Report of committee arising from joint applications from St. James's Hospital and Peamount Hospital for two consultant respiratory physicians, one with a special interest in tuberculosis

Adopted by Comhairle na nOspidéal
at its meeting on 19 July 2000

1. Background

1.1 Following financial clearance for the posts from the Department of Health and Children in April and May 1999, applications were received from St. James's Hospital and Peamount Hospital in May 1999 for two posts of consultant respiratory physician, one with a special interest in tuberculosis. One of the posts was in replacement of the services of the late Professor John Prichard who held the post of Consultant Respiratory Physician / Associate Professor of Medicine at St. James's Hospital and Trinity College Dublin. The other application was for a new post, to be based primarily at Peamount Hospital with a minor commitment to St. James's Hospital.

1.2 The applications were considered by the Applications Committee of Comhairle na nOspidéal in June 1999. The committee considered that a number of issues required clarification. At the meeting of Comhairle na nOspidéal in June, it was decided to establish a committee to examine the applications. The following were nominated to the committee: Dr. Tom Peirce (who chaired the committee), Ms. Christina Carney, Mr. Michael Lyons*, Dr. Orlaith O'Reilly and Mr. Tommie Martin (Chief Officer). Mr. Keith Comiskey was Secretary to the committee.

1.3 The committee visited Peamount Hospital and discussed the proposals for the posts with representatives of St. James's Hospital, Peamount Hospital and the Eastern Health Board on 21 July 1999. It was necessary to arrange a further meeting on 8 September with the Chief Executive Officer of Peamount Hospital who was on leave at the time of the visit to Peamount.

1.4 A number of issues remained outstanding from the two meetings and clarification of a number of issues was required from the two hospitals. Following receipt of correspondence from St. James's and Peamount hospitals, the applications were again considered by Comhairle na nOspidéal at its meeting in December 1999. At that meeting, Comhairle felt that there were a number of issues which still required clarification. In relation to two of these issues

(i) the role, if any, of Peamount in the provision of acute hospital services such as general medicine, respiratory medicine and tuberculosis, it was decided to meet the Eastern Regional Health Authority, and

(ii) the appropriate model of care of patients with tuberculosis given current epidemiological trends, it was decided to meet the Irish Thoracic Society.

* Mr. Michael Lyons resigned from Comhairle and the committee upon his appointment in January 2000 as CEO, East Coast Area Health Board.

2. Epidemiology of Tuberculosis

2.1 A recent report produced by the National Disease Surveillance Centre[1] sets out the epidemiology of tuberculosis in Ireland in 1998. There were 424 notified cases of tuberculosis in Ireland in 1998 representing a crude rate of 11.7 per 100,000. This is a 1.7% increase on 1997 (11.5/100,000), although the 3 year moving average reflects a downward trend. Data showing the number of notified cases of TB and 3 year moving average for the years 1991-98 is shown in Table 1. The distribution of notified cases by health board area in 1998 is shown in Table 2. Table 3 shows the notification rates of definite cases of TB in Ireland in 1998 and the source by health board of culture positive patients in Peamount in 1998 and 1999.

The following definitions in the report of the National Disease Surveillance Centre relate to the data in Tables 1, 2 and 3:

Notified Case: Clinically active disease due to infection with organisms of the *Mycobacterium tuberculosis* complex. Active disease is presumed if the patient was commenced on a full curative course of anti-tuberculosis chemotherapy.

Definite Case: Case with a culture positive confirmed disease due to *M. tuberculosis* complex.

Other than Definite: Notification is also required for cases which meet both of the following conditions: (a) a clinician's judgement that the patient's clinical and/or radiological signs and/or symptoms are compatible with tuberculosis and (b) a clinician's decision to treat the patient with a full course of anti-tuberculosis therapy.

Table 1 – Notified cases of Tuberculosis in Ireland, 1991-98

Year	Number	Crude Rate per 100,000	3 year moving average
1991	640	18.2	
1992	604	17.1	621
1993	598	16.9	581
1994	524	14.5	526
1995	458	12.6	468
1996	434	12	438
1997	416	11.5	426
1998	424	11.7	

Table 2 – Notified cases of Tuberculosis in each health board area, 1998

Health Board	Cases	% of Total cases	Crude Rate per 100,000
EHB	152	35.8%	11.7
MHB	10	2.4%	4.9
MWHB	47	11.1%	14.8
NEHB	29	6.8%	9.5
NWHB	19	4.5%	9
SEHB	35	8.3%	8.9
SHB	78	18.4%	14.3
WHB	54	12.7%	15.3
Total	**424**	**100%**	**11.7**

Table 3 – Notification rates of definite cases of Tuberculosis in each health board area and Peamount

Health Board	No. of culture positive cases, 1998[†]	Peamount culture positive cases, 1998[‡]	Peamount culture positive cases, 1999[‡]
EHB	105	57	47
MHB	5	8	2
MWHB	26	1	0
NEHB	14	7	7
NWHB	8	10	9
SEHB	15	7	8
SHB	51	0	0
WHB	17	1	1
Total	**241**	**91**	**74**

2.2 Although resistance to a drug was reported in 4 cases, there were no cases of multi-drug resistant TB in 1998. Of the 424 notified cases of TB in 1998, there were 41 deaths, but only 6 cases (1.4%) were attributed to TB, giving a crude death rate of 0.2/100,000. Of the 424 cases, 67% were diagnosed as Pulmonary TB alone, 24.1% as Extrapulmonary TB alone and 7% were combined Pulmonary and Extrapulmonary TB cases. At 8.3% of cases, Ireland has one of the lowest proportions of TB cases in foreign born patients in the EU.

[†] Source: "Report on the Epidemiology of Tuberculosis in Ireland in 1998" National Disease Surveillance Centre

[‡] Source: Data supplied by Peamount Hospital

3. Services Currently Being Provided

3.1 Respiratory Services in St. James's Hospital

3.1.1 Respiratory services in St. James's Hospital are under the direction of the CResT Clinical Directorate. St. James's is a major acute general teaching hospital. There are three posts of Consultant Physician with a special interest in respiratory diseases in St. James's, one of which is the vacant post arising from the death of Professor Prichard currently under consideration by Comhairle na nOspidéal. At the time of application, there were also three Registrars, two Senior House Officers and two Interns working in the respiratory medicine section of St. James's Hospital[§].

3.1.2 Respiratory medicine services provided by St. James's Hospital include[§]:

- Pulmonary function laboratory
- Bronchoscopy service
- Thoracoscopy service with pleurodesis
- Sleep laboratory
- Specialist respiratory clinics (including asthma and tuberculosis)
- Respiratory in-patient facility (31 beds)
- Intensive care unit and high dependency unit
- Medical investigation ward

3.2 Respiratory Services in Peamount Hospital

3.2.1 Peamount Hospital Incorporated is a company limited by guarantee and not having a share capital and is based in Newcastle, Co. Dublin. The company provides a Chest Hospital, a Mental Handicap Unit and a Young Chronic Sick Unit. It operates Peamount Farm and Peamount Industries and a Mental Handicap Adult Training Centre[**].

3.2.2 The Chest Hospital is one of the constituent parts of Peamount Hospital[††]. This report relates only to that element of Peamount Hospital Incorporated. There are two separate buildings, one being the Tuberculosis unit and the other a non-TB respiratory unit. The Clinical Director of Peamount is a consultant from St. James's Hospital who has a commitment to Peamount which is in addition to the consultants contract. This position has not been regulated by Comhairle na nOspidéal. No request to do so has been received. There is also a full time Senior

[§] Source: Joint Application Form from St. James's Hospital and Peamount Hospital
[**] Source: Peamount Hospital Incorporated, Annual Report 1998.
[††] Throughout this document references to Peamount are references to the Chest Hospital at Peamount, unless otherwise stated.

Medical Officer post in Peamount. At the time of application, there were also one Registrar and five Senior House Officers in Peamount[‡‡].

3.2.3 Respiratory medicine and tuberculosis services provided by Peamount Hospital include[‡‡]:

- In-patient facilities (60 beds – 30 allocated to TB patients and 30 to other respiratory diseases
- Satellite pulmonary function laboratory
- Out-patient respiratory services
- Day case activity
- Pathology laboratory (technician staffed)

3.2.4 The committee was concerned on finding out that Peamount Hospital had a unit catering for acute respiratory patients and that it was receiving referrals from Naas Hospital, (including it's A&E Department) given that it is not an acute general hospital and does not have Comhairle approved consultant appointments. The committee has been informed that the practice of referrals from Naas has now ceased after the matter was raised with the Eastern Health Board.

3.3 Laboratory and Radiology Services in Peamount Hospital

3.3.1 During the visit of the Comhairle committee to Peamount, it was noted with concern that pathology services were being provided at Peamount without consultant pathologist supervision. Histology, cytology and haematology (except automated results) are delivered from St. James's Hospital. Biochemistry and microbiology are provided by technicians based in Peamount. Strong concern was expressed in relation to microbiology in particular. It was stated at the meeting in July 1999 that arrangements for microbiology and biochemistry in Peamount needed to be sorted out and it was noted that there were ongoing discussions with St. James's Hospital on this issue.

3.3.2 It was pointed out to the Comhairle committee that the Department of Health and Children is currently seeking tenders for the National TB Reference Laboratory and that Peamount wished to link to whichever major acute general hospital is successful in winning this contract. The Department of Health and Children has recently indicated that it intends to request the Eastern Regional Health Authority to make a recommendation on the tenders which have been received as to which site is the preferred option for the National TB Reference Laboratory.

3.3.3 A memorandum dated 21 October 1997 signed by the CEO of Peamount Hospital, the CEO of St. James's Hospital and the Programme Manager of the Eastern Health Board stated "there will be a rationalisation of the laboratory services at

[‡‡] Source: Joint Application Form from St. James's Hospital and Peamount Hospital and correspondence from Peamount Hospital.

Peamount and discussions are underway about possible alternative sites to relocate this service. In more recent joint correspondence from the two hospitals, it was stated that laboratory services at present located on the Peamount site will transfer to St. James's in the future. With respect to microbiology, the correspondence continues that the transfer will occur "in the context of developments associated with the identification of St. James's as a National TB Laboratory Reference Centre…In the event of the service not falling to St. James's, it will clearly be necessary to review timing considerations in this regard".

3.3.4 The committee was informed that a consultant radiologist based at St. James's provides a radiology service to Peamount. This service to Peamount is also outside the consultants contract and has not been regulated by Comhairle na nOspidéal. No request to do so has been received. The Comhairle committee also had concerns in relation to this arrangement. However, despite being signalled by the Comhairle committee at various meetings with representatives of the hospitals, proposals have not been put forward by the hospitals for the provision of radiological services for Peamount patients.

4. Policy considerations regarding Tuberculosis

4.1 Where should tuberculosis patients be treated?

4.1.1 The Report of the Working Party on Tuberculosis[2] published by the Department of Health and Children in July 1996 recommended the following:

- Treatment of tuberculosis should be directed by respiratory physicians
- Joint supervision of patients by the diagnosing physician and a respiratory physician is recommended where the diagnosing physician is not a respiratory physician and also in the case of non-respiratory tuberculosis and paediatric patients
- Joint clinics attended by both respiratory and public health physicians for the diagnosis and treatment of tuberculosis and evaluation of contacts are also recommended

4.1.2 The Irish Thoracic Society, in its meeting with the committee, stated the above recommendations were accepted by the Society. There was general agreement that care of patients with TB should be community based, that each health board should treat its own TB patients and that ideally the treatment should be provided by respiratory physicians. The general view was that there was no need to transfer TB patients outside a health board area for treatment. In hospitals without respiratory physicians, joint care between the local general physicians and a respiratory physician in the region may be appropriate.

4.1.3 The Report of the Working Party on Tuberculosis added "Many patients can have their treatment initiated and supervised on an outpatient basis. However, there are other patients who require admission to clarify the diagnosis or due to the severity of their illness or other co-existing illness. Other indications for admission include toxicity of medication, poor compliance, social reasons and the need for isolation because of particularly vulnerable household and other contacts."

4.1.4 The British Thoracic Society in their published guidelines on "Chemotherapy and management of tuberculosis in the United Kingdom: recommendations 1998"[3] state that "treatment of all patients should be supervised by physicians with full training in the management of tuberculosis…". The guidelines add that "most patients do not require admission to hospital and can be treated and supervised as outpatients".

4.1.5 While there was agreement at the meeting with the Irish Thoracic Society on the treatment for most TB cases as outlined in the 1996 Working Party report, there was some difference of opinion regarding the treatment of the more difficult cases, particularly those with drug-resistant TB and also non-compliant patients (e.g. homeless patients, drug addicts – including alcoholics, and patients with a mental illness). It was generally considered by the Irish Thoracic Society that the

number of in-patient beds required for the treatment of patients with tuberculosis was very small and that they should be located in an acute general hospital. It was suggested that patients with drug-resistant TB and non-compliant patients may require inpatient care for a longer period and ideally should be located in a small unit with adequate recreation and rehabilitation facilities, preferably on a large acute general hospital campus. It was commented that on average the number of in-patient beds occupied for such purposes was 3 or 4 in Cork and 2 in Galway.

4.1.6 The Report of the Working Party states that most patients become non-infectious within several days to a few weeks after chemotherapy is started[2]. The British Thoracic Society guidelines indicate that most patients become non-infectious within two weeks of treatment, but that different criteria apply in the control of infection in HIV positive patients and those with multidrug resistant TB[3]. As indicated earlier, there were no cases of multi-drug resistant TB in Ireland in 1998[1]. Also, there were two cases where patients had HIV in association with TB.

4.1.7 Where compliance with treatment may be a problem, the use of directly observed therapy (DOT) is recommended[2, 3]. The British Thoracic Society guidelines, quoting an earlier paper[4], stated that "a hospital based DOT clinic, meeting patients' medical and social needs, was superior to a residence based or homeless shelter based programme in a depressed inner city population in New York which included many patients at risk of non-compliance"[3].

4.1.8 Many patients suffering from TB also suffer from other diseases (HIV, immunodeficiency, heart disease, diabetes, etc). Such patients may require on-going treatment for these conditions in addition to the treatment for tuberculosis. A few patients with tuberculosis need ventilation as part of their treatment. It is the considered opinion of the committee that the most appropriate site for the ventilation of such patients is an acute general hospital setting.

4.1.9 All antituberculosis drugs may cause adverse reactions[3]. The British Thoracic Society guidelines recommend the checking of renal and liver functions and the performance of virological tests in certain circumstances. The Report of the Working Group[2] cites toxicity of medication as an indication for admission.

4.1.10 It was explained at the meeting with the Irish Thoracic Society that TB surveillance is conducted by the National Disease Surveillance Centre in conjunction with the regional departments of public health. While surveillance and laboratory testing for TB were to be done at national level, the general view at the meeting was that patient care should be delivered locally.

4.2 Consultant Physician with a special interest in Tuberculosis

4.2.1 There is no post of consultant respiratory physician with a designated special interest in tuberculosis in Ireland approved by Comhairle. Some concerns have

been voiced that such a designation might limit the field of candidates for a post. As the treatment of tuberculosis is part of training programmes in respiratory medicine[5,6,7], it could be argued that such a designation was therefore not necessary.

4.2.2 At the meeting with the Irish Thoracic Society, many of the consultants present felt that it would be beneficial to have a designated special interest in tuberculosis attached to a small number of respiratory physician posts based at major teaching hospitals, e.g. Cork University Hospital, University College Hospital Galway and St. James's Hospital. Such appointees would take a lead role on a regional basis in addition to respiratory physicians dealing locally with TB patients.

4.3 National Centre for the Treatment of Tuberculosis?

4.3.1 While there appears to be consensus that the majority of patients can be treated by the local respiratory physician, including a small number of respiratory physicians with a designated special interest in tuberculosis as indicated above, there is some dispute as to whether there should be a national centre for tuberculosis. The arguments put forward for such a centre include:

- the need for a national resource and centre of excellence
- isolation of patients, particularly non-compliant patients
- facilities for the treatment of TB currently exist in Peamount

4.3.2 In addition to the acute general hospitals throughout Ireland where physicians treat TB patients, there are three units with beds for TB patients located at the following hospitals (i) Peamount (30 beds), (ii) St. Finbarr's Hospital, Cork (7 beds), which is associated with Cork University Hospital, and (iii) Merlin Park Hospital (4 beds) which, along with University College Hospital Galway, constitutes the Galway Regional Hospitals group.

4.3.3 Data supplied by Peamount relating to the four year period up to mid 1998 on the referral patterns to Peamount for TB and non-TB respiratory patients show that no patients were referred from Cork University Hospital, University College Hospital Galway/Merlin Park Hospital or Limerick Regional Hospital. These hospitals serve large catchment populations, both urban and rural. Furthermore, no cases were referred from other hospitals in the Southern, Western[§§] or Mid Western health board areas. Peamount indicated that these referral patterns have been maintained over many years. It is noted from the data provided by Peamount that two thirds of admissions to Peamount came from four hospitals: Naas, St. James's, Mater and Adelaide/Meath hospitals. This corresponds with the general view expressed at the meeting with the Irish Thoracic Society that most health boards treat their own TB patients.

[§§] One case was referred from Portiuncula, a voluntary hospital in Ballinasloe, Co. Galway.

4.3.4 The international trend – supported by the Irish Thoracic Society – is for the treatment of patients with TB in the local acute general hospital, ideally under the direction of a respiratory physician. Most patients can be treated as outpatients[2, 3]. A very small number of beds are required for in-patient admissions for TB. It is considered that such beds should ideally be located on the campus of acute general hospitals. The role of sanatoria-type hospitals for the treatment of TB has diminished. At a meeting with the Irish Thoracic Society in 1984, the Society felt that the era of the sanatorium was over and that remaining sanatoria should be phased out as they are no longer needed.

4.3.5 The minority view at the meeting with the Irish Thoracic Society was that Peamount was an appropriate situation to treat such patients and that it should be developed as the national centre for the treatment of TB. It was also argued that there was a need for a substantial unit with a commitment to TB and that such a unit would treat a large number of TB cases, including those referred from other health board areas, on an outpatient and inpatient basis.

4.3.6 There are four area health boards in Northern Ireland. The practice is that each health board area treats its own TB patients, mainly on an outpatient basis with use of inpatient beds in acute general hospitals as required. In each health board area, one of the consultant respiratory physicians takes a lead role in the treatment of TB patients.

4.3.7 Having reviewed the literature, consulted with the Irish Thoracic Society and visited the hospital, Peamount is not regarded by the committee as an appropriate location for the treatment of TB patients, especially those requiring ventilation and specialised treatment for other symptoms (heart disease, HIV, etc) which may also present in patients with TB.

4.3.8 Given that the current requirements for TB beds in Munster (population 1 million) and Connacht (population 500,000) are 3-4 beds in Cork and 2 beds in Galway respectively, it would seem that approximately 10 TB beds are required for the rest of the country.

4.4 Role of Peamount in Acute Respiratory Medicine

4.4.1 Peamount Chest Hospital was one of many TB sanatoria in existence throughout Ireland in the 1940s and 1950s. With the advent of curative drug therapies, their roles as TB hospitals diminished and were phased out.

4.4.2 None of the reports or plans on hospital policy and development since the 1960s has envisaged a role for Peamount as an acute general hospital. Moreover, the hospital does not have any Comhairle approved consultant post. Until these applications which gave rise to the establishment of this committee, none had been sought.

4.4.3 As indicated in paragraph 3.2.4, the committee was concerned on finding out that Peamount Hospital had a unit catering for acute respiratory patients and that it was receiving referrals from Naas Hospital. The committee sees no role for Peamount in the provision of acute respiratory medicine.

4.5 Role of Peamount vis-à-vis St. James's Hospital / CResT Clinical Directorate

4.5.1 The applications for the two consultant posts indicated that the contract holder for both posts would be St. James's Hospital and that the posts would be assigned to St. James's Hospital under the CResT Clinical Directorate (see above). It was stated in the application and supporting documentation that it was intended that one of the consultant posts would be based primarily at St. James's with a minor commitment to Peamount and the other (with an interest in tuberculosis) based primarily at Peamount with a minor commitment to St. James's. This structure and job description was not consistent with the thrust of the document attached to the applications entitled "Proposed amalgamation of respiratory facilities at St. James's Hospital and Peamount Hospital, May 1999" which outlined a unified service. The document envisaged that the respiratory departments of Peamount and St. James's would operate as a single unit under the direction of the CResT Directorate. There was no mention of the appointee at Peamount participating in the St. James's on-call rota. The need for a consultant based at Peamount was questioned by the committee.

4.6 Future Role of Peamount

4.6.1 The Committee considers that, in future, Peamount Chest Hospital should be used as a step down, sub-acute support facility for the South Western Area Health Board and the acute general hospitals in that health board area, i.e. St. James's, Tallaght and Naas hospitals.

4.7 Role of the Eastern Regional Health Authority

4.7.1 With effect from 1 March 2000, the Eastern Health Board was replaced by the Eastern Regional Health Authority (ERHA), whose functions include the funding, planning, commissioning and co-ordination all of the health and personal social services, both statutory and voluntary, in counties Dublin, Kildare and Wicklow. On 1 March, three new area health boards were created in the eastern region. These health boards will provide the health and personal social services previously provided by the Eastern Health Board in their respective geographical areas. The voluntary agencies and the three area health boards will in future be funded by the Eastern Regional Health Authority rather than directly by the Department of Health and Children.

4.7.2 In this context, it is the responsibility of the ERHA to plan and commission, fund and co-ordinate, monitor and evaluate all services which it funds, both statutory and voluntary. Through these functions, the roles of various hospitals and units may be more clearly defined than at present. The committee recommends that the ERHA formally consider the future role of Peamount. The committee envisages that this report will be a useful input to its deliberations. The role of Peamount in the provision of acute hospital services was discussed briefly at a meeting in April between representatives of Comhairle and the ERHA.

5. Recommendations

In making the recommendations set out below, the committee wishes to emphasise that the interests of patients are of paramount importance and should always come first. The committee's aim is the provision of high quality and safe services at reasonable cost consistent with best practice and available advice.

In that context, the committee recommends that:

1. Treatment of tuberculosis patients should be delivered locally in acute general hospitals by respiratory physicians, mainly on an outpatient basis.

2. There is a need for a small number of inpatient beds attached to the major teaching centres in Dublin (10), Cork (4) and Galway (2) for (i) drug-resistant and (ii) non-compliant patients. Each unit with adequate recreation and rehabilitation facilities would also be available to neighbouring health boards and hospitals. Each of these units should ideally be based on the campus of an acute general teaching hospital with the patients under the clinical care of appropriate consultant respiratory physicians.

3. There should be consultant respiratory physicians with designated special interests in tuberculosis in some of the above hospitals, e.g. St. James's Hospital, Cork University Hospital and University College Hospital/Merlin Park, Galway.

4. Comhairle approve the appointment of two wholetime posts of consultant respiratory physician to St. James's Hospital, one additional and one in replacement of the services of the late Dr. J. Prichard.

5. One of the posts should have a designated special interest in tuberculosis.

6. In addition to the usual qualifications for consultant respiratory physicians, Comhairle should specify at least one years training in the management of tuberculosis patients for consultant respiratory physicians with a special interest in tuberculosis.

7. Patients should not be admitted directly to Peamount Hospital.

8. Acute patients should not be treated in Peamount Hospital.

9. Peamount Hospital should be used as a step-down sub-acute support facility for the South Western Area Health Board and St. James's, Tallaght and Naas hospitals.

10. The proposals in the joint memorandum from St. James's Hospital, Peamount Hospital and the Eastern Health Board of October 1997 to rationalise and relocate laboratory services currently in Peamount Hospital should be pursued.

11. Microbiology services for Peamount patients should be provided in St. James's Hospital by its consultant microbiologists based there.

12. Radiology services for Peamount patients should be provided in St. James's Hospital by its consultant radiologists based there.

13. In the light of this report, the Eastern Regional Health Authority should consider the future role of Peamount Hospital.

References:

[1] National Disease Surveillance Centre "Report on the Epidemiology of Tuberculosis in Ireland 1998", Dublin, April 2000

[2] Department of Health and Children "Report of the Working Group on Tuberculosis", Dublin, September, 1996

[3] Joint Tuberculosis Committee of the British Thoracic Society "Chemotherapy and management of tuberculosis in the United Kingdom: recommendations 1998 " *Thorax*, 1998; 53: 536-548

[4] Schluger N, Ciotoli C, Cohen D, *et al* "Comprehensive tuberculosis control for patients at high risk of non-compliance" *Am J Respir Crit Care Med*, 1995; 151: 1486-1490

[5] Irish Committee on Higher Medical Training "Curriculum for Higher Specialist Training in Respiratory Medicine", Dublin, March 1997

[6] Joint Committee on Higher Medical Training "Training Handbook", July 1996

[7] Residency Review Committee for Internal Medicine, Accreditation Council for Graduate Medical Education "Program Requirements for Residency Education in Pulmonary Medicine", Chicago, June 1998