Peer Review Report

Adults Centre

Papworth Hospital

18 January 2013

Cystic Fibrosis why we're here

BIPRS

British Thoracic Society

Contents

1. Executive Summary

1.1 Overview of the service (Maximum 150 words)

The Papworth CF service currently provides care for 276 adults with access to first class inpatient facilities, outpatient services, provision of home IV antibiotics and the support of an experienced multidisciplinary team (MDT). The service offers excellent clinical care despite a lack of resource in some areas. There is a strong and active research programme.

1.2 Good practice examples (Maximum 50 words)

1. A committed, experienced and highly motivated MDT offer excellent clinical care despite limited resources in some areas. A MDT approach to service development and future service planning.
2. A clear infection control policy which is embraced by the whole team and aimed at minimising risk of cross infection amongst patients.
3. A strong research programme.

1.3 Key recommendations (Maximum 200 words)

1. The service is currently unable to meet all areas of the service specification despite a committed and hardworking team, due to significant shortfalls in staffing in key areas, notably physiotherapy and specialist nursing, (see section 4.2 and 4.3). This will need to be addressed urgently, with consideration given to the banding of new posts to ensure adequate leadership and specialist skills in an expanding team, and to support the annual increase in patient numbers.

2. Provision of additional administrative support to the service (see sections 4.2 and 4.3)

3. Expansion of psychology and social work support as patient numbers increase (see sections 2.4, 4.6 and 4.7)

1.4 Areas for further consideration (Maximum 200 words)

1. Projections for the increase in patient numbers (15 new patients/year) appear overly conservative. Further consideration needs to be given to provision for outpatient clinics and inpatient beds, to support the growth in patient numbers and to address the risks of cross infection associated with emerging CF pathogens when the service moves to the Cambridge Biomedical Sciences Campus. The co-location of MDT offices must be taken into consideration to ensure the current service infrastructure, team communication and efficiency of the service are all maintained.

2. Consideration should be given to the development of a home care team to support patients in the community where clinically indicated.

3. The provision of home IV antibiotics via a home care provider should be reviewed, in line with the provision of high cost therapies and new drugs (e.g.TOBI podhaler, Kalydeco).

2. Performance against CF Standards of Care

2.1 Models of care

Summary

All patients are invited for an annual review. Patients are seen by all members of the MDT for a full review and the results and annual review reports are fed back to the patient by the CF consultants. A small minority of patients decline a formal annual review. All data is captured on the CF registry (port CF).

2.2 Multidisciplinary care

Summary

The Papworth Adult CF centre has a committed and experienced MDT with representation from all disciplines. The number of patients who had been seen by a consultant on at least 50% of clinic visits was below the standard. However the appointment of an additional CF consultant in November 2012 is expected to help address this and a business case for a 5th full time NHS consultant is currently under development.

2.3 Principles of care

Summary

Data was unavailable for the number of patients who had received Pseudomonas eradication treatment and the reported score was therefore rated as red. However, there is a clear Pseudomonas eradication policy in place. All sputum results are reviewed by a CF consultant and treatment initiated as per protocol.

The service complies with the standards of care addressed in this section. There is a clear infection control policy. All outpatient clinics are segregated according to sputum microbiology and inpatients are cared for in single ensuite rooms. Patients are offered an appointment for a DEXA scan at least every 3 years dependent on clinical indication.

2.4 Delivery of care

Summary

Whilst compliance with standards is met in many areas addressed in this section there are significant shortfalls in staffing levels, notably within physiotherapy, specialist nursing, psychology and administrative staff, which have hindered the ability of this experienced and committed team to comply with some of the standards set out in the national service specification and CF standards of care (2011) document. Additional resource is required to allow a physiotherapist and specialist nurse to review all patients during outpatient visits in line with national standards. Additional administrative support will improve the percentage of clinic letters sent to GPs within 10 days and release time for clinical nurse specialists (CNS) to focus on clinical roles.

2.5 Commissioning

Summary

The Trust has corporately demonstrated that a process for reporting and investigating incidents has been satisfactorily put in place.

The local commissioner has been working with the service leads to develop plans to meet the CF standards by April 2014. The Trust Management expressed their support of the service and in meeting the standards. The local commissioner is committed to regularly reviewing the plans until the standards are fully met.

3. Registry data

		Male	Female
BMI	Number of patients and % attaining target BMI of 22 for Females and 23 for Males	36 (28%)	57 (48%)
	Number of patients and % with BMI <19 split by sex	21 (17%)	17 (14%)

			Male	Female
FEV_1	Median FEV_1% pred at age 16 years split by sex		N/A	N/A
	Number and median(range) FEV_1 % pred by age range and sex	16-19 years	17 (35.88-120.79) 78.73%	17 (29.59-101.49) 77.62%
		20-23 years	26 (21.38-127.54) 71.53%	31 (18.91-118.32) 65.73%
		24-27 years	23 (22.42-108.4) 56.84%	21 (25.1-122.84) 64.93%
		28-31 years	21 (16.85-108.79) 40.01%	21 (27.62-100.31) 62.21%
		32-35 years	9 (17.76-82.69) 49.46%	5 (63.59-104.46) 71.94%
		36-39 years	11 (16.64-87.17) 50.14%	5 (23.59-86.84) 61.04%
		40-44 years	6 (30.21-135.87) 52.13%	7 (66.35-103.21) 85.1%
		45-49 years	7 (13.44-87.41) 52.17%	3 (58.9-77.3) 73.41%
		50+ years	7 (27.83-197.55) 65.37%	8 (26.18-98.68) 57.94%

Data Input	Number of complete annual data sets taken from verified data set (used for production of National Report)	245/276 patients

Pseudomonas Chronic PA is 3+ isolates between 2 annual data sets	Number and % of patients with chronic PA infection	158 (65%)
	Number and % of patients with chronic PA infection on inhaled antibiotics	138(87%)

Macrolides	Number and % of patients on chronic macrolide with chronic PA infection	102(65%)
	Number and % of patients on chronic macrolide without chronic PA infection	43(80%)

4. Delivery against professional standards/guidelines not already assessed

4.1 Consultants

There are 5 consultants (4 consultants have a 50% commitment to CF and 50% to the bronchiectasis service and 1 academic consultant; 0.1WTE) which equals a total of 2.1 WTE. The CF Trust standards of care 2011 recommendation is 2.5 WTE for 250 patients. Papworth currently cares for 276 adults with on average 15-20 new patients joining the service each year. There is support for the appointment of an additional full time consultant (0.5 WTE for CF) to ensure that the provision of consultant input continues to be adequate, to meet the increase in patient numbers.

The consultant team have considerable CF experience and expertise. All have gained experience in other centres either nationally or in the US. There are 4 consultant ward rounds per week and all 5 consultants contribute to the out of hours on call rota on a 1 week in 5 basis. The consultants are supported by 1 SpR and there is funding for a CF Fellow, although this post is currently unfilled. It is felt that the addition of the most recent consultant appointment will allow the consultant team to ensure that all patients are now reviewed by a consultant on at least 50% of clinic visits. There is a weekly consultant meeting and a monthly team service meeting in addition to the weekly MDT meeting. Offices are currently co-located which aids communication within the team and improves efficiency of the service.

All consultants attend national and international conferences and meetings and actively participate in CPD.

The Papworth CF service supports a home IV antibiotic service however, it does not currently have a home care team. Currently the MDT does not have sufficient resource to support this however, if additional funding were secured for physiotherapy and specialist nursing, the team would wish to review the opportunity for home care support where clinically indicated. They are also exploring innovative ways of delivering out of hospital care such as telemetry, and currently have a research study ongoing to evaluate this.

There is a strong academic focus within the department. Consultants are actively encouraged to be involved in research, education, and service improvement initiatives. The consultant team are keen to support research within the wider MDT, however recognise that currently this can be a challenge for MDT members where there are shortfalls in staffing.

The team are currently planning for the anticipated move to the Cambridge Biomedical Sciences Campus. The provision for inpatient beds has been based on 15 new patients transitioning/moving to the service each year. The current plan includes a 15 bedded CF unit. These figures appear overly conservative given the recent new patient numbers over the past 3 years (14-29) and current patient numbers. Concerns have also been identified regarding emerging CF pathogens. Having identified the potential for cross infection with Mycobacterium abscessus (M. Abscessus), patients are now cared for in negative pressure rooms on another ward. The team have highlighted the need for additional facilities for the management of patients with high risk organisms in the new hospital plans and this will need careful consideration.

4.2 Specialist nursing

The CNS team of three CNS (2.6 WTE) are very committed and work hard to provide a comprehensive service for both patients on the ward and in clinic. Two CNS are relatively new appointments and are still establishing their roles and their knowledge base, which does place more clinical and managerial responsibility on their team leader. The CF Trust Standards of Care (2011) recommend 5.0 WTE CF CNS for 250 patients and the current staffing levels are significantly below this. This is recognised by all members of the MDT who are aware of the pressures on the CNS to meet service demands. All three CNS have a series of responsibilities including transition, specialist clinics (liver, CFRD etc), annual reviews, new patients, outliers (patients on other wards) and dealing with outpatient queries. The nursing team have been unable to provide full support to the outpatient clinic service as they are currently under-resourced. The CNS have limited administrative/secretarial support, yet carry a large administrative burden which takes up a great deal of time. This is particularly pertinent as keeping up with the work load is stressful and the CNS feel that they are working in a reactive manner, rather than being proactive. Currently the team do not provide a home care service. The CNS would like to develop this role - specifically for issues such as end of life care or other clinically relevant support.

The two more recently appointed CNS are not currently members of the national CF nurse specialist association which they will need to join. Two of the CNS are trying to complete degrees, however finding the time to attend the necessary courses is impossible due to clinical commitments. Completion of a degree, particularly for the lead nurse would be an advantage for the service as it would include clinical assessment and non-medical prescribing. All of the CNS are keen to undertake research, audit, service and professional development, however these areas are not currently a priority given the significant constraints on time and the needs of the clinical service.

Recommendations:
Consideration must be given to meeting the staffing levels recommended in the CF Trust Standards of Care (2011). Additional resource will support the development of the CF service and allow the CNS team to comply fully with the national service specification and standards. In addition further resource will allow the opportunity to review home care provision where deemed clinically appropriate.

Additional administrative support should be provided as a priority to support the CF nursing team (this will allow time for research, audit and service development).

The lead CNS should have time allocated in her job plan to allow her to complete her degree. Once this is completed consideration should be given to supporting the others to complete degrees.

4.3 Physiotherapy

There are 3.4 WTE physiotherapists working with the CF team. This is well below recommendations set out in the CF Standards of Care (2011) of 6.0 WTE for 250 patients (Papworth currently cares for 276 adults with a predicted increase in numbers of 15 per year). The lead specialist is band 7 with the remainder band 6 posts. The grading of the lead specialist at band 7 is low considering the predicted expansion of the service and with this the potential to manage a large team. The lack of an additional higher banded post, coupled with the demands of the service, is likely to limit the expertise and leadership required to move the expanding service forward. There is close working with the bronchiectasis physiotherapy team, providing cross cover for staff absence where required. However, staff sickness and 7 day working impacts significantly and puts further strain on the physiotherapy service. The bronchiectasis team currently provide inpatient care for CF patients with M. abscessus who are cared for on a separate ward. The CF team also provide care for non-CF patients on Baron Ward which may be on average 2 times per day, impacting further on staffing for the CF service.

The CF specialist physiotherapist attends the weekly MDT. Ward round attendance is limited due to time constraints, however there is excellent day to day MDT communication. The CF specialist lead is the only member of the ACPCF. The other team members are ACPRC members. The CF specialist is encouraged to attend international/national conferences and a budget is available. However CPD has been difficult to maintain due to staffing. The team have participated in departmental and regional CF meetings however, recent attendance at National and International meetings has been below recommendations. Membership of the ACPCF is mandatory in order to attend the national conference.

Service developments in line with standards of care guidelines include a continence service and in-patient exercise. With current staffing levels the team feel that they are only able to continue to prioritise the quality of service provided for the acute needs of inpatients. There is clear recognition from within the team that despite attempts to provide cover for the non-epidemic Pseudomonas clinic, there is a failure to meet standards of care for outpatient services. They also highlight the need to develop other areas of service provision for inpatient and outpatients in line with the standards of care (posture/musculo-skeletal, exercise, continence). Whilst measures have been taken towards reaching these standards (in particular exercise for inpatients), staffing remains a significant barrier to achieving them. Current staffing limits physiotherapy led research/audit activity.

Areas of good practice
- Experienced lead and committed staff
- Inpatient care with access to twice daily airway clearance and exercise, including out of hours/weekends
- Budget available for wide range of airway clearance equipment, NIV and VMT nebulisers
- Full MDT involvement
- Annual Reviews, new diagnoses and transition patients have appropriate access to specialist physiotherapy input.

Recommendations
- Urgent need to address the shortfall in staffing to reflect CF Standards of Care (2011) recommendations (6.25 WTE). The banding of these posts should also be reviewed to reflect the level of expertise and leadership required within the team.
- Ensure access to specialist physiotherapy services for patients out-lied due to cross infection, outpatients attending clinic and for patients on home IVs
- Continued development of musculoskeletal/continence/sinus management aspect of the service and update of annual review documentation to reflect this
- Active participation in physiotherapy led audit/research activity
- Regular attendance at national/international conferences. All team members working regularly with the CF team should become ACPCF members. Departmental membership would improve access for Band 6 staff members.

4.4 Dietetics

There are 2.0 WTE CF dietitians (two band 7, one band 8a) for 276 patients. The CF Trust Standards of Care (2011) recommend 2 WTE for 250 patients. This is a strong, committed and experienced team and the service has significantly benefited from the CF Trust funding an additional Band 7 for 1 year which is now funded by the Hospital Trust. The team anticipate that the recent appointment of a house keeper (commencing employment February 2013) will further enhance the service. The expectation is that there will be close links with the dietetic assistant to ensure that patients' nutritional requirements are met. There are plans in place to provide education in supporting this role. Cover is appropriately and adequately organised between the CF dietitians, with the support of a dietetic assistant from the medical team.

The CF dietitians are able to review patients at least twice weekly as inpatients, at every outpatient visit and at annual reviews. Following an audit of BMI at transition they have become proactive in targeting patients when they transition to the adult service and providing education to the paediatric centres through network meetings.

There is a choice of ordering from the hospital or CF unit menu or use of a meal ticket option from the hospital canteen, with 24 hour/out of hours access to frozen microwave meals and between meal snacks provided on the CF unit. Ward staff provide this service. Patients on outlier wards have access to the same facilities as on the CF unit. Canteen portion sizes had previously been highlighted as small and this has recently been addressed, following negotiation with the catering department to increase the numbers of meal tickets (now unlimited). In addition snacks and supplements are available 24 hours a day.

Areas of good practice

Attendance at meetings:
- One member of the team attends the weekly ward MDT meeting
- One member of the team has attended all but the last UKCF interest group meeting
- One or two members of the team have attended all European meetings over the past 5 years and one team member has attended 2 American CF meetings

Audit in the past 5 years included:
- Transition from specialist and single care CF centres: 'difference in clinical status of CF patients referred from shared care paediatric centres in comparison with patients referred from main CF centre and its impact on morbidity at 12 months after referral'.
- Oral vitamin regimens in CF: change in fat soluble vitamin concentrations following the introduction of Aquaadek in adults with CF

Research in the past 5 years:
- Implementation of a behavioralnutrition education programme: Eat Well in CF.

Recommendations:
Future staffing needs should be considered as patient numbers increase to ensure that the dietetics team continue to meet the standards set out in the service specification and standards of care guidelines.

4.5 Pharmacy

There is provision for 1.0 WTE CF specialist pharmacist (Band 8a). This position is currently a job share 0.6 and 0.4 WTE. Cover is provided by an 8a pharmacist who has some experience in CF in the absence of the usual CF pharmacists. A very high standard of pharmaceutical care is being provided by the pharmacists who have considerable CF experience.

The pharmacist attends the weekly MDT inpatient ward round and all inpatients are reviewed Monday to Friday. They do not attend outpatient clinics, but are available for referrals and questions. They are involved in annual reviews (medicines reconciliation, helping with adherence and disseminating of information to GP and community pharmacist). There is a Medicines Information service with experience in the problems of CF, an on-call service for the supply of urgent medication, information and advice for inpatient care. In addition they assist in formulary applications and business cases for all new drugs, report on financial activity relating to drugs, liaise and support all members of the MDT with medication related issues, liaise with commissioners/ GP/community pharmacists on CF related medication issues and attend and feed into monthly CF business meetings. There is insufficient time to teach staff and patients, which is an area they would like to develop.

Both pharmacists are active members of the UK CF Pharmacist group. One pharmacist has served a four year term on MAC for the CF Trust and is on the steering committee of the CF pharmacist group. Both attend all national CF Pharmacists meetings and attend the ECFS conference and contribute to the pharmacist meeting.

Home IV antibiotics are currently dispensed by the hospital pharmacy for patients to reconstitute at home. To date the Trust has not used a home care company to provide this service due to cost implications. A pharmacy technician post has been supported to help with the inpatients and the provision of home IVs. New funding arrangements for high cost drugs and new therapies (TOBI podhaler, Kalydeco etc) will further increase the demands on the pharmacists' time.

The pharmacists support other members of the MDT to undertake research/audit, but struggle to undertake any themselves due to time constraints.

Recommendations
• Review the provision of home IV antibiotics via a home care company in the context of new national commissioning arrangements.

4.6 Psychology

The service has a Band 8a clinical psychologist (0.6WTE). This is a shortfall when compared to the Standards of Care 2011 recommendation of 2WTE clinical psychologists for 250 adult patients. The psychologist is employed by the local Mental Health Trust. She is a member of the UKPP-CF and East Anglia CF Club. She attended the European CF Conference in 2011. The service also has the input of a psychiatrist for half a day each week.

The psychologist attends the weekly MDT meeting and all CF business meetings. She is able to see inpatients within one week of referral, runs an outpatient service in parallel with the CF clinic and responds to outpatient referrals within two weeks. She is available to attend annual reviews on request. She endeavours to meet all new patients (transition and late diagnoses). All new patients are provided with a psychology information leaflet. She receives psychology referrals from the CNS, social workers (SW) and other MDT members and has facilitated complex case discussions and undertaken joint working with physiotherapists and dietitians. Some patients are referred on to other mental health services or to the psychiatrist in cases of risk or where medication needs to be reviewed. The clinical psychologist can coordinate rapid access to services where there is an urgent need.

The clinical psychologist was part of the multi-centre Tides Study, which investigated the prevalence of anxiety and depression in the CF population. She has also conducted a service evaluation with her dietitian colleagues. There has been no involvement in audits.

It is probable that psychological need is under-reported as the psychologist is unable to be involved in annual review screening assessments. The psychology service is very well integrated in the MDT and is a valued part of the service. There were no problematic areas of role overlap as the SW do not work therapeutically.

Strengths of the clinical psychology service:
The service is well integrated to the team, who refer willingly to psychology. There is no waiting list and patients who ask to see a psychologist are seen quickly. She makes every effort to introduce herself to all new patients to the unit and provide them with literature. Furthermore, psychological knowledge is disseminated to the team through joint working, supervision and complex case discussions. She has developed links with other CF psychology services in both adult and paediatrics, and also with the Supportive and Palliative Care Team.

Gaps/Difficulties of the clinical psychology service:
Due to insufficient staff, the psychology service is unable to provide direct access to all patients on an annual basis. This may result in some psychological distress not being identified. In addition participation in audit is limited and she does not have the opportunity to deliver formal training to the team. There is no dedicated space for therapy to occur.

Recommendations:
There is currently a shortfall of 1.4 WTE in recommended psychology time. Whilst the service is currently able to support the psychological needs of patients, consideration should be given to additional resource to support the service as patient numbers grow.
Additional resource will allow the team psychologist to be involved routinely in annual reviews, increase access to all patients and to participate in audit.

4.7 Social work

There are 3 members of the SW team working with CF (1WTE). They are all members of UKPP-CF and all attend annual UKPP-CF study days. All have specialist social work training.

The team leader attends the weekly MDT ward meetings unless on leave or dealing with urgent social work issues, such as safeguarding concern. The SW team attend outpatient meetings if necessary (if a patient has a social work need). The team leader has attended ECFC in Prague and Valencia; one attended ECFC in Brest and Frankfurt; the other has been unable to attend a ECFC due to other commitments.

In the last 3 years the SW team has developed a greater presence on the CF ward. SW have input to every patient who is referred by staff, or who requests to see them. They support patients with concerns relating to housing, benefits, employment, and grants/financial support through advocacy and empowering patients and liaising where appropriate. They are involved in safeguarding issues, referring investigations to the appropriate local authority. They signpost/refer to other services/agencies, including social services, where appropriate. They provide emotional support to patients approaching transplantation/end of life, and are involved when patients consider adoption as a means to starting a family. CNS lead on fertility and transition issues; specific social work needs are identified at annual assessment.

Good Practice:
Extensive knowledge/interest in social work issues including safeguarding, counselling and social care services; availability for patients; broad spectrum of social work input.

Recommendations:
The CF standards of care guidelines recommend 2 WTE SW for 250 patients. Consideration should be given to increasing social work resource as patient numbers increase. This will also allow involvement in research/service development which is currently limited due to capacity.

5. User feedback

	Completed surveys (by age range)						
	16-18	19-20	21-30	31-40	41-50	51-60	61+
Male	3	6	11	11	11	1	2
Female	7	6	23	11	6	4	1

	Overall care			
	Excellent	Good	Fair	Poor
From your CF team	83	19	2	1
From the ward staff	65	24	2	0
From the hospital	67	32	1	1

Areas of excellence

1. CF Unit /Patient care
2. Communication
3. Clean hospital

Areas for improvement

1. Waiting times to be admitted
2. To have all MDT present at clinics
3. Cross infection - policy good, further education of some patients is still required

6. Appendices

Appendix 1

Performance against standards of care

Reported and Actual compliance below follows a Red Amber Green rating defined as the following

Green = Meeting all Standards of care (2011)
Amber = Failing to meet all Standards of care (2011) with improvements required
Red = Failing to meet Standards of care (2011) with urgent action required

1 Models of care

Standard	Audit question	Expected compliance	Reported compliance	Actual compliance	Panel comments
1.1 Models of care	% patients seen at least once a year by the specialist centre for an annual review.	90%	**Green**	**Green**	
1.2 Specialist centre care	% of patients with completed data on the registry.	90%	**Green**	**Green**	
1.3 Network clinics	% of patients who have had a discussion with the consultant and an action plan following annual review.	90%	**N/A**	**N/A**	

2 Multi-disciplinary care

Standard	Audit question	Expected compliance	Reported compliance	Actual compliance	Panel comments
2.1 Multi-disciplinary care	% patients seen at least twice a year by the full specialist centre MDT. (One consultation may include AR). Do staffing levels allow for safe and effective delivery of service?	95%	**Green** **Y**	**Green** **Y**	
	% of MDT who receive an annual appraisal.	100%	**Green**	**Green**	
	% of MDT who achieved their PDP (Professional Development Profile) in the previous 12 months.	100%	**Green**	**Green**	
	% of MDT who achieved their PDP (Professional Development Profile) in the previous 12 months.	100%	**Green**	**Green**	
	% of MDT who have attended a CF educational meeting in the previous 12 months (local meeting, conference, specialist interest group).	100%	**Green**	**Green**	
	Does the specialist centre have documented pathways for referrals to other specialist medical/surgical or other disciplines?	100%	**Green**	**Green**	Clear pathways in place for referral to other specialists where indicated
	Are there local operational guidelines/ policies for CF care?	100%	**Green**	**Green**	
	Respiratory samples analysed by a microbiology laboratory fulfilling the CF Trust standards.	100%	**Green**	**Green**	All results reviewed by a CF consultant
	% of patients reviewed on 50% of clinic visits by a CF medical consultant.	95%	**Amber**	**Amber**	The appointment of a new consultant in November 2012 will help to improve the number of patients seen by a consultant. This should be reaudited.
	% patients with CFRD reviewed at a joint CF / Diabetes clinic.	100%	**Amber**	**Amber**	Patients are offered review in the joint diabetes clinic, however some choose to have their diabetes review with their GP

3 Principles of care

Standard	Audit question	Expected compliance	Reported compliance	Actual compliance	Panel comments
3.1 Infection control	% of patients cared for in single en-suite rooms during hospital admission.	100%	**Green**	**Green**	
	% of patients cohorted to outpatient clinics according to microbiological status.	100%	**Green**	**Green**	
3.2 Monitoring of disease	% attempted eradication of 1st isolates Pseudomonas Aeruginosa in the previous 12 months.	100%	**Red**	**Green**	Data was not available. However all microbiology results are reviewed by a CF consultant and a clear protocol for Pseudomonas eradication is in place. All new isolates are given Pseudomonas eradication therapy.
	% patients admitted within 7 days of the decision to admit and treat.	100%	**Green**	**Green**	
3.3 Complica-tions	% aminoglycoside levels available within 24 hours.	60%	**Green**	**Green**	
3.4 CFRD	% patients > 12 years of age screened annually for CFRD.	100%	**Green**	**Green**	
3.5 Liver disease	% patients > 5 years of age with a recorded abdominal ultrasound in the last 3 years.	100%	**Green**	**Green**	
3.6 Male infertility	% male patients with a recorded discussion regarding fertility by transfer to adult services.	100%	**N/A**	**N/A**	Fertility is discussed at each annual review by the specialist nurse team
3.7 Reduced BMD	% patients >10years of age with a recorded DxA scan in the last 3 years.	100%	**Amber**	**Amber**	All patients are offered an annual review and a DEXA scan every 1-3 years, dependent on clinical need. Some patients chose not to attend.

4 Delivery of care

Standard	Audit question	Expected compliance	Reported compliance	Actual compliance	Panel comments
4.1 Consulta-tions	% patients seen by a CF consultant a minimum of twice a week whilst inpatient.	100%	**Green**	**Green**	Consultant ward rounds take place 4 times per week
4.2 Inpatients/ outpatients	% clinic letters completed and sent to GP / shared care consultant / patient or carer, within 10 days of consultation.	100%	**Red**	**Red**	Despite an increase in patient numbers and new consultant appointments, there has been no additional secretarial/administrative support provided . Letters are dictated by consultants at each clinic to minimise delay, however, additional administrative support is required.
	% dictated discharge summaries completed within 10 days of discharge.	100%	**Green**	**Green**	

	% patients reviewed by a CF CNS at each clinic visit.	100%	Amber	Amber	There is currently a significant shortfall in WTE CF CNS support and the team are currently unable to be present at every clinic.
	% patients with access to a CF CNS during admission (excluding weekends).	100%	Green	Green	
	% patients reviewed by a CF specialist physiotherapist at each clinic visit.	100%	Red	Red	There is currently a significant shortfall in WTE CF physiotherapists who are currently unable to provide support to all clinics
	% patients reviewed by a physiotherapist twice daily, including weekends.	100%	Green	Green	
	% availability of a CF specialist dietitian at clinic.	100%	Green	Green	
	% patients reviewed by a CF specialist dietitian a minimum of twice per-week during an inpatient stay?	60%	Green	Green	
	% availability of clinical psychology for inpatients and at clinic.	100%	Green	Green	
	% availability of social worker for inpatients and at clinic.	100%	Green	Green	
	% availability of pharmacist for inpatients and at clinic.	100%	Green	Green	
4.3 Home care	% of patients administering home IV antibiotics who have undergone competency assessment.	100%	Green	Green	
4.4 End of life care	% of patients receiving advice from the palliative care team at end of life.	75%	Red	Green	The MDT manages many of the patients' end of life care needs. However, all patients will be discussed and referred to the palliative care team if they wish and where clinically indicated

5 Commissioning

Standard	Audit question	Expected compliance	Reported compliance	Actual compliance	Panel comments
5.1	Number of formal written complaints received in the past 12 months.	<1%	Green	Green	
5.2	Number of clinical incidents reported within the past 12 months.	<1%	Green	Green	Clinical incident reporting is appropriate and in line with other trusts
5.3	User survey undertaken a minimum of every 3 years.	100%	Green	Green	

Appendix 2
Staffing levels

	75 Patients	150 Patients	250 Patients	Papworth Hospital 276
Consultant 1			2.5	2.1
Consultant 2				
Consultant 3				
Staff grade / fellow			1.0	0.75 (post currently unfilled)
SpR			1.0	1.0
Specialist nurse			5.0	2.6
Physiotherapist			6.0	3.4
Physiotherapy assistant				0.5
Dietitian			2.0	2.0
Clinical psychologist			2.0	0.7
Social worker			2.0	1.0
Pharmacist			1.0	1.0
Clinicians assistant				
Secretary			2.0	1.5
Admin assistant				0
Database coordinator			1.0	1.0
CF unit manager				

Appendix 3
Registry data

CF Registry data	
Demographics of centre	
Number of active patients (active being patients with data within the last 2 years) registered	276
Number of complete annual data sets taken from verified data set (used for production of National Report)	245
Median age in years of active patients	27
Number of deaths in reporting year	4
Median age at death in reporting year	27.5

Age distribution *(Ref: 1.6 National report)*		
Number in age categories	16-19 years	34
	20-23 years	57
	24-27 years	44
	28-31 years	42
	32-35 years	14
	36-39 years	16
	40-44 years	13
	45-49 years	10
	50+ years	15

Genetics	
Number of patients and % of unknown genetics	17 (on 1 allele)

BMI *(Ref: 1.13 National report)*		
	Male	Female
Number of patients and % attaining target BMI of 22 for females and 23 for males	36 (28%)	57 (48%)
Number of patients and % with BMI <19 split by sex	21 (17%)	17 (14%)

FEV_1 *(Ref: Figure 1.14 National report)*		
	Male	Female
Median FEV_1% pred at age 16 years split by sex	N/A	N/A
Number and median (range) FEV_1 % pred by age range and sex		
16-19 years	17 (35.88-120.79) 78.73%	17 (29.59-101.49) 77.62%
20-23 years	26 (21.38-127.54) 71.53%	31 (18.91-118.32) 65.73%
24-27 years	23 (22.42-108.4) 56.84%	21 (25.1-122.84) 64.93%
28-31 years	21 (16.85-108.79) 40.01%	21 (27.62-100.31) 62.21%
32-35 years	9 (17.76-82.69) 49.46%	5 (63.59-104.46) 71.94%
36-39 years	11 (16.64-87.17) 50.14%	5 (23.59-86.84) 61.04%
40-44 years	6 (30.21-135.87) 52.13%	7 (66.35-103.21) 85.1%
45-49 years	7 (13.44-87.41) 52.17%	3 (58.9-77.3) 73.41%
50+ years	7 (27.83-197.55) 65.37%	8 (26.18-98.68) 57.94%

Lung infections *(Ref: 1.15 National report)*		
Chronic Pseudomonas Aeruginosa (PA)		
Number of patients in each age band	16-19 years	34
	20-23 years	57
	24-27 years	44
	28-31 years	42
	32-35 years	14
	36-39 years	16
	40-44 years	13
	45-49 years	10
	50+ years	15
Number of patients with chronic PA by age band	16-19 years	22
	20-23 years	37
	24-27 years	26
	28-31 years	28
	32-35 years	13
	36-39 years	13
	40-44 years	9
	45-49 years	6
	50+ years	4
Burkholderia Cepacia(BC)		
Number and % of total cohort with chronic infection with BC complex	6(2.5%)	
Number and % of cenocepacia	1(0.41%)	
MRSA		
Number and % of total cohort with chronic infection with MRSA	13(5.3%)	
Non-Tuberculosis Mycobacterium (NTM)		
Number and % of total cohort with chronic infection with NTM	12(5%)	

Complications *(Ref:1.16 National report)*	
ABPA	
Number and % of total cohort identified in reporting year with ABPA	56(23%)
CFRD	
Number and % of total cohort requiring chronic insulin therapy	87(36%)
Osteoporosis	
Number and % of total cohort identified with osteoporosis	50(21%)
CF Liver Disease	
Number and % of total cohort identified with Cirrhosis with portal hypertension & Cirrhosis with no Portal Hypertension	12(5%) with PH; 9(4%) without PH

Transplantation *(Ref:1.18 National report)*	
Number of patients referred for transplant assessment in reporting year	15
Number of patients referred for transplant assessment in previous 3 years	21
Number of patients receiving lung, liver, kidney transplants in last 3 years	16

IV therapy *(Ref:1.21 National report)*		
Number of days of hospital IV therapy in reporting year split by age groups	16-19 years	469
	20-23 years	1300
	24-27 years	605
	28-31 years	425
	32-35 years	155
	36-39 years	132
	40-44 years	70
	45-49 years	59
	50+ years	100
Number of days of home IV therapy in reporting year split by age groups	16-19 years	315
	20-23 years	923
	24-27 years	564
	28-31 years	522
	32-35 years	263
	36-39 years	200
	40-44 years	99
	45-49 years	25
	50+ years	191
Total number of IV days split by age groups	16-19 years	784
	20-23 years	2223
	24-27 years	1169
	28-31 years	947
	32-35 years	418
	36-39 years	332
	40-44 years	169
	45-49 years	84
	50+ years	291

Chronic DNase therapy *(Ref: 1.22 National report)*	
Dnase (Pulmozyme)	
% of patients aged >16 years with FEV_1 % pred <85% (ie: below normal) on Dnase	78(43%) (n=181 below 85%)
If not on Dnase % on hypertonic saline	44(24%)

Chronic antibiotic therapy *(Ref: 1.22 National report)*	
Number and % of patients with chronic PA infection	158(65%)
Number and % of patients in that cohort on anti-pseudomonal antibiotics; Tobramycin solution, Colistin	138(87%)
Number and % of patients on chronic macrolide with chronic PA infection and without chronic PA infection	102(65%) with Chronic PA; 43(80%) without Chronic PA

Appendix 4 – User survey results

Other hospitals attended

	Completed surveys (by age range)						
	16-18	19-20	21-30	31-40	41-50	51-60	61+
Male	3	6	11	11	11	1	2
Female	7	6	23	11	6	4	1

How would you rate your CF team

	Excellent	Good	Fair	Poor	N/A
Accessibility (appointments/advice)	75	26	1	1	0
Communication (verbal/written)	68	29	5	1	0
Out of hours access (via phone or ward)	46	30	6	1	20
Home care/community support (appointments/advice)	19	11	4	1	68

How would you rate your outpatient experience

	Excellent	Good	Fair	Poor	N/A
Availability of team members (who you need/want to see)	56	39	6	1	1
Waiting times	23	41	25	12	1
Cross infection/segregation	57	36	9	1	0
Cleanliness (room)	69	32	2	0	1
Annual review process	49	36	13	0	5
Transition (paediatric to adult)	32	15	2	0	55

How would you rate your inpatient care (ward)

	Excellent	Good	Fair	Poor	N/A
Admission waiting times	33	35	7	2	26
Cleanliness (cubicle/bathroom)	52	22	2	1	26
Cross infection segregation	52	19	5	0	26
Food (quality/quantity)	21	25	22	9	26
Exercise (gym equipment/facilities)	15	19	19	5	42

How would you rate:

	Excellent	Good	Fair	Poor	N/A
Home intravenous antibiotic (IVs) service	43	26	3	0	31
Availability of equipment (physiotherapy aids/nebuliser parts)	52	27	3	2	17
Car parking (availability/ease of reach)	27	33	31	4	7

How would you rate the overall care?

	Excellent	Good	Fair	Poor	N/A
Of your CF team	83	19	0	1	1
Of the ward staff	65	24	2	0	12
Of the hospital	67	32	1	1	2

Comments about CF team/hospital

Thoracic outpatient waiting times can be appalling at times and it seems to be getting worse. I often have to wait 1hr 30mins to 2hrs after appointment time to see the doctor.

As a transplant patient I have very little to do with the CF side, I find this very unhelpful. Access is limited to once a year (Annual Review) and any appointments that have to be made in addition to AR are difficult to make because of the lack of communication between the transplant team and CF team. I am still a CF patient but get no CF care anymore. (aside from once a year.)

I have been looked after for many years at my local hospital but following my consultants retirement moved to Papworth this year. I was very apprehensive about making the move, but was very grateful for the reassurance and support from the helpful, sensitive and considerate multidisciplinary team. I have met many multidisciplinary teams in a professional capacity and can say that the Papworth CF team are certainly one of the best that I have encountered.

Excellent standard of care. Friendly and approachable team.

I moved from Wythenshawe in summer 2011 and have been made very welcome by all the staff. They have really looked after my health and seem interested every visit - at Wythenshawe Adult clinic I often felt I was just a number not a person.

I have no complaints with this hospital can't fault at all.

I'm so happy I changed my care to Papworth, they listen to me and make me feel involved in decisions. I have confidence in them.

I think there should be either a high fat option or bigger portion sizes for CF inpatients. Also there shouldn't be a limit on number of items for breakfast in the canteen.

As the wife of a CF patient I would like to say how caring and professional the CF team have been to us both. I have had questions of my own which have always been answered quickly and helpfully. I am very happy that my husbands care is in their hands.

I always get excellent care from the CF team and the CF ward. Only if on another ward sometimes not good.

Waiting areas and times doesn't work with the idea of segregation.

Although the car park at Papworth hospital is in close reach of the CF outpatient clinic being a blue badge holder it would be good if the hospital could provided more of these spaces as they are often full when I attend my appointments.

Overall very happy.

Cross infection - others constantly wander about. Exercise - never seen or used the gym.

Excellent.

The CF team is a massive asset to Papworth hospital; they have developed a fantastic team and are always available if needed.

The outpatient CF team are fantastic. Admittedly the waiting times to see consultant could be better but the nurses especially are brilliant friendly helpful and they go out of their way to make things easier for me. Cambridge is further than some CF clinics from where I live but the standard of the staff make the long journey worth it.

Since a successful heart/lung transplant I have not been an inpatient at the CF unit. My knowledge is therefore based on the care I received many years ago.

Very good and clear to understand.

Quite new to the service, but everything has been very good.

Dr Howarth, Barker and Thirza Pieters excellent.

Car parking why we should have to pay and sometimes there are no spaces.

Usually see the team 1 hr after appointment time. Cross infection - Rooms not always available so have to wait with others. A/R can be disorganized at times. I think it's a very good hospital where staff put your health first.

All members of the CF team are always very helpful, polite and understanding.

Been very helpful since my transition. Everyone is very welcoming and friendly, make you very comfortable when there.

Excellent treatment all round.

Very friendly and caring.

I have a blue badge as regards parking. They're amazing!!

Very good, well pleased.

Comments about CF team/hospital (continued)

They know what they are doing and get it done as quickly and easily as possible.

The food choice is terrible. The CF team are helpful and overall the quality of care is good. However some team members can be negative when I may need a bed.

We don't have home care/community care. The food in the freezer is good but no the hospital menu. The quality of care on the ward has really improved in the last 2 yrs. I used to hate staying in and now I'm a permanent fixture! The only issue I have is sometimes there communication can be poor. The Dr says one thing next day another Dr says something else! So you're not always sure where you stand. Normally excellent service, but occasionally waiting times for doctor are long on a Friday afternoon.

Having just transitioned from Ipswich I was made to feel very welcome.

Waiting time in CF outpatient is a fairly long wait most of the time to get seen to.

Parking can sometimes be a problem.

Keep up the excellent work you are already doing. Car parking a bit expensive.

The waiting list for a bed can cause anxiety.

I think the CF team does an excellent job. They do as much as they can for everyone in all situations.

Very caring and understanding. Excellent support and trustworthy.

More Parking - even off site as there used to be! and cheaper! Nursing staff whose second language is English should still be able to speak it clearly.

The biggest improvement that I could suggest would be the waiting arrangements for pharmacy services. So much is done to prevent cross infection and then you're guaranteed to see someone else from the CF clinic in the waiting room of pharmacy.

Everyone is fantastic and always friendly, helpful and considerate even when under pressure. Food in CF unit good generally the meals are small.

Lack of available rooms on CF unit can make being unwell quite stressful.

They give an outstanding service.

Waiting times are very variable, but almost always over an hour then another wait if you need Iv access. Waiting time is main issue.

Processes and procedures in the hospital are brilliant. The encouragement of active engagement on health care for patients is outstanding!

Papworth is a great hospital everyone is treated as you are the only patient. 100/100

Great team, friendly and helpful.

With out the CF team I don't think I would still be here...keep the team going.

Could not find a better one anywhere, its very good. Please do not move although for me I would be nearer but at the price of the atmosphere we have now it's worth the extra travel. Out of every member of staff I find only 2 people that don't fit in.

As a CF patient I have no complaints and have no faults with the way I have been treated. I have been totally happy with the staff and the whole hospital. Thank you.

They do a fantastic job.

I'd like to be able to test blood at home for tobramycin levels - I know this is available in other centers and it would save a 2hr trip and taking up a Sunday morning.

I haven't been an inpatient but would give the CF team 100% for all they do. The treatment I receive is excellent and the thoracic day ward is also pleasant and very thorough.

A fantastic team who I've got to know very well over the last 20yrs. Now mainly seen by the transplant team who are also very good (but not quite as good...!)

Appendix 5

Patient/parent interviews

Patient 1

Home IVs make them up not ideal. Collect from pharmacy. Long line inserted no problems with this checked after 7 days treatment by nurses.

If not well, phone, leave message contacted back same day, same week if not urgent.

Keeps stock of oral tablets to self medicate if unwell.

CF unit – refurb everything you could want bathroom shower/en-suite. Entertainment. CF physio twice a day, gym on ward. Kitchen share with other patients to obtain food when wanted.

Improvement needed on menu, no high fat option and given same menu as all other patients. Menu ticket is provided but restrictions apply and so not really that much of a good thing. No fizzy drinks allowed.

Patient 2

Happy with care from team. E-mail queries through and reply same day.

Patient care -Communication –Clean all excellent.
Nothing to improve on with the facilities. Pharmacy not too bad waiting times.

Live a distance away so access not good.

Happy to know that a pre advance ticket for visitors can be bought (not all patients/families know about this and so would be good for CF team to tell others)

Patient 3

Happy with team constantly informing the patient. If worries phone CF unit always has a list of contacts just in case.

IVs at home if anything missing instead of travelling back to hospital team fax GP to get missing items.

IP – visiting is any time. However younger ones stay up late and so no one else gets sleep and then they lay in until noon. Don't know when cleaners would get in let alone when they have physio. Observation that they all hang out at each others doors to communicate with each other and hang out in the corridors. Also can meet in kitchen when getting food.

Fantastic service would not change anything.

Patient 4

Nurses do ports and are trained when you come in for IVs so takes away any worries.

Waiting list to get admission is horrendous. From a few days to a few weeks.

On non CF ward so things are not easy. No meal vouchers given no supply on the ward. Frozen meals on CF ward but not on the non CF ward can't get hold of. 2 en-suite rooms have tried to be the same standard as the CF ward but the other 2 are horrible and only those with big gobs gets to go on the nice ones and all the rest have to go on to the others. Staff have no understanding on these wards IVs 2hrs late. Food not on time. Care no where near the standard of the CF ward. Needs improvement all round.

Cross infection not great, policies fine but practice not good on CF ward and non CF wards. Deep clean doesn't exist. Food awful tiny portions, extra veg not given. Visiting times on non CF ward can be difficult depends on staff on duty. Snack packs never come and by the time you highlight to dietician it's all too late as have had several days of no extra food.

Patient 5

Seen every 2-3 mths last outpatient noticed no CF nurse was seen. Treat you as and individual on a 1-1 basis. Before being put into own room have to wait in communal waiting room with other CF patients always conscious of this and want 1st appointment to avoid cross infection, not an ideal situation. See registrar rather than consultant but this is because quite well and if I need to see consultant then only need to request.

Communication, 1-1 care and observation all excellent.

Thoracic day staff who do lung function are all excellent however they do not prompt you to wash hands before or after using machine and often ask them to clean down machine in front of me for reassurance. They are always happy to do this.

IVs at home always really good if problems just ring through to CF ward, night staff excellent.

A/R all done on same day and can be very long. Met physio who was young and new to the job she was very rude brash and dismissive of my treatments and rude to the person with me also.

Improvements on waiting times can be over 2hrs before seen by consultant. Would be useful if they gave updates and just popped head around door to inform of what is going on, otherwise you feel like you have been forgotten.

Appendix 6

Environmental walkthrough – outpatients department

Outpatients/CF clinic

	Yes/no/ number/ n/a	Notes/comments
Is there sufficient space in the clinic area to ensure optimal cross infection control? *(reception, waiting room etc)*	Yes	
Do patients spend any time in waiting room?	No	Except when clinic rooms full
Is there easy access to toilets?	Yes	Clean
Where does height and weight measurements take place? Is this appropriate?		2 designated areas, all cleaned appropriately between patients
Where are lung function tests done for each visit?		Individual clinic rooms
Are clinic rooms appropriately sized?	Yes	
For annual review patients, are any distractions provided?	Yes	Wifi and patients may bring own laptops
If diabetics are seen outside of CF clinic, is area and facilities appropriate for CF care?	Yes	Staff can book annual review room
Transition patients – can they get tour of outpatient facilities?	Yes	
Transition/new patients – do they get information pack?	No	Pack currently being worked on

Additional comments

Good outpatient facilities with good and appropriate awareness of cross infection and emerging pathogens. New M. Abscessus facilities currently being planned.

Environmental walkthrough – ward

Ward name Baron, Princess wards and CF Centre

Microbiology status Baron ward B.Cepacia, Princess ward M.Abcessuss, CF Centre, All other microbiology

		Yes/no/ number/ n/a	Notes/comments
Is ward a dedicated CF ward or ward suitable for CF care? *(underline which one)*		Yes	Both
Are there side rooms available for CF care? *(if overflow facilities are required)*		Yes	2 on Baron Ward for B. Cepacia and and 2 negative pressure on Princess wards for M. Abscessus
Number of side rooms?		10	plus 2 on Baron and 2 on Princess wards
Do the en-suites have:	Toilets?	Yes	Good clean facilities
	Wash basins?	Yes	Ample
	Bath or shower?	Yes	Good showers
Do CF patients have to share any bathroom facilities?		No	
Is there a secure place to store medications by the bedside for adults? *(Include in notes policy of ward)*		Yes	All have secure lockers
Can you use mobiles?		Yes	
If there is a television, is the service free?		Yes	Large screen, DVD, Wifi, use of laptops, Wii fit, PSP
If no, are there any concessions for CF patients?			
Are there facilities to allow parents / carers / partners to stay overnight?		Yes	However, one put up bed on CF unit does not appear adequate
Visiting hours – are there allowances for CF patients/families out of normal hours?		Yes	No restrictions within reason
Is there access to fridge/microwave either in the side rooms or in a patient kitchen?		Yes	All rooms have fridges and microwave available in the kitchen
What facilities are provided for teenagers?			TV's DVD's, Wi, Wifi
Is there access to a gym or exercise equipment in the rooms?		Yes	1 Person gym, treadmill, bike & weights. Treadmills in some rooms or bikes/weights available

What facilities are there to help with school and further studies?	N/A	
Is there a relative's room?	No	
What internet access is there?	Yes	Wifi
What facilities are there to enable students to continue work and study?	Students study in own rooms with access to laptops and Wifi	
Are there facilities to allow patients to clean and sterilise nebuliser parts?		Nurses arrange for this at CSSD
What facilities are provided for those with MRSA?	Yes	Segregated in own single rooms with good facilities and clinics, rooms cleaned and ventilated between patients
What facilities are provided for those with B.Cepacia?	Yes	2 rooms next to CF unit on Baron ward with all top class facilities
What facilities are provided for those with other complex microbiology?	Yes	2 negative pressure single rooms for M. Abscessus with basic yet adequate facilities on Princess ward. Soon to be renovated to higher standard. Rooms and clinics cleaned with chloride wipes and ventilated, masks worn by staff.
Are patient information leaflets readily available on ward?	Yes	
Transition patients - can they get tour of ward facilities?	Yes	

Additional comments

Excellent inpatient facilities on CF Unit for the majority and Baron ward for B. Cepacia patients. Princess ward negative pressure side rooms for M. Abscessus patients are more than adequate however, they are due to be upgraded shortly to bring the facilities for all inpatients up to the high standards provided by the Papworth CF Unit.

Environmental walkthrough – other

	Yes/no/ number/ n/a	Notes/comments
Car parking		
Any concessions for patients and families?	Yes	Concessions of £10 a week, £20 a month available Those on benefits can claim parking charges back
Other hospital areas		
Clear signage to CF unit and/or ward.		Not clear from main entrance however once through reception good
Is there sufficient space in other areas of the hospital where patients need to wait to ensure optimal cross infection control e.g. radiology, pharmacy, DEXA scan?	Yes/No	Radiology – Yes, patients called when available – one by one. Pharmacy – No, inappropriately small (8-9 seats in small room)
Do patients have to wait at pharmacy for prescriptions?	Yes	Depends on clinics however, some waits are long
Patient information		
Is PALS well advertised – leaflets, posters?	Yes	Leaflets on counter at main reception and CF unit
Are there patient commentv / feedback boxes?	Yes	Patient satisfaction questionnaire after inpatient stays on CF unit

Additional comments

Beautifully tended picturesque grounds for fresh air, walking, exercising and relaxing. This should not be underestimated. The setting is an asset.

Appendix 7

Panel members*

Caroline Elston *	Consultant and Clinical Lead for Papworth Peer Review
Nicola Shaw	Pharmacist
Anna Regan	CF Specialist Psychologist
Sue Madge*	CF Consultant Nurse Specialist
Ruth Chinuk	CF Specialist Dietitian
Sophie Lewis	Clinical Care Patient Adviser
Alison Gates*	CF Specialist Physiotherapist
Rebecca Fallon	Social Worker
Sandra Tribe*	Commissioning
Lynne O'Grady*	Peer Review Project Lead for CF Trust

* Peer Review Core Panel members attended Papworth Hospital on Peer Review day

*Core panel members

Appendix 8

Other information