Association of Clinical Scientists

hcpc health & care professions council

CPD profile

1.1 Full name: **Clinical Biochemist**

1.2 Profession: **Clinical scientist**

1.3 Registration number: **CSXXXX**

2. Summary of recent work/practice

The Trust I work at consists of two hospitals. As a clinical scientist, I am responsible for providing a scientific and clinical advisory service on both sites as part of a rota. This involves liaison with service users (GPs, clinicians, nurses, patients) to ensure the most appropriate investigations are carried out and correct interpretative advice given. I also play a part in the out of hours clinical advisory service and supervise/train junior members of staff on the rota.

As scientific lead for the Endocrinology Service, I am responsible for service developments, quality and clinical documentation. This has involved working closely with the BMS 2 in the section and extensive liaison with endocrinology, gynaecology and surgery. Within this role, I have been involved in setting up an across-site strategy for thyroid function testing, the introduction of a new method for measuring oestradiol, a new sample type for PTH and an intra-operative PTH service.

I act as deputy to the Head of the Specialist Protein Service and clinically authorise protein results on a one in four basis. This involves liaison with haematology colleagues, GPs and clinicians to ensure appropriate referrals are made. I have been involved in setting up the calprotectin assay in the department and hope to introduce elastase in the near future.

I am involved in a number of research projects including setting up an automated enzyme-based method to measure caeruloplasmin, a study to assess the suitability of free light chains to replace urines as part of the myeloma screen and a number of studies looking at the role of lactoferrin and calprotectin in diagnosis of inflammatory bowel disease.

I participate in the medical school teaching programme and the department seminar series. I have also given presentations at the Grand Round and local meetings and presented a number of posters at national meetings.

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(Maximum 500 words)

3. Personal statement

Standard 1: a registrant must maintain a continuous, up-to-date and accurate record of their CPD activities

Regular monthly update of CPD activities in the form of a portfolio (See evidence 1).

Standard 2: a registrant must demonstrate that their CPD activities are a mixture of learning activities relevant to current or future practice

I am sitting the MRCPath oral examination in March and have consequently been working my way through books of case presentations and familiarising myself with current issues, guidelines and standards whilst keeping abreast of current literature.

I regularly attend Grand Round presentations and departmental seminars. I have also attended a number of national (Euromedlab 2011, Clinical Aspects of protein analysis 2012, ACB Management Course, July 2012), local regional meetings (March 2012 (trace metals and GI tract), November 2011 (cardiac biomarkers), July 2012 (thyroid function)) and extra-regional meetings (PCOS, RCM, London, April 2011; Current issues in clinical biochemistry, Birmingham, June 2012.)

My contribution to the Duty Biochemist rota at both hospitals allows me to get regular exposure to both biochemistry and other discipline results and liaise with clinical colleagues. I also ensure that for any abnormal results I cannot explain, I consult with colleagues or review patient notes (see case studies). Further exposure to cases is obtained through regular participation in cases for comment scheme (see certificate).

I also participate in the protein signing rota (one in four basis), so gaining further experience in another field of pathology. I have recently been involved in a research project in this area which looked at the suitability of free light chains to replace urine as a screen for BJP in patients with ? myeloma. I have also developed two enzyme based methods to measure caeruloplasmin which may prove some help in the diagnosis of Wilson's disease. This project allowed me to liaise with department and clinical colleagues, learn about the disease, the problems associated with caeruloplasmin measurement and gain experience in the development of automated enzyme assays.
I am also involved in a number of research projects looking at calprotectin and lactoferrin in the diagnosis of IBD. These projects allowed me to obtain my MRCPath part two thesis in May 2012.

Standard 3: a registrant must seek to ensure that their CPD has contributed to the quality of their practice and service delivery

The department regularly has meetings involving all members of the duty biochemist rota where aspects of current practice are discussed. From these

meetings a number of factors were identified which fell within my area (endocrinology).

1. How should we deal with 'subclinical' hyperthyroidism?

I reviewed the literature (evidence 2) and from my conclusions, came up with some guidelines and suggested comments for use by the duty biochemist on appropriate reports. These were modified after discussion with clinical colleagues to produce the final document (evidence 4).

2. Introduction of a pan North Bristol Trust thyroid strategy.

Previous practice involved reflex testing to fT3 in all patients with TSH <0.3IU/L, these results would be seen by the Duty Biochemist to decide whether a fT4 or fT3 was more appropriate. I identified three possible strategies for a uniform policy and carried out an audit to determine the effect each of this strategies would have on workflow of the duty biochemist and cost implications for the laboratory. This was presented at a departmental seminar (evidence 5) and after some discussion, one strategy was selected and adopted for current practice (evidence 4).

3. Intra-operative PTH Measurement

The department was approached by an endocrine surgeon who wanted to start intra-operative PTH measurements. I reviewed the literature to ensure that our predicted turnaround time would be useful and for guidance as to how to interpret the results. I made some amendments to the suggested protocol (including taking a post mobilisation sample to take account of any PTH released whilst inding the gland) and the project went ahead. There were initially some problems with sample delivery and getting results back to the clinician. I therefore wrote a protocol which was agreed by all involved and has been adopted as policy (evidence 4).

4. Should we measure sex-hormone binding globulin (SHBG)?

The department gets a lot of requests for SHBG and testosterone especially in women with ? polycystic ovary syndrome (PCOS). Results are then used to calculate a free androgen index and an interpretation given as either high or low. Given the inherent problems in measuring the low levels of testosterone in women, is this practice worth continuing? After reviewing the literature (evidence 2) and attending some meetings about PCOS, I decided the best approach this problem was to obtain all list of all SHBG results on women over the past year and developed a clinical questionnaire (evidence 7). By liaison with clinical colleagues, I was able to enlist the help of two registrars who went through the patient notes and filled in the questionnaire. I then produced a summary of results for discussion within biochemistry and gynaecology departments. This study was presented at a meeting in Cairo and I am currently liaising with clinical colleagues about drawing up a protocol for use in the laboratory as a guide to when we should do this test.

Standard 4: a registrant must seek to ensure that their CPD benefits the service user

To meet this standard, I will give examples of various areas of work I am involved in and how my input through CPD activities has benefited the user.

1. Teaching - Involvement in undergraduate medical teaching rota has enhanced by teaching skills and deepened my understanding of the subject. It has also given me more confidence in dealing with clinicians.

2. Proteins - attendance of the protein meeting and regular authorisation of results in that section has given me a better understanding of the subject and increased my confidence in that area. The department hopes to bring the method I developed for caeruloplasmin measurement into routine clinical use, initially at least for difficult cases, which should help clinicians in their diagnosis of management of patients with suspected Wilson's. One of the problems we experience in the section is an incomplete myeloma sample screen (ie no urine). An aspect of my involvement in the free light chain study involved obtaining as many urines as possible for our study. Although this is now over, the long-lasting effect is that people are more aware of what a myeloma screen is and we are receiving more urines. This will hopefully mean more patients get a full diagnosis more quickly.

3. Thyroid - by developing a protocol for subclinical hyperthyroidism, this has hopefully ensured that more people are getting appropriate referrals and management. My approach to standardising the thyroid strategy across the two sites allowed everyone to be involved in the evidence-based making decision process which hopefully smoothed the passage to agreement. This strategy is now in line with current British Thyroid Association guidelines.

4. Parathyroid - the introduction of intra-operative PTH measurements will hopefully reduce the number of repeat operations and allow surgeons to do unilateral rather then bilateral neck explorations which will greatly benefit the patient.

5. GI disease - Literature has shown that calprotectin is useful in the diagnosis of inflammatory bowel disease and may lead to a reduction in the number of invasive tests required in investigation of this disorder. In the department, we currently send calprotectins to a different hospital for analysis. Costing this test showed it was cheaper to set up and do the assay 'in-house'. Liaison with colleagues and the company has allowed the department to do this.

Total words: 1192
(Maximum 1500 words)

4. Summary of supporting evidence submitted

Evidence number	Brief description of evidence	Number of pages, or description of evidence format	CPD Standards that this evidence relates to
Example	Eg: 'Case studies' or 'Critical literature reviews'	Eg: '3 pages', 'photographs', or 'video tape'	Eg: Standards 2 and 4
1	Summary of CPD activities	2 pg	1
2	Case studies (x2)	2x4 pg	1,2 and 4
3	Critical review (x1)	6 pg	1,2,3 and 4
4	Reports (x2)	2x3pg	1,2,3 and 4
5	Protocols (x3)	2x1pg;1x2pg	1,2,3 and 4
6	Presentations (x2)	1x6pg;1x4pg	1,2,3 and 4
7	Articles for publication (x2)	1x3pg;1x7pg	1,3 and 4
8	Questionnaires (x1) Attendance Certificates	1x5pg	1 and 2 1 and 2