN GALWAY
There are two permanent Comhairle approved consultant neurologist posts in Galway, both of which have 11 sessions at University College Hospital, Galway. Outpatient neurology clinics are held in Castlebar, Roscommon and Ballinasloe.

4.3 CONSULTANT PAEDIATRIC NEUROLOGY SERVICES

4.3.1 PAEDIATRIC NEUROLOGY SERVICES IN DUBLIN
Table 6 below shows the current sessional commitment of the 4 permanent Comhairle approved consultant paediatric neurologist posts in the Dublin region. While 2 posts are based in Crumlin and 2 posts are located at Temple St., the ERHA has advised the committee that in practice cross cover is provided between the two hospitals. Children are referred from around the country to these Dublin based services.

Table 6 Current sessional commitment of the four permanent Comhairle approved consultant paediatric neurologist posts in the Dublin region.

<table>
<thead>
<tr>
<th>HOSPITAL</th>
<th>CRUMLIN</th>
<th>TALLAGHT</th>
<th>TEMPLE ST.</th>
<th>BEAUMONT</th>
<th>ROTUNDA CLINIC</th>
<th>CENTRAL REMEDIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST 1</td>
<td>-</td>
<td>-</td>
<td>5 sessions</td>
<td>2 sessions</td>
<td>4 sessions</td>
<td>-</td>
</tr>
<tr>
<td>POST 2</td>
<td>1 session</td>
<td>-</td>
<td>6 sessions</td>
<td>1 session</td>
<td>-</td>
<td>3 sessions</td>
</tr>
<tr>
<td>POST 3</td>
<td>9 sessions</td>
<td>-</td>
<td>-</td>
<td>2 sessions</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>POST 4</td>
<td>6 sessions</td>
<td>3 sessions</td>
<td>1 session</td>
<td>1 session</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16 sessions</td>
<td>3 sessions</td>
<td>12 sessions</td>
<td>6 sessions</td>
<td>4 sessions</td>
<td>3 sessions</td>
</tr>
</tbody>
</table>

4.3.2 PAEDIATRIC NEUROLOGY SERVICES IN CORK
There is 1 post of consultant paediatric neurologist in Cork, which is shared between the Mercy Hospital (6 sessions per week) and Cork University Hospital (5 sessions per week). The post was approved in April 2001 but has not yet been filled. The appointee is due to take up duty in November 2003.

4.4 CONSULTANT NEUROPHYSIOLOGY SERVICES

4.4.1 NEUROPHYSIOLOGY SERVICES IN DUBLIN
Table 7 sets out the structure of the 2 permanent Comhairle approved consultant clinical neurophysiology posts in Dublin:-

Table 7 Structure of the 2 permanent Comhairle approved consultant clinical neurophysiology posts in Dublin.

<table>
<thead>
<tr>
<th>HOSPITAL</th>
<th>BEAUMONT</th>
<th>MATER</th>
<th>ST. JAMES’S</th>
<th>TALLAGHT</th>
<th>ST. VINCENT’S</th>
</tr>
</thead>
<tbody>
<tr>
<td>POST 1*</td>
<td>7 sessions</td>
<td>4 sessions</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>POST 2**</td>
<td>2 sessions</td>
<td>-</td>
<td>2 sessions</td>
<td>3 sessions</td>
<td>4 sessions</td>
</tr>
<tr>
<td>TOTAL</td>
<td>9 sessions</td>
<td>4 sessions</td>
<td>2 sessions</td>
<td>3 sessions</td>
<td>4 sessions</td>
</tr>
</tbody>
</table>

* The appointee to Post 1 has retired and the replacement application is under consideration by Comhairle na nOspidéal.
** The holder of Post 2 has applied to have his post restructured in the context of new posts being created.

4.4.2 NEUROPHYSIOLOGY SERVICES IN CORK
There is one post of consultant clinical neurophysiologist in Cork, which is shared between Cork University Hospital (8 sessions) and the Mercy Hospital (3 sessions).
4.5 **NCHD WORKFORCE**

There are significant numbers of neurology NCHDs in Ireland. In fact there are over twice as many NCHDs as consultants working in public hospitals in Ireland. Their distribution is set out in the following tables. There are no NCHD posts in neurophysiology in Ireland.

*Table 8 Distribution of NCHD posts in Neurology*

<table>
<thead>
<tr>
<th>Hospital</th>
<th>House Officers</th>
<th>Registrars</th>
<th>SpRs</th>
<th>Total NCHD Staffing</th>
<th>No. of Consultant Posts (Base Hospital)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEAUMONT (INC JCM)</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>MATER</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>ST. JAMES' S</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>ST. VINCENT'S S</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>TALLAGHT</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CUH</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>MERCY</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>UCHG /MERLIN PARK</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>13</strong></td>
<td><strong>5</strong></td>
<td><strong>11</strong></td>
<td><strong>29</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>


*Table 9 Distribution of NCHD posts in Paediatric Neurology*

<table>
<thead>
<tr>
<th>Hospital</th>
<th>House Officers</th>
<th>Registrars</th>
<th>SpRs</th>
<th>Total NCHD Staffing</th>
<th>No. of Consultant Posts (Base hospital)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLHSC CRUMLIN</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>TEMPLE ST.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2</strong></td>
<td><strong>2</strong></td>
<td><strong>1</strong></td>
<td><strong>5</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

(A) NEUROLOGY

5.1 REVIEW OF SUBMISSIONS AND RELEVANT LITERATURE

5.1.1 In formulating its recommendations and reaching its conclusions, the committee has been assisted by the submissions received from the Irish Consultant Neurologists Association, health boards, voluntary hospitals and other bodies, the ‘Standards of Care’ documents1,2,3 and the advice received during the consultation and visitation process, as described in Section 1 of this report.

5.1.2 The key point of all submissions presented to the committee was the need for more consultants to deal with the large volume of patients requiring neurological diagnosis and treatment. Long waiting times for appointments and large waiting lists were a feature of the submissions from the service providers. The absence of a consultant neurological service in many parts of the country was also emphasised. The committee’s aim is the provision of high quality and safe services to patients, consistent with best practice and international advice. The main issues identified for consideration were staffing at consultant level in neurology and neurophysiology and patients’ access to consultant neurologists, paediatric neurologists and clinical neurophysiologists consistent with good medical practice. The ICNA stated in their submission to the committee that one of the benefits of increased consultant staffing would be “improved access for patients to specialised neurological investigations and, where necessary, to in-patient care of a consultant neurologist”. 4

5.2 CONSULTANT STAFFING GUIDELINES AND INTERNATIONAL CONSULTANT STAFFING LEVELS

5.2.1 RECOMMENDATIONS OF PROFESSIONAL BODIES

As already indicated, there are currently 14 permanent posts of consultant neurologist in the Republic of Ireland, which is one consultant per 280,000 population approximately. The Irish Consultant Neurologists Association, the Neurological Alliance of Ireland and the Association of British Neurologists all recommend a ratio of one consultant neurologist per 100,000, indicating the need for a complement of 39 consultant neurologists to serve the population of Ireland. In reality in the UK, there is a ratio of one consultant neurologist per 154,000 population. The substantial differences in ratios recommended by professional bodies and the actual staffing in the UK as a whole and in each part of the UK should be noted. The details are set out in the following table. The ratio of 1/100,000 has been adopted by the current committee as a reasonable target for this country.

<table>
<thead>
<tr>
<th>Country</th>
<th>Population</th>
<th>Total No. of Consultants</th>
<th>Consultant / Population Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>3,917,336</td>
<td>14</td>
<td>1 / 280,000</td>
</tr>
<tr>
<td>UK</td>
<td>58,789,194</td>
<td>383</td>
<td>1 / 154,000</td>
</tr>
<tr>
<td>England</td>
<td>49,138,831</td>
<td>326</td>
<td>1 / 151,000</td>
</tr>
<tr>
<td>Wales</td>
<td>2,903,085</td>
<td>11</td>
<td>1 / 264,000</td>
</tr>
<tr>
<td>Scotland</td>
<td>5,062,011</td>
<td>40</td>
<td>1 / 127,000</td>
</tr>
<tr>
<td>Nth. Ireland</td>
<td>1,685,267</td>
<td>6</td>
<td>1 / 281,000</td>
</tr>
</tbody>
</table>
5.2.2 INTERNATIONAL STAFFING LEVELS IN NEUROLOGY
There are considerable differences in the neurologists / population ratios between the USA, Canada and various European countries in comparison to the UK and Ireland. However, because of the significantly different types of medical practice and hierarchal systems in north America and mainland Europe where the number of specialists in each specialty is much greater and the number of trainees (NCHDs) is proportionally much less than Ireland and the UK, it is difficult to make meaningful comparisons other than with the UK system.

5.3 FACTORS IN THE DEVELOPMENT OF NEUROLOGY SERVICE PROVISION
5.3.1 It is recognised that there are different possibilities for re-configuring and expanding neurology and neurophysiology services in order to provide a geographically wider spread of services. The committee has structured its recommendations in the form of short-term and long-term goals, with a view to providing a short to medium term plan to guide the development and re-configuration of services, consistent with appropriate standards of care and international best practice. This would be compatible with the longer-term targets which should also provide a context for planning and a benchmark against which progress can be evaluated.

5.3.2 The committee has been advised by consultant neurologists that neurology is, to a large extent, a consultant provided service as distinct from a consultant led service. They have also indicated that a high proportion of neurology work is undertaken directly by consultant neurologists rather than being delegated to NCHDs. However, the committee noted that there are over twice as many neurology NCHDs as consultant neurologists in the public hospitals in Ireland (see tables 8 & 9). Neurological practice is becoming increasingly outpatient based and there is a growing international trend towards day care replacing some of the care traditionally provided on an inpatient basis.

5.3.3 Recommendations in relation to the future development of neurology services need to take into account factors such as the provision of associated infrastructural requirements and the lead-in period required to put these facilities in place, the availability of skilled personnel (including support staff), and the competing demands on limited resources from other areas of the health services and from other specialties within hospitals. Otherwise there is likely to be a divergence between the enunciated policy goal and the actual services which are capable of being delivered, particularly in the short term.

5.4 MODELS OF SERVICE DELIVERY CONSIDERED BY THE COMMITTEE
5.4.1 The 1991 Comhairle committee examined two different models of neurology service provision in the UK; the ‘centre based’ approach, where neurologists have most of their sessions at a regional neuroscience/neurological centre and the ‘district based’ approach, where neurologists have most or all of their sessions in a district general hospital. The 1991 Comhairle report recommended that all neurologists should be organised in groups based at and/or formally linked to major neuroscience / neurological centres.

5.4.2 The current committee examined a number of different models of service provision in relation to the organisation of neurology services; including the ‘hub and spoke’ model with regard to services in England and Scotland and the centralised model in relation to the provision of services in Stockholm, Sweden.

5.4.3 The “Hub-and-Spoke” Model
According to the Clinical Standards Advisory Group, there has been a marked expansion in neurology services in the UK during the last decade and to meet this demand the majority of neurology services have been organised using the ‘hub and spoke’ model: “Neurological services in the UK are organised on a hub and spoke model. In this model, neurologists are based within regional Neurology
and Neurosurgery Centres. Neurologists hold outreach clinics at other hospitals at district level. The neurological inpatient facilities are based at the regional centre, as are neurosurgery and specialised investigation facilities...the hub and spoke model applies throughout the country, with some local variations”.

The committee visited two hospital sites providing neurology services in Sweden. One of them, Uppsala University Hospital, provides neurology services on a hub and spoke basis. Uppsala University Hospital is the ‘hub’ providing acute neurological beds and specialist services to a catchment area population of one million, including 400,000 people residing in close proximity to the base hospital. Consultant neurologists are based predominantly at the base hospital and satellite outpatient services are provided in ‘spokes’ at peripheral hospitals. Consultants often travel by air due to the great distances between hospital sites.

5.4.4 The “Centralised” Model
The committee also visited Karolinska Hospital in Stockholm, where services are organised on a centralised model serving a population of 1.9 million people. All neurologists are based predominantly at the base hospital, Karolinska, and have a minor sessional commitment to two smaller hospitals in Stockholm.

5.5 SUGGESTED MODEL OF SERVICE PROVISION FOR IRELAND
5.5.1 The Neurological Alliance of Ireland has recommended that neurology services should be located as close to patients as possible, to provide ease of access to services, as distinct from the current structure, where services are centred around the hospitals in Dublin and Cork and, to a lesser extent, Galway. The development of new centres would not only allow greater access to patients in surrounding areas but would, in turn, relieve the pressure on the major centres. A key requirement is that plans for the development of neurology services in other parts of the country are based on a realistic assessment of the resource availability and operational capability of these services and that the ongoing relationship with existing centres in Dublin, Cork and Galway are clearly defined. It is acknowledged that the development of new centres will require additional resourcing.

5.5.2 The ICNA has suggested that there should be six neurologists in each of the two neuroscience centres, i.e. Beaumont Hospital and Cork University Hospital; three in University College Hospital, Galway and two each in the other four major teaching hospitals in Dublin. All these hospitals already have one or more consultant neurologists. In relation to the establishment of new neurology centres, the ICNA has stated that “further consideration should be given to other large conurbations such as Limerick, Waterford and Sligo for example as to whether neurological departments should be started up in these hospitals with loose linkages to other centres for academic and training developments”. The ICNA also recommends that there should be a steady planned increase of consultant neurologists each year until the target of 1/100,000 is achieved. The ICNA recommends that neurologists should have an attachment to a neuroscience centre or neurology unit to ensure continuing excellence in medical care in the face of increasing complexity of diagnosis and treatment of neurological disorders.

5.5.3 The committee has reached the conclusion that neurology services can best be provided in Ireland by a combination of regionally based services where the population catchment and distance justifies such and by a network of neurology services emanating from the two existing neuroscience centres (i.e. Beaumont Hospital and Cork University Hospital) to other regions, where population catchments and distances are less. For rare conditions and complex investigations, some degree of specialisation will require to be provided at the two existing neuroscience centres i.e. Beaumont Hospital and Cork University Hospital. Patients from all parts of the country should be enabled to avail of these specialised supra-regional services.
5.5.4 Defined links, including out patient sessions and telemedicine links, need to be developed between the neuroscience centres, the regional neurology units and specified hospitals in order to ensure that the service received by patients in one region is on a par with that experienced by patients elsewhere. Importantly, there would be defined and structured responsibility and accountability for the quality of service received by the local population and this would be shared between the neuroscience centre, its parent health board/hospital authority and the local health board. This accountability could be met by means of an agreement between, on the one hand, the neurology centre and its parent health board / hospital authority and on the other hand, the local health board. The workload, properly defined and monitored, would be taken into account in agreeing the level and use of resources, (including consultant staffing) in the neuroscience centre providing the outreach service. The level of resources and other supports to be made available locally would also form part of any such agreement. It is argued that such arrangements would build in the structures required to underpin the operational links necessary to properly oversee and coordinate the delivery and further development of services. In the absence of such arrangements, delivery of neurology services is characterised by absence of a service locally including outpatient clinics, ad hoc or no linkages between providers, undefined patient flows and lack of clarity around service responsibility.

5.5.5 Neuroscience Centre
The committee is of the view that all neurologists should be based at or formally linked, via a formal sessional commitment, to major neuroscience / neurological centres. The Association of British Neurologists state that “the availability of all the neurosciences specialties at Neurology and Neurosurgery Centres creates the environment essential for the management of the more common disorders and of the less common and more complex conditions that often require a multi-disciplinary input”13. For neurologists whose major commitments are outside such a centre, such formal links via sessional commitments will make them a part of the major centre and will facilitate access to specialised investigative facilities and staff, interaction with their colleagues in related specialties such as neurosurgery, neuroradiology, neuropathology and neurophysiology, attendance at case conferences and rotation of junior staff. The Irish Consultant Neurologists Association has recommended that: “The attachment [of consultant neurologists] to a neuroscience centre or a neurology unit is necessary to ensure continuing excellence in medical care in the face of increasing complexity of diagnosis and treatment of neurological disorders.” This view is also supported by the Association of British Neurologists which stated that in the UK: “all Neurologists are attached to a Neurology and Neurosurgery Centre, because the quality of patient care depends upon this attachment.”13. In this model, the competence and skills of those neurologists based at regional and teaching hospitals are maintained and enhanced through contact with the neuroscience centre. The committee envisages that this model will provide the best possible service for patients throughout Ireland.

5.5.6 Out patient Clinics
The committee recognises that neurological practice has become progressively more outpatient orientated particularly since the development of effective and complex therapies for disorders such as multiple sclerosis, epilepsy and Parkinson’s disease. In its submission, the ICNA explains that its recommendation of 1 consultant neurologist per 100,000 population is derived from a study entitled ‘Neurology in the UK: Number of Clinical Neurologists and Trainees’14 presented to the Association of British Neurologists which identified the weekly range of duties of a consultant neurologist. The core element identified is three out-patient clinics per week provided by each consultant neurologist and a similar number of parallel outpatient clinics conducted simultaneously by appropriate NCHD team. The assumption in the study is that if the correct number of consultant neurologists can be provided to cover the outpatient elements of the work, then all other duties that are required of a consultant neurologist should be adequately covered. The committee notes this study and the ICNA’s support for it and recommends that the future organisation of neurology services should be developed with greater emphasis on the provision of outpatient clinics.
5.5.7 As a general policy, Comhairle na nOspidéal does not favour the concept of single-handed consultant appointments. With the support of the ICNA, the committee does not recommend the appointment of single handed consultant neurologists, except as an initial step in the development of a two or three consultant unit.

5.6 **PAEDIATRIC NEUROLOGY**

5.6.1 The committee acknowledges that many consultant paediatricians based at regional hospitals have expertise in the diagnosis and treatment of more common neurological disorders such as epilepsy, cerebral palsy and migraine and / or neuro-rehabilitation (physical and / or learning disability). At present there are four consultant paediatric neurologists based in Dublin and one based in Cork, i.e. a ratio of 1/800,000 total population.

5.6.2 **RECOMMENDATIONS OF PROFESSIONAL BODIES FOR PAEDIATRIC NEUROLOGY**

The British Paediatric Neurology Association has recommended two consultant paediatric neurologists per million population where paediatric neurologists provide services for acute and chronic neurological conditions in children. This recommendation is supported by the consultant paediatric neurologists in the children’s hospitals in Dublin. In the UK, the recommended ratio has yet to be achieved. Table 11 sets out the current position.

<table>
<thead>
<tr>
<th>Country</th>
<th>Population</th>
<th>Total No. of Consultants</th>
<th>Consultant / Population Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>3,917,336</td>
<td>5</td>
<td>1 / 800,000</td>
</tr>
<tr>
<td>England</td>
<td>49,138,831</td>
<td>30</td>
<td>1 / 1,638,000</td>
</tr>
<tr>
<td>Scotland</td>
<td>5,062,011</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Wales</td>
<td>2,903,085</td>
<td>2</td>
<td>1 / 1,452,000</td>
</tr>
<tr>
<td>Nth. Ireland</td>
<td>1,685,267</td>
<td>2</td>
<td>1 / 843,000</td>
</tr>
</tbody>
</table>

5.7 **NEUROLOGICAL REHABILITATION**

5.7.1 A variety of different specialties and agencies are involved in the care, treatment and support of neurologically disabled patients requiring rehabilitation but no one body or group has overall responsibility for their care and treatment. In relation to consultant staffing, physicians in geriatric medicine, neurologists and consultants in rehabilitation medicine are involved in the care of stroke patients. Some patients with acquired brain damage from causes other than stroke such as trauma and patients with spinal cord injuries are cared for by teams of therapists led by consultants in rehabilitation medicine who also provide rehabilitation services to the physically disabled. Neurologists have a role in the neurorehabilitation of patients with disorders such as Parkinson’s disease and multiple sclerosis. A variety of specialties including old age psychiatry, neurology and geriatric medicine also have a role in respect of patients with disabling neurological conditions where cognitive decline e.g. dementia is a major feature.

5.7.2 Issues in relation to access to and the scarcity of facilities for neurologically disabled patients requiring both short term and long term rehabilitation were raised with the committee. Despite the publication of a number of reports and papers relating to this area, no one body or group of specialists has emerged to take the lead role in this diverse area.
5.7.3 The committee would like to acknowledge the submissions / documents presented by the Irish Consultants in Rehabilitation Medicine, the Alzheimer Society of Ireland, the Irish Association of Consultants in Psychiatry of Old Age, the Council on Stroke of the Irish Heart Foundation, the Neurological Alliance of Ireland and individual consultants.

5.7.4 Given the diversity of patients, service providers, medical specialties and health agencies, other disciplines and therapists involved, the committee believes that this is an area that would benefit from a multidisciplinary national review. The committee is aware that the Department of Health and Children is intending to develop a national rehabilitation plan arising from the proposed action plan (action plan 30) in the National Health Strategy.

B CLINICAL NEUROPHYSIOLOGY

5.8 NEUROPHYSIOLOGICAL TESTING
Neurophysiological testing requires provision of appropriate recording equipment and trained technical personnel. The majority of investigations are carried out on an outpatient basis. However, some patients with severe neurological or medical / surgical conditions may require treatment and investigation as inpatients, and studies may be undertaken in intensive care units, in theatres in respect of intra-operative monitoring or in special care baby units. The provision of an adequate neurophysiology service requires appropriate self contained accommodation, appropriate recording equipment, suitably trained and qualified technical and other support staff and preferably advanced I.T. systems for storage, retrieval and transmission of data.

5.9 RECOMMENDATIONS OF PROFESSIONAL BODIES
The ICNA have proposed a major expansion in the number of clinical neurophysiologists in Ireland from 3 to 11. The Association of British Clinical Neurophysiologists in their recent specialty statement while noting there are approximately 70 consultants in post in England and Wales (1/750,000), estimate a need for about 1 per 250,000 population.

5.10 MODELS FOR THE STRUCTURE OF CLINICAL NEUROPHYSIOLOGY SERVICES CONSIDERED BY THE COMMITTEE
5.10.1 Most consultant clinical neurophysiologists in the UK are based in neuroscience centres or major regional hospitals with on site neurological services. Many consultants also cover general hospitals from their bases in the major centres on a hub and spoke model. A few consultants are based in larger regional hospitals with academic or teaching links to their local neuroscience centre. A small proportion of consultants in the UK are dually trained in neurology and clinical neurophysiology, with about 15% of recently qualified specialists being dually trained.

5.10.2 Representatives of the committee who visited Sweden were impressed with the organisation of neurophysiology services in Uppsala University Hospital and surrounding regions. The neurophysiology service based at Uppsala University Hospital serves Uppsala population and neighbouring regions (a total population of some 2 million people). It has a major neuroscience centre including neurosurgery. The major neurophysiology laboratories and the consultant neurophysiologists are centralised in Uppsala University Hospital. They visit the other hospitals on a weekly basis. Travel is generally by train, car or air depending on the distance (up to 200 miles). The satellite neurophysiology units are located in regional hospitals serving about 250,000 population each. They have about 500-600 beds and are staffed by neurologists and
neurophysiology technicians on site but not consultant neurophysiologists. Each satellite unit is self-
sufficient regarding technicians and equipment and most investigations such as EEGs are performed
locally and transmitted to the centre in Uppsala to be read by the consultant neurophysiologist.
There has been significant investment in information technology to facilitate the rapid transmission
of high quality data and images. EMGs are performed by the visiting consultant neurophysiologist
at each satellite unit. In Stockholm, the neurophysiologists are centralised in Karolinska Hospital
where the major neuroscience centre incorporating neurosurgery is located.

5.10.3 The ICNA has proposed that: “a clinical neurophysiology service should be available to all major academic
teaching hospitals. Each of these hospitals should have a consultant clinical neurophysiologist with a major
commitment to the hospital and a minor commitment to a centre of excellence... to develop their subspecialty
interests and maintain standards”.

5.10.4 Three different models of organisation of neurophysiology service provision were considered by the
committee:-
A. The centralised model with the neurophysiologists based at the major neuroscience centre
and patients coming there for diagnosis and testing.
B. The concentration of the major laboratories and the consultants in the neuroscience centre
with on site technician staffed satellite laboratories in other major hospitals. These hospitals
are staffed by on site neurologists. Visiting neurophysiologists with defined commitments
supervise local neurophysiology technicians and undertake EMGs at these major hospitals.
The neurophysiology technicians based at each major hospital undertake most of the routine
investigations. This system relies on high levels of IT infra-structure for rapid transmission of
images and data from studies e.g. EEGs carried out by technicians and read by
neurophysiologists based in the neuroscience centre.
C. Each major teaching hospital having its own neurophysiology laboratory and consultant
neurophysiologist with an attachment to the neuroscience centre.

5.10.5 The committee gave careful consideration to each of these models. It also considered a variation
on model B whereby two neurophysiology centres in Dublin were proposed - one at the major
neuroscience centre in Beaumont Hospital and one in a South Dublin hospital, primarily for reasons
of competition and to overcome/ avoid potential problems with a monopoly provider. While valid
arguments can be made for each of the three models including the Dublin specific variation to
model B, it is the considered view of the committee that it would be in the best interests of patients
to have one major neurophysiology centre of excellence in Ireland, preponderantly based in one
location in Dublin with a smaller centre in Cork and a small unit in Galway. Each of these would be
located in and be part of the neuroscience centre. Where appropriate and feasible, each of the
consultant neurophysiologist posts would be shared with another major regional teaching hospital.
The detailed recommendations are set out in Section 6.

5.11 INTRA-OPERATIVE MONITORING
5.11.1 Following representations made by a number of individual consultants regarding intra-operative
monitoring of certain neurosurgical and orthopaedic surgical procedures and the role of
neurophysiological staff (medical and technical) in the matter, the committee sought the written
views of the relevant professional bodies representing neurosurgeons, orthopaedic surgeons,
neurologists and neurophysiologists and a conjoint meeting with their representatives. The
committee was advised that intra operative neurophysiological monitoring is currently used for
spinal cord surgery including scoliosis surgery and spinal cord tumour surgery, acoustic neuroma
surgery to spare the facial nerve, brachial plexus and sciatic nerve surgery and functional
neurosurgery for movement disorders and that: “the field of intraoperative monitoring is currently
expanding rapidly with the continual development of newer methods of monitoring sensory and motor
systems”. In a letter to the committee dated 29th October 2002, the Institute of Trauma and Orthopaedic Surgery stated “the role of a clinical Neurophysiologist with respect to intra-operative monitoring is to set up a service, supervise quality control and be available for consultation as required. There is no need for a theatre presence of a clinical Neurophysiologist...The number of cases where intra-operative monitoring would be used would certainly increase with the availability of this service”.

5.11.2 The ICNA has recommended that two intra-operative monitoring teams be established (one in Dublin and one in Cork) comprising of a consultant neurophysiologist and technical staff. The ICNA envisages that the neurophysiology technician / technologist will perform the monitoring in theatre and the data will be interpreted by the consultant neurophysiologist on the site or in the laboratory. The intraoperative programme should be directed by a consultant clinical neurophysiologist who would lead the team of technicians / technologists. The consultant clinical neurophysiologist would decide on the range of surgical procedures to be monitored.

5.11.3 The committee notes the consensus opinion outlined above which emerged from the written submissions and the meeting. This was that the role of a consultant clinical neurophysiologist with respect to intra-operative monitoring was to establish the service, supervise quality control and be available for consultation as required. In most cases, the on-site theatre presence of the consultant neurophysiologist would not be required. An appropriately trained technician / technologist would suffice.
6.1 INTRODUCTION
6.1.1 In accordance with the considerations described earlier in this report, the committee recommends that neurology services should be developed around groups of neurologists based at or linked to major neuroscience centres. In formulating recommendations, the committee has taken into account the following,

- geographical and demographic considerations;
- the recommendations of the Irish Consultant Neurologists Association representing consultant neurologists and consultant clinical neurophysiologists;
- submissions from a range of bodies representing various medical and surgical specialties and patient groups;
- equity of access to specialist neurology services;
- the proposals of various health boards and hospital authorities;
- the range of views expressed by consultant neurologists to the committee;
- health strategy statements regarding regional self-sufficiency;
- the existing network of hospitals;
- the current deployment of neurologists;
- the number and location of neuroscience / neurosurgical centres;
- the limited implementation of the 1991 recommendations.

6.1.2 Based on these considerations, the committee is of the view that a compelling case has been made for a significant enhancement of neurology and neurophysiology services and that a substantial expansion in related consultant staffing is warranted.

6.1.3 This report sets out a strategy for the planning and implementation of additional consultant staffing and services. The committee proposes to provide a wider geographical distribution of neurology and clinical neurophysiology services, consistent with good medical practice and appropriate standards of care and the continued development and expansion of existing services. Notwithstanding the competing priorities at national, regional and individual hospital levels, the committee suggests the early implementation of its recommendations in order to address the unmet needs of patients with neurological problems identified by the ICNA, health boards, hospitals and the Neurological Alliance. The committee acknowledges that the achievement of these targets depends on a number of other important factors such as the availability of financial resources, provision of associated infrastructural requirements and the recruitment of skilled personnel.

6.2 STRUCTURE OF SERVICES
6.2.1 NEUROSCIENCE CENTRES
The committee recommends that the two neuroscience centres (i.e. Beaumont Hospital and Cork University Hospital) and also the existing neurological unit at University College Hospital, Galway, should continue be the focal points for the organisation and development of neurology and neurophysiology services in Ireland. The detailed recommendations in relation to service delivery and consultant staffing are set out in later paragraphs.

* For the purpose of this exercise the committee comprehends a neuroscience centre to include the following disciplines: neurosurgery, neurology, paediatric neurology, neurorehabilitation, neuropathology, neurophysiology, neuroradiology, neuro-ophthalmology, neuro-otology, neuropsychology.
The committee noted that a separate Comhairle committee has been established at the request of the Minister for Health and Children to review the current distribution of neurosurgical units in Ireland.

6.2.2 NEUROLOGY UNITS

6.2.2.1 Waterford & Limerick

The committee considers that there is a need to complement existing neurology services by the development of consultant staffed neurology units at the regional hospitals in Waterford and Limerick, which will provide sessions for out-patient clinics and inpatient consultations in other hospitals in their respective health board areas and be linked to the neuroscience centre in Cork University Hospital.

6.2.2.2 Sligo

Given its distance from the nearest neurology centres in Galway and Dublin and the population of the health board, the committee recommends the establishment of a neurology unit in Sligo Regional Hospital to serve the North Western Health Board area. Regular sessions for outpatient clinics and inpatient consultations should be provided in Letterkenny General Hospital. In the absence of a specialised neuroscience centre with the full range of disciplines in Galway, the committee recommends that the consultant neurologists in Galway and Sligo have formal links with the neuroscience centre in Beaumont Hospital.

6.2.2.3 Dublin

The existing neurology units in the Mater, St. Vincent’s, St. James’s and Tallaght hospitals should continue to develop. Each consultant neurologist should have a formal attachment to the neuroscience centre in Beaumont Hospital.

6.2.2.4 Midlands and North East

The committee recommends that Beaumont Hospital should provide neurology services to the Midland and the North Eastern Health Boards, including regular formal sessions for outpatient clinics and inpatient consultations and be staffed accordingly. The situation should be kept under review.

6.2.3 PAEDIATRIC NEUROLOGY

In addition to the existing paediatric neurology services in Dublin, the committee recommends that services in Cork should be developed by way of an additional paediatric neurology post.

6.2.4 CLINICAL NEUROPHYSIOLOGY

The committee recommends that clinical neurophysiology services, in particular laboratory infrastructure and consultant posts should be based at the two existing neuroscience centres of Beaumont Hospital, Dublin and Cork University Hospital and be established in University College Hospital, Galway. In the absence of a specialised neuroscience centre with the full range of disciplines in Galway, the committee recommends that the consultant neurophysiologists based in Galway should have formal links with the neuroscience centre in Beaumont Hospital. The other major teaching hospitals in Dublin should each share a consultant post with the neuroscience centre, with the majority sessional commitment of each post at Beaumont Hospital.

6.3 CONSULTANT STAFFING

In the following paragraphs, the committee recommends how it envisages posts of consultant neurologist, paediatric neurologist and clinical neurophysiologist being configured and structured. The recommendations set out hereunder regarding consultant staffing are based on both the requirements of the immediate catchment area and the relationship with, and the level of service to be provided to, other regions. The appropriate service agreements should be entered into by the relevant hospital authorities as recommended in paragraph 5.5.4.
6.3.1 NEUROLOGY

6.3.1.1 Based on advice received, the committee believes that a ratio of one consultant neurologist per 100,000 population would be appropriate in Ireland and should be adopted as the target for this country to be implemented on a phased basis. The implementation of this target would mean that the existing number of consultant neurologist posts would be almost trebled, from 14 to 39. This is an ambitious target which will take some time to achieve. A more realistic short to medium term target of doubling the number of consultant neurologists is proposed. In the implementation of this report, the committee envisages that its priority recommendations will take precedence over its longer term proposals. Table 12 sets out, in summary form, the committee’s priority recommendations and longer term proposals for the development of consultant neurology services in Ireland. Recommendations are set out in detail in the paragraphs which follow.

Table 12 Committee’s recommendations re consultant neurologist posts

<table>
<thead>
<tr>
<th>BASE HOSPITAL</th>
<th>CURRENT CONSULTANT</th>
<th>PRIORITY</th>
<th>INTERIM</th>
<th>LONG TERM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EXSTABLISHMENT</td>
<td>RECOMMENDATIONS</td>
<td>TOTAL</td>
<td>TOTAL</td>
</tr>
<tr>
<td><strong>DUBLIN CENTRE (including MHB and NEHB)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BEAUMONT</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>MATER</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>ST. JAMES’S</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>TALLAGHT</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>ST. VINCENT’S</td>
<td>2</td>
<td>-</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>9</td>
<td>6</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>(pop. c.2.2 million)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CORK CENTRE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUH</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>MERCY</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>LIMERICK</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>WATERFORD</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>(pop. c.1.1 million)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GALWAY CENTRE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UCH, GALWAY</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>SLIGO</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>(pop. c.600,000)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>14</td>
<td>15</td>
<td>29</td>
<td>39</td>
</tr>
<tr>
<td>(Pop 3,917,336)</td>
<td></td>
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<td></td>
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</tbody>
</table>

6.3.1.2 DUBLIN CENTRE

Beaumont Hospital is the major neuroscience centre in Ireland. The consultant staffing includes 6 neurosurgeons, 3 neurologists, 1 neuropathologist, 2 neuro-radiologists, 2 neuropathologists and a sessional commitment from a consultant in rehabilitation medicine with an interest in neurorehabilitation based at the National Rehabilitation Hospital. In addition to its local catchment area, Beaumont Hospital should provide a neurology service to the Midland Health Board and to the North Eastern Health Board and also provide a national service for rare and complex disorders and be staffed accordingly. The committee recommends the appointment of 4 additional
consultant neurologists to be based at Beaumont Hospital, to provide a complement of 7 posts in total. Consequently, one post should have a commitment of three sessions per week to Our Lady of Lourdes Hospital, Drogheda, for out-patient clinics and inpatient consultations. It is envisaged that another post will have a commitment of three sessions per week to provide a weekly out-patient clinic and ward consultation at Cavan. One post should have a formal commitment of four sessions per week to the Midland Health Board for the provision of weekly outpatient clinics and in-patient consultations at the Midland Regional Hospital, Tullamore. If services and consultant staffing develop as recommended above, the committee would envisage an eighth post based at Beaumont Hospital in due course.

A neuroscience centre of excellence based in Beaumont Hospital providing a supraregional and some national services can be realised provided certain safeguards are formally structured into the system. The consultants based in other hospitals must have guaranteed access to the neuroscience centre. A formal two session commitment to Beaumont Hospital is recommended for each consultant neurologist post based elsewhere. Secondly, formal joint consultant appointments between Beaumont and the relevant health authorities in relation to Tullamore, Drogheda and Cavan must be established and services delivered in accordance with formal arrangements between the relevant authorities. Thirdly, the committee recommends the formal establishment by Beaumont Hospital of a neuroscience users committee which would serve as a forum for examining the delivery of neurology, neurophysiology and neurosurgery services from the perspective of those hospitals and health boards which depend on neuroscience services from Beaumont Hospital. Management and consultants from the relevant agencies should be represented on the proposed users committee.

This committee is aware that a similar proposal in the 1991 report was not implemented. The committee strongly recommends that Beaumont prioritise the establishment of such a users committee. If the significantly enhanced role, responsibilities and consultant staff at Beaumont Hospital envisaged in this report is not implemented or does not lead to the substantially improved level of neurology and neurophysiology services for the designated catchment population within the next five years then the envisaged role should be reviewed.

In view of the importance it attaches to the organisation and development of the neurology service to be delivered by Beaumont Hospital, the committee recommends that one of the consultant neurologists act as Director of the neurology service. It is envisaged that the appointee would play a lead role in conjunction with management and clinical colleagues in achieving the organisational change and service developments envisaged. A fixed term model of appointment which could be renewed or rotated among the consultant neurologists is suggested.

North Eastern Health Board Area
The committee recommends that residents in the NEHB area would have access to neurology services available at Beaumont Hospital and that two of the consultant neurologists based at Beaumont Hospital should have joint appointments involving formal commitments (3 sessions each) to the North Eastern Health Board for the provision of out-patient clinics and inpatient consultations at Our Lady of Lourdes Hospital, Drogheda and Cavan General Hospital respectively.

Midland Health Board Area
The committee recommends that residents in the MHB area would have access to neurology services available at Beaumont Hospital and that a consultant neurologist based at Beaumont Hospital should have a joint appointment involving a formal commitment of four sessions per week to the Midland Health Board for the provision of out-patient clinics and in-patient consultations at the Midland Regional Hospital, Tullamore.
Mater Hospital
The committee notes the appointment of two consultant neurologists based at the Mater Hospital each with minor sessional commitments to Beaumont Hospital. The second post was approved by Comhairle na nOspidéal during the lifetime of and following advice from this committee. The committee envisages a complement of three consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

St. Vincent’s Hospital
The committee notes the appointment of two consultant neurologists based at St. Vincent’s Hospital each with minor sessional commitments to Beaumont Hospital. The committee envisages a complement of three consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

St. James’s Hospital
The committee recommends the appointment of a second consultant neurologist to be based at St. James’s Hospital, with a minor sessional commitment to Beaumont Hospital. The committee envisages a complement of three consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

Tallaght Hospital
The committee recommends the appointment of a second consultant neurologist to be based at Tallaght Hospital to serve the combined Tallaght / Naas catchment area, with a minor sessional commitment to Beaumont Hospital. The committee envisages a complement of three consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

The following diagram demonstrates the proposed linkages to the neuroscience centre in Beaumont Hospital.
6.3.1.3 CORK CENTRE
Southern Health Board Area
The committee recommends the appointment of 2 additional consultant neurologists to be based at Cork University Hospital, to serve the Southern Health Board population providing a total complement of 5 posts. It is envisaged that one of the new posts will have a commitment of three sessions per week to the South Infirmary – Victoria Hospital and one will have a commitment of three sessions per week to Tralee General Hospital for regular out-patient clinics and in-patient consultations. When the post based at the Mercy Hospital becomes vacant, it should be replaced by a post based at the neuroscience centre at CUH with formal sessional commitments to the Mercy Hospital. The ICNA are opposed to single handed consultant neurologist appointments and recommended additional posts for Cork University Hospital. The committee envisages a complement of six consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

South Eastern Health Board Area
The committee recommends the appointment of two consultant neurologists to be based at Waterford Regional Hospital. It is envisaged that each consultant would be formally linked via sessional commitments to the neuroscience centre at Cork University Hospital. The appointees should also have sessional commitments to provide regular outpatient clinics and in-patient consultations at other hospitals within the region. The committee envisages a complement of four consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

Mid Western Health Board Area
The committee recommends a complement of two consultant neurologist posts to be based at the Mid Western Regional Hospital, Limerick. It is envisaged that each consultant would be formally linked via sessional commitments to the neuroscience centre at Cork University Hospital. The appointee should also have sessional commitments to provide regular out-patient clinics and in-patient consultations at other hospitals in the region. The committee envisages a complement of three consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

The following diagram demonstrates the proposed linkages to the neuroscience centre in Cork University Hospital.
6.3.3.4  GALWAY CENTRE

Western Health Board Area

The committee recommends the appointment of a third consultant neurologist to be based at University College Hospital, Galway. It is envisaged that the complement of three consultant neurologists to serve the Western Health Board area, will have sessions designated for the provision of outpatient clinics and inpatient consultations at other hospitals in the region. The three consultants should have formal links with the neuroscience unit at Beaumont Hospital. The committee envisages a complement of four consultant neurologists sharing responsibility for the provision of neurology services to the people and hospitals in the catchment area in the longer term.

North Western Health Board Area

The committee recommends the establishment of a neurology unit staffed by two consultant neurologists based in Sligo Regional Hospital to serve the entire North Western Health Board area. Sessional commitments to provide regular outpatient clinics and ward consultations should be assigned to Letterkenny General Hospital. The two consultants should have formal links with the neuroscience unit at Beaumont Hospital. The ICNA are opposed to single handed consultant neurologist appointments.

6.3.2  PAEDIATRIC NEUROLOGY

The recommendations of the 1991 report in respect of paediatric neurology have been exceeded in Dublin and achieved in Cork. The committee recommends the appointment of a second consultant paediatric neurologist in Cork to be based at Cork University Hospital with a sessional commitment to the Mercy Hospital.

6.3.3  CLINICAL NEUROPHYSIOLOGY

6.3.3.1  The committee recommends that clinical neurophysiology services, in particular laboratory infrastructure and consultant posts should be based at the two existing neuroscience centres of Beaumont Hospital, Dublin and Cork University Hospital and be established in University College Hospital, Galway. The other major teaching hospitals in Dublin should each share a consultant post with the neuroscience centre, with the majority sessional commitment of each post at Beaumont Hospital. The recommendations in terms of increased consultant manpower in neurophysiology are summarised in Table 13 and are set out in detail in the paragraphs which follow.

Table 13  Committee’s recommendations re consultant neurophysiologist posts

<table>
<thead>
<tr>
<th>HOSPITAL</th>
<th>CONSULTANT POSTS 2003</th>
<th>RECOMMENDATIONS – TOTAL NUMBER OF POSTS (WTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DUBLIN CENTRE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*BEAUMONT NEUROSCIENCE CENTRE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INC NEHB, MHB and JCM</td>
<td>9 sessions</td>
<td>3½</td>
</tr>
<tr>
<td>MATER</td>
<td>4 sessions</td>
<td>½</td>
</tr>
<tr>
<td>ST. VINCENT’S HOSPITAL</td>
<td>4 sessions</td>
<td>½</td>
</tr>
<tr>
<td>ST. JAMES’S HOSPITAL</td>
<td>2 sessions</td>
<td>½</td>
</tr>
<tr>
<td>TALLAGHT HOSPITAL</td>
<td>3 sessions</td>
<td>½</td>
</tr>
<tr>
<td>CRUMLIN / TEMPLE ST</td>
<td>-</td>
<td>½</td>
</tr>
<tr>
<td>TOTAL DUBLIN</td>
<td>2 posts</td>
<td>6 posts</td>
</tr>
<tr>
<td>**CUH NEUROSCIENCE CENTRE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 post</td>
<td>2</td>
</tr>
<tr>
<td><strong>GALWAY CENTRE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UCH, GALWAY</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL (P: 3,917,336)</td>
<td>3 posts</td>
<td>9 posts</td>
</tr>
</tbody>
</table>

* Beaumont Neuroscience Centre to provide services to people and hospitals in Leinster and part of Ulster.
** CUH Neuroscience Centre to provide services to people and hospitals in Munster.
6.3.3.2 DUBLIN CENTRE

The committee recommends a complement of six posts of consultant clinical neurophysiologist to be based at Beaumont Hospital. One post should be based predominantly at Beaumont Hospital with a sessional commitment to James Connolly Memorial Hospital, Blanchardstown. In order to provide a comprehensive neurophysiology service, the committee is of the view that each of the other posts based at Beaumont Hospital would have a significant sessional commitment (a maximum of 5 sessions per week) to another major general teaching hospital in the Dublin area where a neurology unit has been developed (i.e. St. Vincent’s Hospital, St. James’s Hospital, Tallaght Hospital, the Mater Hospital and Crumlin Hospital / Temple St hospitals.) The committee envisages that the neurophysiology department and the increased complement of consultants based at Beaumont Hospital would provide services for patients predominantly from Leinster and parts of Ulster.

It is suggested that one of the post holders would also act as Director of the neurophysiology service. A fixed term model of appointment which would be renewed or rotated is suggested.

The holder of the post with sessions in the three south Dublin hospitals and Beaumont Hospital has applied to have his post restructured. The committee recommends, subject to the agreement of the incumbent, that it be restructured in line with the recommendations in this report. The committee also recommends that the vacant post shared between Beaumont and the Mater hospitals be restructured in line with this report also.

6.3.3.3 CORK CENTRE

The committee recommends the appointment of a second consultant clinical neurophysiologist to be based at Cork University Hospital. The existing post based at CUH has a commitment of 3 sessions to the Mercy Hospital. It is envisaged that the neurophysiology department and the consultant neurophysiologists based at CUH would provide services for patients predominantly from the Munster area.

6.3.3.4 GALWAY CENTRE

The committee is of the view that a neurophysiology service should be established at University College Hospital, Galway. The committee envisages the initial appointment of one consultant clinical neurophysiologist to be based at University College Hospital, Galway with a sessional link to the neuroscience centre at Beaumont Hospital. It is envisaged that the neurophysiology department and the consultant neurophysiologist would provide services for patients from the Western Health Board and the North Western Health Board areas. A second post is envisaged as the service develops.
7.1 NEUROLOGY

7.1.1 The committee is of the view that a compelling case has been made for a significant enhancement of neurology and neurophysiology services and a substantial expansion in related consultant staffing. This report details a plan for the development of neurology and neurophysiology services and consultant staffing in Ireland over the next decade or so. The committee has noted that not all of the targets of the 1991 report have yet been fully realised. At the same time, a strong case has been made for a long term target of 1 consultant neurologist per 100,000 population. The committee supports this aim and has made specific recommendations based on an interim target of 1 consultant neurologist per 150,000 population which it hopes can be realised over the next decade, given the likely availability of additional resources and competing priorities among the various health service programmes and within hospitals between the various specialties. The current ratio is 1 / 280,000 population approximately.

7.1.2 This report builds on the previous report of 1991. The priority developments are to establish neurology units in Waterford, Limerick and Sligo and enhance the existing neuroscience centres at Beaumont Hospital and Cork University Hospital. It supports the continued development and expansion of neurology services in the cities of Dublin, Cork and Galway and extends the provision of on-site neurology units and consultants to regional centres at Waterford, Limerick and Sligo and initiates the provision of regular formal consultant provided out-patient clinics and inpatient consultations at the hospitals in Drogheda, Cavan and Tullamore from consultant neurologists based at the major neuroscience centre at Beaumont Hospital. In the interest of equity of patient service provision and accountability for the quality of service received the neuroscience centre at Beaumont Hospital should enter into formal agreements with the relevant health boards and hospital authorities.

7.1.3 It is hoped that our recommendations will be implemented quickly in order to address the unmet needs of patients with neurological problems identified by the ICNA, health boards, hospitals and the Neurological Alliance and that progress will also be made in advancing towards the long term targets.

7.2 PAEDIATRIC NEUROLOGY

7.2.1 Paediatric neurology services should be extended in Cork with the appointment of a second consultant paediatric neurologist. The targets in the 1991 report for paediatric neurology in Dublin have been exceeded.

7.3 CLINICAL NEUROPHYSIOLOGY

7.3.1 The committee recommends that clinical neurophysiology services, in particular the major laboratory infra-structure and consultant posts be based at the two existing neuroscience centres of Beaumont Hospital, Dublin and Cork University Hospital with other major teaching hospitals in Dublin each sharing a consultant post with the Beaumont neuroscience centre. The committee also recommends the establishment of a clinical neurophysiology service in University College Hospital, Galway linked to the Beaumont Neuroscience centre.

7.4 CONCLUSION

7.4.1 The detailed recommendations are contained in the body of the report. The committee hopes that its recommendations will be implemented as soon as possible, that the necessary resources will be provided and that services to patients with neurological problems will be improved accordingly.

April 2003.
REFERENCES

1. Neurological Alliance of Ireland ‘Standards of Care for People with Disabling (Progressive and Static Neurological Conditions in the Hospital and Community’ Vol 1, 2000.
3. Neurological Alliance of Ireland ‘Standards of Care for People with Disabling Neurological Conditions where Cognitive Decline is a Major Feature’ Vol 3, 2002.

Other documents considered by the committee during its literature included the following:

- Department of Health, UK ‘Hospital Medical Staff by Specialty and Grade’. 2000.
- Department of Health, Wales ‘Hospital Medical and Dental Staff in Post’. 2001.
- A National Review of Paediatric Neurology Services in New Zealand. 1998
- World Federation of Neurology ‘The Organisation and Delivery of Neurological Services, especially related to Public Health’.
- British Medical Journal ‘The Misdagnosis of Epilepsy’, March 2002; 324:495-6
- British Medical Journal ‘The Future of Rehabilitation’ November 2001; 323:1082 -1083
APPENDIX A

SUBMISSIONS RECEIVED BY COMMITTEE

THE COMMITTEE RECEIVED WRITTEN SUBMISSIONS AND INFORMATION FROM THE FOLLOWING:

❖ Combined Proposal for Clinical Neurophysiology Services at Mater Misericordiae Hospital, Beaumont Hospital, The Children’s Hospital, Temple St. and Cappagh Hospital. (May 2001).
❖ Irish Consultants in Rehabilitation Medicine ‘Rehabilitation’, January & April 2002
❖ The Alzheimer Society of Ireland, February 2002.
❖ Department of Neurology, Royal Victoria Hospital, Belfast, February 2002.
❖ Irish Association of Consultants in Psychiatry of Old Age, May 2002.
❖ Irish Association of Internal Medicine, August 2002.
❖ Mr. D. Rawluk, Chairman of Neurosciences Cogwheel, September 2002.
❖ Mr. C. N. Pidgeon, Consultant Neurosurgeon, September 2002
❖ Irish Institute of Orthopaedic Surgeons, October 2002.
❖ Mr. F. McManus, Consultant Orthopaedic Surgeon, December 2002.

SUBMISSIONS RECEIVED FROM HEALTH BOARDS AND HOSPITALS:-

❖ Eastern Regional Health Authority; East Coast Area, South Western Area, Northern Area Health Boards
❖ St. Vincent’s University Hospital
❖ National Rehabilitation Hospital
❖ James Connolly Memorial Hospital
❖ Mater Hospital, Beaumont Hospital
❖ The Children’s Hospital, Temple St.
❖ St. James’s Hospital
❖ Tallaght Hospital
❖ Our Lady’s Hospital for Sick Children, Crumlin
❖ Midland Health Board
❖ Mid – Western Health Board
❖ St. John’s Hospital
❖ North Western Health Board
❖ South Eastern Health Board
❖ Southern Health Board
❖ Mercy Hospital
❖ South Infirmary / Victoria Hospital
❖ Western Health Board.

APPENDIX B

LIST OF BODIES MET DURING CONSULTATIVE PROCESS

❖ Irish Consultant Neurologists Association
❖ Council on Stroke of the Irish Heart Foundation
❖ Irish Association of Consultants in Psychiatry of Old Age
❖ Irish Consultants in Rehabilitation Medicine
❖ Dr. S. Connolly, representing Consultant Clinical Neurophysiologists
❖ Mr. D. Rawluk, representing Consultant Neurosurgeons.