RENAL REVIEW
SHORT REPORT

Lothian Renal Review Group **August 1999**

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1. INTRODUCTION

1.1 Aim

This "short" report is condensed from the detailed "full" report and it provides the reader with an outline view of the renal service, the key issues identified by the Renal Review Group and the group's recommendations on how to deal with these issues.

The "full" report considers, *in depth*, current and future configuration, activity, delivery and resourcing of services for adult patients with acute and chronic renal failure in Lothian.

The "full" report is freely available on request from Dr Sue Payne, Lothian Health, 148 The Pleasance, Edinburgh, EH8 9RS. Tel. 0131 536 9150.

The impetus for this Renal Services Review stems from perceived service pressures articulated by the Department of Renal Medicine; and a recommendation from the Acute Services Review for Health Boards "to work with providers to plan the development of local services to meet the needs of the local population" (Renal Sub Group 1998). Lothian Health has requested this report with the full co-operation of the Royal Infirmary of Edinburgh. A detailed remit and membership of the Sub Group are shown in Appendix 1.

1.2 Background

Renal Services provide health care to 3 overlapping groups of individuals:

- patients requiring general nephrological services;
- patients requiring treatment for acute renal failure (ARF);
- patients with end stage chronic renal failure (ESRF) requiring renal replacement therapy (RRT).

The latter group of patients is relatively small in number, but the chronic nature of their problems, the projected future increase in numbers, the effectiveness of RRT (i.e. without such treatment patients die within 6 months of presentation) and the high cost of provision make their needs a dominant issue when considering future service development.

Growth in the number of patients requiring RRT is mainly in the elderly population. Unfortunately the majority of these patients are unsuitable for renal transplantation or methods of self-dialysis (see sections 3.1 and 3.2 of the "full" Report). Greater numbers of patient will therefore require hospital haemodialysis.

KEY PRIORITISED ISSUES AND RESPECTIVE RECOMMENDATIONS

2.1 Issue:

The population of patients with End Stage Renal Failure (ESRF) is steadily increasing and the type of patients being referred to the renal service is changing i.e. more older patients with major co-morbidities. Current staffed dialysis facilities are running at full capacity and patients have to receive dialysis inappropriately in the renal high dependancy ward while waiting for a place in one of the recognised out-patient dialysis areas. By the end of 1999/2000 all available facilities will be at full capacity and there will be no space for new patients. The pressure on facilities is clearly evident in lack of physical space and worn out capital equipment.

Recommendation:

Over the next five years expansion of haemodialysis provision should be planned to cope with an extra 20 new patients (net) annually. This amounts to the full staffing of all current dialysis facilities during 1999/2000, plus 4 or 5 new stations each year from April 2000 to the opening of the new RIE in 2003/4 and beyond.

2.2 Issue:

The drug, Erythropoietin (EPO), is a recognised and important treatment for anaemic patients on peritoneal dialysis (PD) and haemodialysis (HD). The evidence for this has been agreed by the Drug Evaluation Panel.

A shared care protocol (SCP) was produced in 1995 to inform hospital doctors and GPs about the agreed process and the shared care responsibilities. This was the first SCP to be produced in Lothian and was agreed by the Area Drug and Therapeutics Committee (ADTC).

Initially, the SCP worked well. However, while the numbers of patients who would benefit from EPO has increased, the funding for EPO in the Acute Trust has remained static at the 1995 level. This has resulted in under provision of EPO for haemodialysis patients to the extent that Lothian consistently fails to conform to the Renal Association Standards and clinical practice elsewhere.

In the Primary Care setting the cost of the increased EPO demand year on year since 1995 has been absorbed into the primary care drugs budget which was not cash-limited. This can no longer continue as all primary care drugs budgets have become cash-limited from April 1999.

Recommendation:

Measures should be taken by the Trusts and the Board to ensure adequate availability of erythropoietin therapy for all of those who could benefit from the drug, along the lines described in the existing shared care protocol and in proposals to expand the agreement to cover pre-dialysis patients.

2.3 Issue:

Dialysis for out-patients with chronic renal failure (CRF) was initiated in RIE Ward 43 (a renal HDU in-patient ward) as a temporary response to a lack of long-term dialysis places in 1992. This temporary arrangement continues today. There are a number of well documented problems with this arrangement, including the spread of MRSA infection from in-patients on the ward to the maintenance haemodialysis patients.

Recommendation:

The highly undesirable practice of dialysing patients with non-acute renal failure on the renal HDU/Ward 43 should cease. The provision of 3 extra stations during 1999/2000 will be needed to cope with the subsequent number of displaced patients.

2.4 Issue:

In planning the future development of haemodialysis facilities there is a need to consider the optimal siting of these facilities in order to best meet the needs of Lothian patients. This planning requires to balance the need to minimise travel for patients and the need to make best use of available nursing expertise by restricting the number of sites to ensure that each has a "critical mass" of renal nursing staff.

Recommendation:

Expansion of dialysis provision should be based on a networked hub and spoke model with a central unit at RIE, an in-town unit at WGH or the Lauriston Building and one or more additional satellite units to provide more local facilities for patients outwith the urban centre. Further work is required to undertake a detailed appraisal of the options for siting proposed satellites.

2.5 Issue:

The Acute Services Review stresses the need to develop nursing and other roles in renal medicine. The continuing growth of the renal patient population coupled with the difficulties around renal nurse recruitment (there is a lack of specialist renal training for nurses in Scotland) means that there is a need to consider the optimal way of staffing dialysis facilities.

Recommendation:

The manpower profile, skill mix and arrangements for managing the service during the next 5-10 years should be closely reviewed. Development of nurse-practitioner and other roles should improve direct patient management, result in increased job satisfaction for nurses and minimise the need for further expansion of medical staff posts. Opportunity for joint consultant appointments with neighbouring Health Boards should be actively pursued. A joint working group should be set up to develop these ideas with the aim of introducing the first changes during 2000.

2.6 Issue:

To help cope with the increased numbers of renal patients, the dialysis equipment is now used 18 hours per day on a three shift system. This has caused a number of problems ranging from equipment maintenance to elderly rural patients being stranded in town late at night. The latter problem is often exacerbated due to inadequate transport provision.

Recommendation:

Expansion should be based on a predominantly two shift/day pattern of haemodialysis provision because of dependence and transport requirements of patients.

2.7 Issue:

Although Renal provision is highly specialised, the overall management of patients, particularly the elderly, works best through well developed partnerships between hospital specialists and patients' general practitioners (Shared Care).

Recommendation:

The Renal Service needs to work more closely in partnership with general practices in caring for patients and in exchanging information (educational as well as related to individual patients) before and after they require dialysis. A range of issues including the need to develop appropriate models for prescribing, to involve GPs to a greater extent should be considered in 1999/2000 by a group from the Trusts in Lothian.

2.8 Issue:

Whilst peritoneal dialysis (PD) is a highly cost effective treatment in the short term (for up to two years), Lothian PD rates have fallen over the last five years from 92 to 58 per million population. The level has stabilised at 30 per million population below the Scottish average *(Scottish Renal Registry).* Should Lothian be increasing the numbers of patients on PD to bring it up to the levels elsewhere?

Recommendation:

The level of PD in Lothian is relatively low, but assessment of outcomes suggests that it is appropriate. The proportion of patients receiving PD in other renal units is reducing. Lothian Renal Services should seek to maintain the current proportion of patients treated by PD over the next five years.

2.9 Issue:

The Lothian Renal Service participates in a Scottish audit organised by the Scottish Renal Registry. However, a number of Recommended Standards set by The British Renal Association* have not been achieved. The principal current deficit is the absence of ongoing mechanisms for robust audit.

**British Renal Association. Standards Subcommittee. Treatment of adult patients with renal failure: recommended standards and audit measures 2nd edn. London: Royal College of Physicians, 1997*

Recommendation:

In view of the clear value of audit activities undertaken for this review, mechanisms by which data can be routinely extracted, analysed and used in service planning should be set in place as part of the clinical governance programme that is currently being formalised.

2.10 Issue:

Based on the principles recommended by the Renal Association (see Appendix 4 of the "full" Renal Report), processes are in place to provide multidisciplinary assessment concerning the appropriateness of dialysis for patients with ESRF. However, written documentation audited on a regular basis does not appear to be performed for patients who are deemed unsuitable for dialysis.

Recommendation:

More explicit and better documented processes are needed by clinicians concerning the decision to accept a patient for maintenance dialysis and where appropriate to withdraw treatment. Such a mechanism will facilitate audit. Additionally, GPs need to be explicitly involved in the decision to commence or withdraw maintenance dialysis treatment.

2.11 Issue:

All patients' views are important. However, the majority of Renal Patients, unlike many other types, will spend a large proportion of the rest of their lives being frequent and regular visitors to hospital for dialysis and they can make many positive contributions to the evolution of the service to best suit their needs.

Recommendation:

A stronger partnership between the Renal Service and the Patient Association should be forged to enable patients to be more involved in all aspects of service delivery.

3 FINANCIAL IMPLICATIONS

3.1 The Current Position

The current actual costs of Nephrology Services at the Royal Infirmary of Edinburgh (RIE) are **£5,277,673** and this also represents the current LUHT revenue assumption for 2003. This funding includes the costs of maintaining 165 patients on unit-based haemodialysis.

LUHT 1998/99 Renal Services Funding (and Projected 2003/04 Revenue Budgets for NRIE)

Service Areas	Service Funding
Haemodialysis Patient Stock	165 patients
Nephrology Clinic NRIE	£878,065
Wards 41/42	£712,799
Renal HDU – RIE	£908,872
CAPD	£237,500
Technical Services	£217,217
Home Dialysis	£564,079
+Haemodialysis Unit	£1,759,051
TOTAL	**£5,277,673**
Less: Internal Recharges:	(£272,908)
Adjusted Total Costs to be funded from Service Agreements Etc	**£5,004,765**

Source: RIE Finance & Performance Review, 22nd June 1999

3.2 The Impact of Implementing the Renal Review Group's Recommendations

Five of the Renal Review Group's key recommendations will have a significant impact on revenue between 1999/2000 and 2003/04. These are:

3.2.1 Annual Growth in Haemodialysis

The Review Group recommends that annual net growth in haemodialysis in Lothian is likely to be in the order of 20 patients per year **from** 1999/2000 **to** 2003/04. This level of annual growth is unlikely to change over the next five to ten years; thereafter it is suggested the numbers receiving dialysis will plateau.

To provide consumable costs and additional nurse staffing to meet annual growth of 20 patients per year some **£203k** will be needed recurrently each year (start 2000/01) with an additional one-off recurrent step cost for 1 F Grade post and 1 A&C post in 2000/01 = **£34k**.

The extent of the projected growth in haemodialysis over the coming years will require further changes in the manpower skillmix within the Directorate. At this stage, until the detailed manpower planning work has been undertaken, it has not been possible to include the revenue implications of the future skillmix issue. When the outcome is achieved further consideration will be given to the impact on costs of haemodialysis.

In addition, it is anticipated 15 patients will be taken on for renal dialysis in 1999/2000. This equates to additional consumable and staffing costs of **£223k** in 1999/2000 which would become a recurrent cost in future years.

3.2.2 Quality Issue – Cessation of chronic dialysis in the HDU (Ward 43)

Of the 165 patients receiving chronic dialysis 12 are currently receiving treatment on the HDU/Ward 43. It is felt this situation is clinically unacceptable and it is recommended these patients are provided with access to maintenance dialysis stations elsewhere.

Consumable costs for these patients are already within the Unit budget. The additional costs associated with transferring these individuals to maintenance dialysis slots in 2000/01 relates to the capital cost of additional stations and nurse staffing costs (2 shifts) for these stations:

Additional 2.64 wte (A/D/E grades) = **£42k** recurrent funding (2000/01 start)

3.2.3 Clinical Issue – Provision of appropriate levels of erythropoietin for patients currently receiving maintenance haemodialysis

To place current patients with significant anaemia on erythropoietin, who clearly fall within the protocols for hospital-based prescribing, requires **£223k** recurrent funding (2000/01 start).

Given the clinical significance of this issue, the Review Group stresses the need to initiate this prescribing as soon as possible, and would wish to see erythropoietin introduced for part of 1999/2000 e.g. the September 1999 – March 2000 EPO requirement would amount to **£130k**.

3.2.4 Clinical Issue – Provision of growth in erythropoietin budget in line with projected growth in patient stock

Given annual projections of an additional 20 patients net per year going onto dialysis it is estimated that some **£56k** will be needed recurrently each year to meet the growth in erythropoietin prescribing (start 2000/01)

Given the clinical significance of this issue, the Review Group stresses the need to initiate this prescribing as soon as possible, and would wish to see erythropoietin for the additional 15 patients likely to commence dialysis in 1999/2000 funded for part of 1999/2000 e.g. September 1999–March 2000 = **£25k** PYE.

3.2.5 Clinical Issue – Prescribing of EPO to Pre-Dialysis Patients

In order to ensure that patients with incipient renal disease and significant anaemia, who are not currently receiving haemodialysis, are adequately treated there is a need to extend the prescription of EPO under the current shared-care protocols with GPs. This will avoid the need for blood transfusions and associated sensitisation which would rule out future transplantation.

The revenue implications at hospital level of this recommendation amount to **£20k** to meet the 12 week hospital prescribing under the shared care protocol. Thereafter, the estimated additional costs for EPO prescribing in Primary Care amount to some **£100k** per annum. These sums will not grow over the years as pre-dialysis patients will become dialysis patients and have their future EPO costs met at 3.2.3.

3.3 Financial Summary

Implementing all of the above recommendations will result in additional revenue requirements of some **£1.62Million** between 1999/2000 and 2003/04.

The costs associated with each of the recommendations outlined above are set out in Table 17 of the "full" Renal Report (and is reproduced on page 11 here).

It should be noted that further work on manpower issues is proposed in the context of the NRIE migration plan. The capital and non-recurrent costs associated with the physical expansion of haemodialysis capacity in Lothian have also not been quantified at this stage. Equipment costs are relatively straightforward; however, refurbishment and relocation of dialysis areas could have several options which need to be addressed through the Business Case processes.

TABLE 17

FINANCIAL IMPLICATIONS OF PROJECTED GROWTH IN HOSPITAL HAEMODIALYSIS AND RESOLVING CLINICAL AND QUALITY ISSUES

				Projected Costs				
		1998/1999	**1999/2000**	**2000/2001**	**2001/2002**	**2002/2003**	**2003/2004**	
Total Number of Patients Treated		**165**	**180**	**200**	**220**	**240**	**260**	
Additional Number of Patients Treated in Year		**0**	**15**	**20**	**20**	**20**	**20**	
Projected Revenue Costs		**£,000s**	**£,000s**	**£,000s**	**£,000s**	**£,000s**	**£,000s**	(v)
Growth Issue								
1 Annual Hospital Haemodialysis Growth	(i) (V)	0	223	237	203	203	203	1069
Clinical Issues								
2.1 Annual EPO Prescribing Growth	(ii)	0	24.5	73.5	56	56	56	266
2.2 EPO Prescribing to Pre Dialysis Patients	(ii),(iii)	0	10	10				20
2.3 Raising Current EPO Prescribing to equity	(ii)	0	130	93				223
Quality Issue								
3 Cessation of Ward 43 dialysis	(iv)			42				42
Total Recurrent Funding in Year		**0**	**387.5**	**455.5**	**259**	**259**	**259**	1620
Cumulative Recurrent Funding		**0**	**387.5**	**843**	**1102**	**1361**	**1620**	
Capital & N/R Costs	(VI)							

Notes

(i) Staffing and Consumables cost including step costs in 99/00 and 00/01
(ii) Part year effect in 99/00 based on a 1st September start
(iii) Based on 12 week hospital prescribing protocol, balance of costs to be met by Primary Care (£100k) are not shown.
(iv) Quality issue. Patients will be treated in dialysis unit requiring additional staff, consumable costs already in base budget.
(v) It is anticipated there will be some further revenue costs associated with medical/practitioner manpower associated with the expansion programme. These costs will be quantified in the course of the work on skillmix/staffing proposed in the review
(vi) Note that the capital costs, both equipment and minor works associated with dialysis expansion have not been fully quantified as yet.

APPENDIX 1

RENAL REVIEW REMIT, OBJECTIVES & MEMBERSHIP

Remit:

To consider current and future configuration, activity, delivery and resourcing of services for adult patients with acute and chronic renal failure in Lothian. To make recommendations as to existing and future service delivery taking into account future need for renal replacement therapy.

Specific Objectives:

Epidemiology

- To describe the size of the problem in terms of incidence and prevalence of chronic and acute renal failure in Lothian and Scotland, broken down by sex, age, primary renal diagnosis and source of referral.
- To reach a view as to the likely need for renal replacement therapy (RRT) taking account of the scientific evidence.
- To use this information to provide a range of demand projections for RRT in Lothian over the next 5 years and to consider options for future configuration of dialysis facilities.

Service Description

- To describe the services that are provided for Lothian patients, as well as considering Fife and Borders residents.
- To review local processes and criteria in place for making decisions as to the appropriateness of patients for RRT and to consider these against guidelines written by the Renal Association and other organisations.
- To review the use of erythropoietin in the management of CRF in Lothian.
- To consider changing roles of medical and nursing staff in the management of ESRF in hospital and community settings.

Audit

- To review current local practice against key standards/outcomes for the delivery of good quality care.
- To compare resources with other units in Scotland.

Consultation

- To obtain the views of users of services (i.e. hospital clinicians, general practitioners and patients) as to operational concerns e.g. the patient transport service; and strategic development issues e.g. the role of primary care in the management of CRF.

Resources

- To outline the financial envelope in which renal services currently operate based on the proposed ME costings template.
- To realistically consider future funding issues.

Purpose of the Work:

To enable a better understanding amongst commissioners, providers and users of the current service and the factors which will impact on future provision in Lothian.

To agree likely projections for future demand for RRT in Lothian and to consider the funding and workload implications which necessary follow.

Accountability Lines:

Detailed report to be submitted to Lothian Health's SMT.

Methodology:

To convene a working group to undertake a needs assessment supported by a secretariat to collate, prepare and present relevant data for consideration by the wider group.

Group Membership:

Mr John Orr (Chairperson)	Royal Hospital for Sick Children
Dr Robin Winney	RIE, Renal Directorate
Dr Liam Plant	RIE, Renal Directorate
Professor Neil Turner	RIE, Renal Directorate
Ms Winnie Miller	RIE, Renal Directorate
Sister Sylvia Green	RIE, Renal Directorate
Dr John Handley	GP, Craigshill Health Centre. (AMC Representative)
Dr Mike Winter	Medical Director, Lothian Primary Care Trust
Mrs Sarah Caldwell	Chairperson, South East Scotland Kidney Patient's Association
Dr Philip Rutledge	Medical Adviser, Primary Care Trust
Dr Sue Payne	Lothian Health
Harry Purser	Lothian Health

Secretariat:

Liam Plant, Sue Payne, Brian Murray (Researcher), Prem Gajree (Administrator)

Projected Timescale:

February-May (4 months)

Sue Payne, Charles Swainson
25th February 1999
(Version 2)