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A Review of the

ALL-IRELAND COCHRANE TRAINING FELLOWSHIP SCHEME

THE COCHRANE COLLABORATION

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Executive Summary

Background

The Cochrane Collaboration is an international non-profit and independent organisation, dedicated to making up-to-date, accurate information about the effects of healthcare readily available worldwide (www.cochrane.org). It produces and disseminates systematic reviews (i.e. Cochrane Reviews) of the effects of interventions in health care, and makes those reviews available as The Cochrane Library. Cochrane Reviews are highly structured and systematic - evidence from clinical trials is included or excluded on the basis of explicit quality criteria, and each review covers a specific and well-defined area of health care. Cochrane Protocols provide information about reviews in preparation and summarise the background, rationale and proposed methods of the review. The Protocols are published so that errors or omissions can be corrected before the review is completed.

Since 2002, all information in The Cochrane Library has been available free of charge throughout the island of Ireland via the Internet (at www.thecochranelibrary.com), sponsored by the Health Research Board (HRB) in Dublin and the HSC Research & Development Division, (HSC R&D Division), Public Health Agency in Northern Ireland. In addition to providing and promoting free national access to The Cochrane Library, the HRB and HSC R&D Division fund a series of annual training programmes in systematic reviews and, since 2002, have administered an annual Cochrane Training Fellowship scheme (CTF) in order to:

1. Increase the capacity of researchers on the island of Ireland to conduct high quality systematic reviews.
2. Produce Cochrane systematic reviews of relevance to the island of Ireland, and for policy-makers and professionals to be aware of systematic reviews, and to be able to act upon their findings.

Review Process

In the context of the many developments that have taken place in the health and research sectors in Ireland since 2001, including publication of the new HRB Strategic Business Plan 2010-2014, a review of the CTF scheme was carried out in order to assess the success of the scheme in terms of:

- The capacity for producing high-quality systematic reviews in Ireland;
- The relevance of CTF reviews to, and their impact on, policy and practice;
- The operational effectiveness of the CTF scheme, in particular the appropriateness of the funding model employed to date.

The methodologies employed were a desk analysis of relevant documentation and all CTF awards made since the inception of the scheme in 2002; an online questionnaire survey of past fellows and their supervisors in order to gather feedback on the training experience and to ascertain the impact of the award on fellows' subsequent careers; and an extensive consultation with key national stakeholders including health policy-makers and service planners.

Main findings

Many positive outcomes have arisen from the CTF scheme. The numbers of Irish authors of Cochrane Reviews has increased significantly in the last decade and much of this can be attributed to the CTF. Past fellowship holders described high quality supervision and training afforded to them through the scheme. Most past fellows reported beneficial career impacts of having completed the fellowship and described their continued use of systematic reviews. In a significant number of cases past fellows went on to produce further systematic reviews, or supervised/assisted another reviewer. The scheme is, therefore, achieving its primary objective of building capacity for the conduct of Cochrane reviews on the island of Ireland.

The vast majority of CTF participants who have completed the fellowship to date have completed Cochrane review training and have published a review, or are in the process of preparing a full review However, one area of concern was the time taken by fellows to complete their Cochrane Review, with less than a quarter of fellows completing and publishing their Cochrane Review within the two year CTF funding period. The average CTF review took three years to complete and publish, with half of the reviews published to date taking between three and seven years to complete. A very small proportion of fellows had not produced a Cochrane Review some years after their fellowship had elapsed and the relevant Cochrane Review Group had deregistered the reviews proposed by these fellows from the Cochrane Database of Systematic Reviews in The Cochrane Library. Dedicated funding through the CTF was not, as a general observation, associated with more rapidly produced Cochrane Reviews but the majority of respondents noted that they would not have completed a systematic review without the fellowship funding and associated training and mentoring.

While the lack of reliable benchmark data hampered a comparison of Cochrane Reviews produced through the CTF versus non-CTF mechanisms, access and usage statistics relating to CTF reviews by national and global audiences indicated reviews produced through this mechanism were of a higher impact than reviews produced outside of the CTF scheme. Stakeholder consultation showed that awareness and esteem of Cochrane Reviews in general is high. Cochrane Reviews produced through the CTF have been of relevance to the Irish health service and have also contributed to the international pool of evidence around a key health topic. There was much enthusiasm on the part of key policy stakeholders in terms of greater use of Cochrane reviews and systematic review evidence more generally in policy and guideline formulation.

Recommendations

In order to address some gaps and weaknesses with the scheme that were identified in this review, recommendations are made that aim to 1) clarify the objectives of the scheme 2) address the identified issues regarding length of time taken to produce reviews through changes in the application procedure and grant monitoring and 3) increase the relevance of the scheme to national health policy and practice development.

<u>Call and application stage</u>

1. Clarify that the primary objective of the CTF scheme is to increase capacity for the production of Cochrane Reviews on the island of Ireland, among those working in health-related roles in academic, practice and policy settings. This is distinct from any mechanisms to deliver the high priority and urgent evidence needs of policy-makers.

2. Continue to promote the scheme widely to encourage applicants from health practice and policy organisations and seek to address any barriers faced by prospective applicants to the scheme by engaging with these organisations

3. Extend the deadline for submission of CTF applications to at least 12 weeks

4. Request an explicit commitment from the applicant's Employer and Host Institution at the point of application that the applicant has their support for dedicating two days a week for the CTF and follow up on this as part of routine monitoring.

5. Request a dissemination and knowledge transfer plan as part of the CTF application process

Fellowship management and monitoring

6. Harmonise the fellowship commencement date across a cohort of fellows in a particular year to facilitate interaction with the UKCC's Training Team and the funders' monitoring of the awards

7. Agree on an appropriate CTF training schedule with the UKCC's Training Team and render these mandatory at certain time-points in the fellowship

8. Introduce a milestone-based progress reporting framework for fellows to link their progress to achievement of key Cochrane Review milestones (e.g. submission of the review protocol within six months of commencing the fellowship)

9. Review the progress of fellows with currently active CTF grants, and fellows with concluded grants who are yet to publish a full review, to ensure that they are on track to submitting their protocol and full reviews.

Communications and Feedback

10. Implement a strategy to improve the timeliness of feedback between the Cochrane Review Group and CTF participants.

11. Develop a communication link with key stakeholder organisations/committees so that the expertise and capacity derived from the CTF may be tapped into by those organisations

1. Introduction

1.1. Systematic reviews and the Cochrane Collaboration

Systematic reviews attempt to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question. Systematic reviews differ from other types of review in that they adhere to a strict design in order to make them more comprehensive, thus minimising the chance of bias, and ensuring their reliability. Rather than reflecting the views of the authors or being based on a partial selection of the literature (as is the case with many articles and reviews that are not explicitly systematic), they contain all known references to trials on a particular intervention and a comprehensive summary of the available evidence.

The Cochrane Collaboration is an international non-profit and independent organisation, dedicated to making up-to-date, accurate information about the effects of healthcare interventions readily available worldwide. It is the world's largest producer of systematic reviews in healthcare and makes its reviews (i.e. Cochrane Reviews) available on the internet via the Cochrane Database of Systematic Reviews, as part of The Cochrane Library. Cochrane Reviews investigate the effects of interventions for prevention, treatment and rehabilitation in a healthcare setting. The Reviews are highly structured and systematic - evidence from clinical trials is included or excluded on the basis of explicit quality criteria. Each review covers a specific and well-defined area of health care. Data in reviews are often combined statistically to increase the power of the findings of numerous studies, which on their own may be too small to produce reliable results. In such cases, the review may also include graphs presenting the data from each individual study. Cochrane reviews are designed to facilitate the choices that doctors, patients, policy makers and others face in health care.

1.2. The Cochrane Training Fellowship scheme

In 2002 free access to the whole content of The Cochrane Library was made available throughout the island of Ireland, through an initiative co-funded by the HRB and the Health and Social Care R&D Division of the Public Health Agency of Northern Ireland (referred to as HSC R&D Division throughout the report). This was the first such initiative of its kind in the world. In addition, since 2002 the HRB and HSC R&D Division have awarded and administered the All-Ireland Cochrane Training Fellowships (CTF) on an annual basis, with advice from a selection committee convened by the UK Cochrane Centre (UKCC).

At its inception, the CTF scheme had two main objectives:

1. To increase the capacity of researchers on the island of Ireland to conduct high quality systematic reviews.
2. To produce Cochrane systematic reviews of relevance to the island of Ireland, and for policy-makers and professionals to be aware of systematic reviews, and to be able to act upon their findings.

1.3. Rationale and objectives of the review

Many contextual developments have taken place in Ireland since the initiation of the CTF scheme in 2002 (see Chapter 4 for details). Briefly, the health sector in the Republic of Ireland (RoI) has undergone a major reconfiguration, including the establishment in 2005 of the Health Service Executive (HSE) as the single statutory agency responsible for health service delivery, and the Health Information and Quality Authority (HIQA) in 2007 to drive continuous improvement, quality and safety in the health and social care services. The national research system has been transformed with significantly increased government funding for R&D and the establishment of new funding streams (e.g. Science Foundation Ireland) to complement existing research support by the HRB and other agencies. Furthermore, the HRB's strategic direction has evolved considerably since 2001 - the publication of its new Strategic Business Plan 2010-2014 marked a shift in the HRB's emphasis from basic biomedical research towards patient-oriented, population health sciences, and health services research. Similarly, significant contextual developments have taken place in Northern Ireland (NI) and these are outlined in Chapter 4.

In light of the number of rounds of this scheme completed since 2002 and the changing landscape in the intervening period, the HRB considered it timely to undertake a review of the appropriateness, effectiveness and impact of the CTF scheme prior to the announcement of any further calls for proposals. The specific objectives of the review were to assess the success of the CTF scheme in terms of:

1. The capacity for producing high-quality systematic reviews in Ireland;
2. The relevance of CTF reviews to, and their impact on, policy and practice;
3. The operational effectiveness of the CTF scheme, in particular the appropriateness of the funding model employed to date.

1.4. Methodologies

The review was carried out between March and November 2011. The project was led and the report authored by the HRB Evaluation Team (Rachel Barrett and Brendan Curran). A small Steering Group provided advice, assistance, and oversight to the project. It comprised of:

- Dr Teresa Maguire, Head of Population Health Sciences and Health Services Research, HRB

- Ms Margaret Devitt, HRB Population Health Sciences and Health Services Research Unit
- Dr Brendan Curran, HRB Policy, Evaluation & External Relations Unit
- Dr Rachel Barrett, HRB Policy, Evaluation & External Relations Unit
- Dr Gail Johnston, Health and Social Care R&D Division, Public Health Agency, Northern Ireland
- Professor Michael Clarke, Director of MRC All-Ireland Hub for Trials Methodology Research (Director of the UK Cochrane Centre until 31 March 2011)

The review was based on the following complementary streams:

(i) A desk analysis of relevant documentation and all CTF awards made across the island of Ireland since the inception of the scheme in 2002, including an analysis of costs, successful applicants and the scheme's outputs;

(ii) Analysis of data received from the UKCC relevant to the CTF scheme including review completion and review access statistics;

(iii) An online questionnaire survey of past fellows and their supervisors in order to gather feedback on the training experience and to ascertain the impact of the award on fellows' subsequent careers as well as any notable impacts of the Cochrane Reviews on policy and practice;

(iv) Consultation with various stakeholders including key administrators in The Cochrane Collaboration (e.g. Managing Editors of Cochrane Review Groups), members of the CTF Selection Committee, and individuals based in health policy/regulatory/service delivery organisations.

2. Analysis of CTF Awards 2002-2010

2.1. Funding and number of awards

The CTF scheme has funded a total of 76 individuals since its commencement in 2002, with the total amount awarded to date standing at just over €3.6 million. From 2003 to 2010, 69 individuals applied to the HRB for a CTF and of these, 46 applicants were funded. The HSC R&D Division has awarded 30 fellowships out of a total of 39 applications since the beginning of the scheme. To apply for a CTF, applicants must have registered their title with the relevant Cochrane Review Group (see Appendix 1 for the process of preparing a Cochrane Review). This means that the Group (and, therefore, The Cochrane Collaboration) has approved the topic as suitable for inclusion in the Cochrane Database of Systematic Reviews. All applications to the CTF scheme have, therefore, passed through this initial screening phase and are potentially fundable, thus explaining the high success rate for applicants.

CTFs provide fellows with up to two days per week protected time, for up to two years, to produce a Cochrane Review. The grant also provides funding to participate in systematic review training and for review-related research expenses. As the scheme 'buys out' the time of the fellow, the funding amount per fellowship varies according to the fellow's salary in their substantive role. Also, the amount of time which the scheme 'buys out' has varied. Up to two days per week for two years may be requested, however some applicants have applied for less bought-out time, and during the first round of the scheme in 2002 the fellowship was only one year in duration. These factors have also affected the value of individual fellowships. The HRB has provided a total funding amount of €2,381,235 through this scheme, with individual awards ranging from €1,215 (for review and training costs only for a medical trainee) to €151,089 (for protected time for a consultant physician). The HSC R&D Division has provided a total funding amount of €1,222,883 with individual awards ranging from €8,683 to €78,571.

Table 1 shows the number of fellowships awarded per year by the HRB and HSC R&D. The total spend on the scheme per year is also included.

Table 1: Number and value of CTF awards issued to date

Year	No. Awards – HRB	No. Awards – HSC R&D	Funding Amount - HRB	Funding Amount - HSC R&D
2002	3	2	€76,029	€42,461
2003	4	1	€72,111	€8,683
2004	1	4	€41,063	€151,010
2005	6	3	€457,727	€159,898
2006	3	2	€284,549	€82,066

2007	7	3	€503,815	€132,994
2008	5	7	€465,819	€301,012
2009	5	6	€335,529	€245,307
2010	12	2	€594,592	€105,955
Total	**46**	**30**	**€2,381,235**	**€1,222,883**

2.2. Fellows' professional background

The employment type of fellows was analysed, based on where they were employed and their discipline/profession at the point of availing of the award. Figure 1 shows the professions of successful applicants. The largest group were tenured academics (either lecturers or professors), accounting for 42 per cent of successful applicants. Approximately a quarter of fellows were employed as healthcare professionals (medical doctors or allied health professionals) at the point of commencing the award. Of those 12 fellows categorised as medical doctors, four were also employed as lecturers. No significant increases were observed in terms of the trends in successful applications from healthcare professionals over the ten years of the scheme's operation.

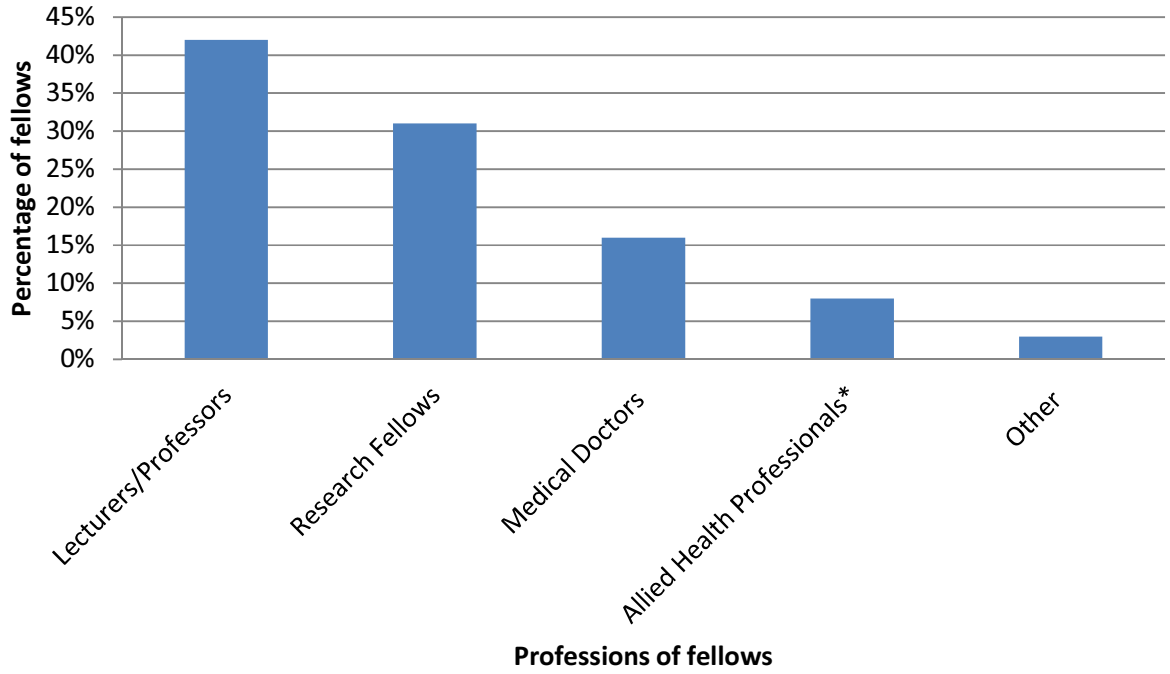

Figure 1: Professions of successful applicants to the CTF

* The category Allied Health Professionals consists of two dieticians, two physiotherapists, one speech and language therapist and one clinical nurse specialists.

Figure 2 shows the academic areas in which CTFs classified as 'Lecturers/Professors' and 'Research Fellows' were engaged in at the point of application to the scheme. As shown, the largest group were employed within the field of nursing. From this group of 18, 16 were lecturers or professors of nursing. The remaining two were working as research fellows in this field. Of all CTFs counted within the 'Lecturers/Professors' and 'Research Fellows' group, two had joint research and clinical practice appointment, one in physiotherapy and one in dentistry.

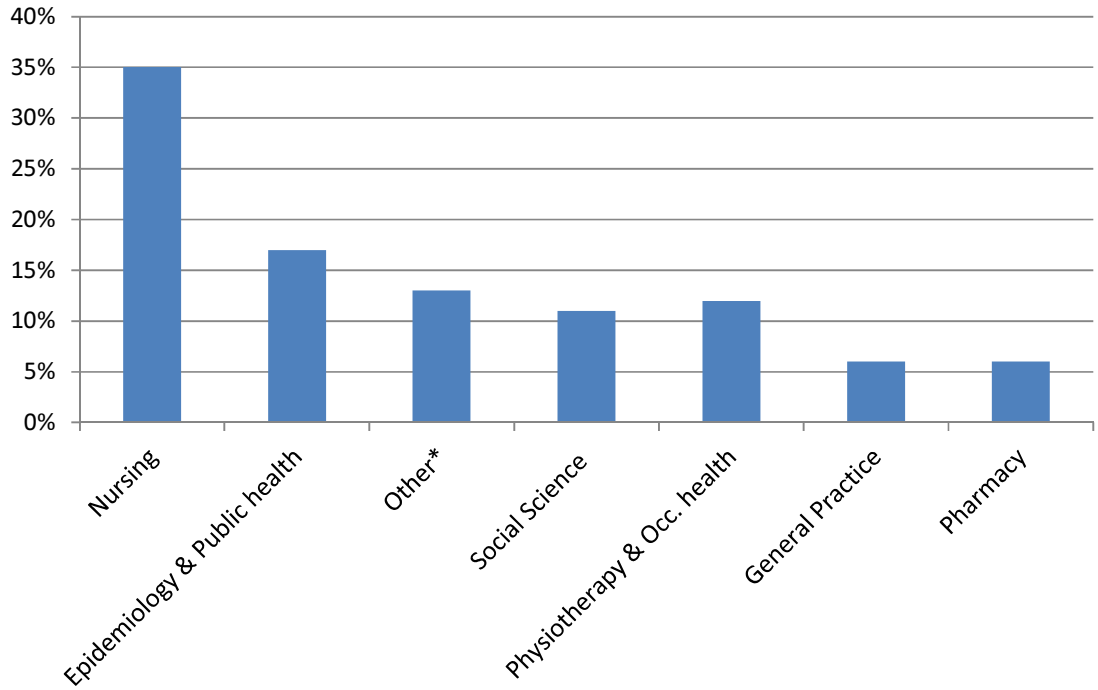

Figure 2: Academic fields of Lecturers /Professors and Research Fellows

* The category 'Other' is made up of one fellow from each of the following academic areas: Genomics, Cellular Biotechnology, Maternal & child health, Stroke, Palliative Care, Psychology, Health Economics

2.3. Distribution of Host Institutions

Figure 3 shows the spread of host institutions of all fellowships, both active and completed. This figure is based on the organisation in which the fellow was ordinarily based when conducting fellowship-related work, rather than the institution that administered the grant. This gives a more accurate picture due to the fact that a minority of fellows based in a hospital had their grant administered by an affiliated university. Nonetheless, most fellows were based in the same institution that hosted their grant (including most fellows based in hospitals), although for seven per cent of fellows an institution other than their regular employer administered their grant.

The analysis shows that universities dominate as CTF host institutions, with 73 per cent of CTF grant holders based in an academic setting. While just over one fifth of fellows were based in a hospital/clinical environment, only one fellow to date was employed in a policy-related organisation (HIQA). Queen's University Belfast and University of Ulster have hosted the largest number of fellows, and almost all of the fellowships awarded by the HSC R&D Division were hosted by these institutions. The HSC R&D Division guidelines state that the applicant must be based within a NI host institution, that being the Health & Social Care (HSC), voluntary/not-for-profit organisations or an academic organisation. As with applicants to the HRB, most applicants to the HSC R&D Division have been university-based researchers or lecturers, thus explaining the predominance of the two universities as CTF hosts in NI.

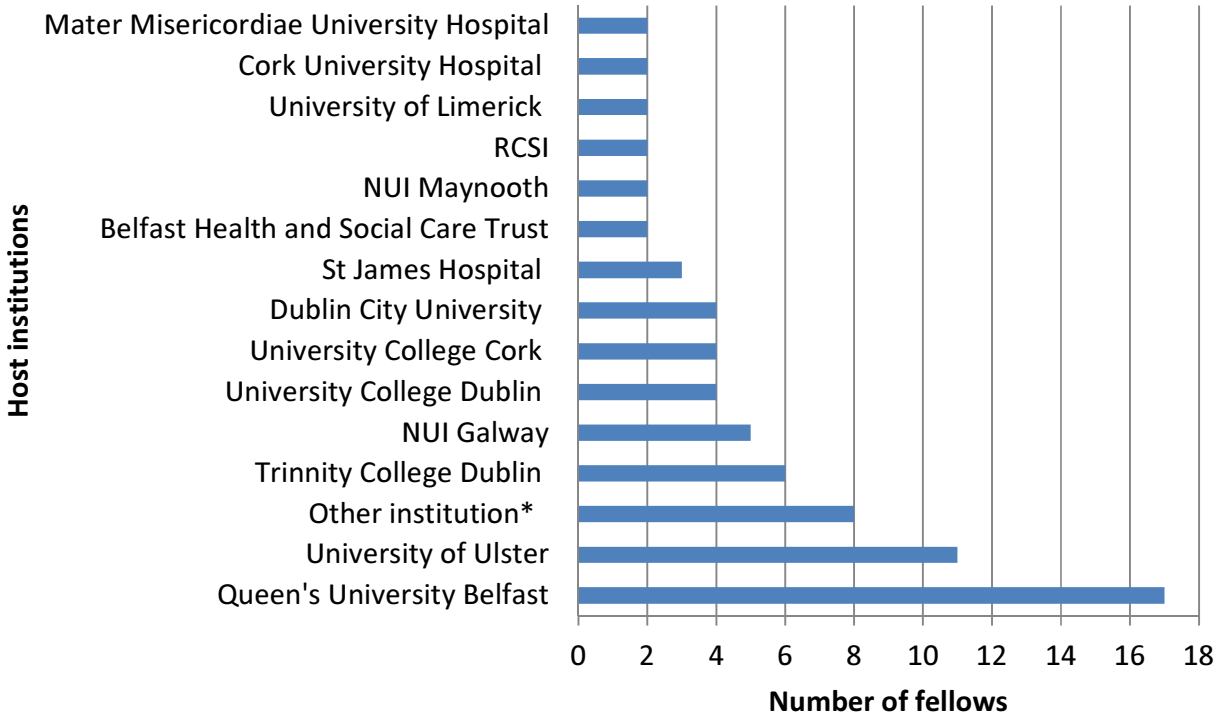

Figure 3: Host institutions of CTF grants

* Other institutions hosting one fellowship each were CIE Occupational Health Unit, the Coombe Women's' Hospital, Crumlin Hospital, HIQA, James Connolly Memorial Hospital, National Maternity Hospital, Our Lady's Hospital Navan, St. Angelena's College Sligo, and Temple Street Children's Hospital.

2.4. Topic areas of fellowships

Cochrane Review Groups (CRGs) are established by topic area and are led by a Co-ordinating editor with administrative support from a Managing editor and an editorial team. Each CRG is responsible for quality control and management of reviews registered within their group. Peer review of each stage of

the review is managed by the relevant CRG. Publication of the protocol and review occurs only when the CRG Co-ordinating editor is satisfied with the quality of both (see Appendix one for the process of preparing a Cochrane Review). In 2011 there are a total of 53 CRGs - the review titles of the CTF grant holders were registered in 33 of these (see Figure 4 below).

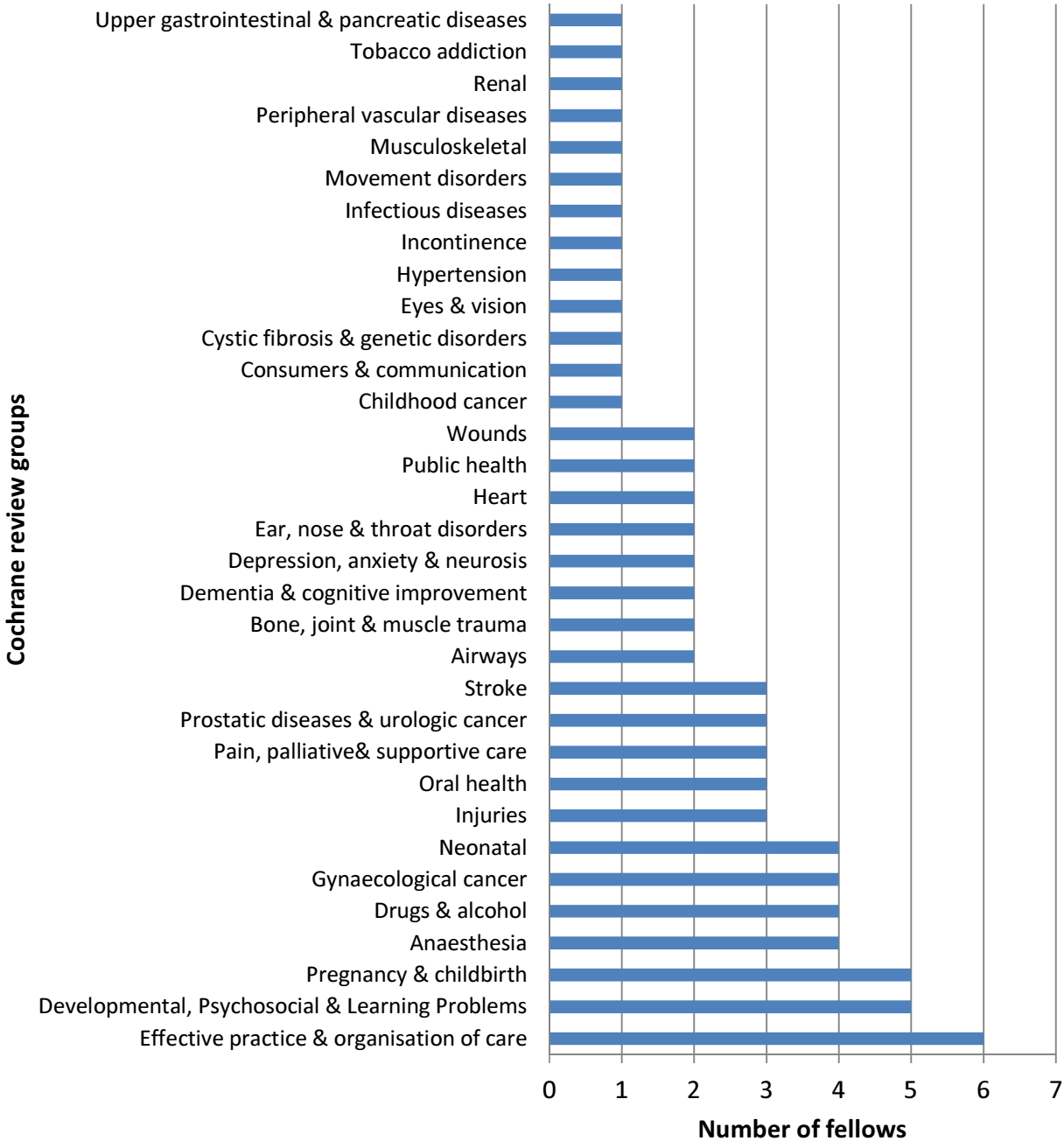

Figure 4: Distribution of fellowships across Cochrane Review Groups

2.5. CTF review completion statistics

Since the commencement of the scheme, the end date of the fellowship period has expired on a total of 49 fellowships. Figure 5 shows the proportion of fellows that have completed different stages of the review - from publication of the protocol to publication of the full review, and publication of a subsequent update of this review. This figure includes completed fellowships only and excludes fellowships that are currently classified by the funder as active.

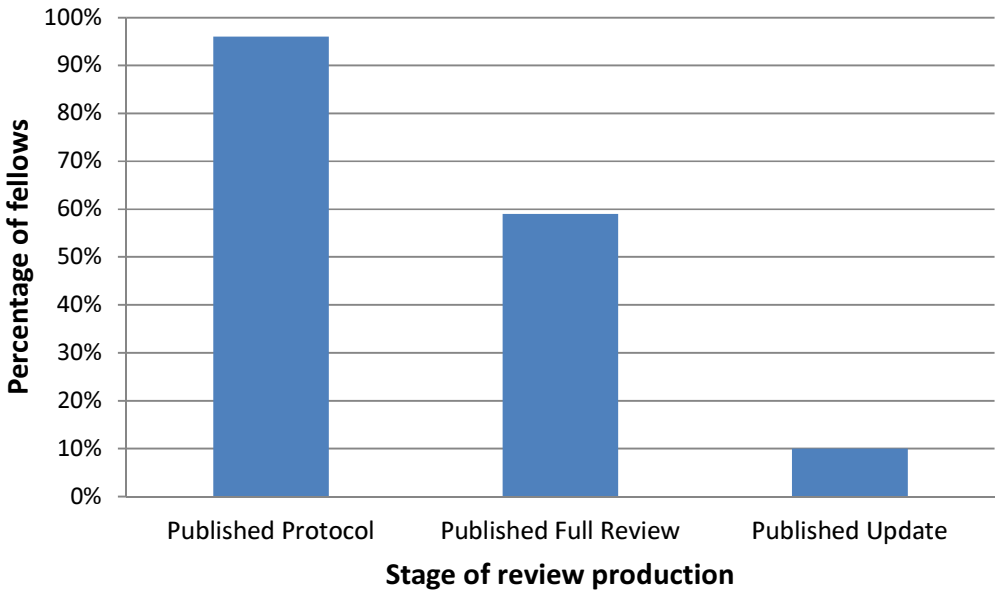

Figure 5: Proportion of fellows that have completed different stages of the review.

As outlined in Appendix One, the procedure for completing a Cochrane Review is governed by specific procedures to assure quality. Reviews are subject to internal and external peer review, final approval from the editorial team in the relevant Cochrane Review Group, and copy editing before publication. This means that the publication date of a protocol and full review are not entirely within the control of a fellow. It is expected, however, that fellows should be able to publish their protocol and submit a final draft of their full review within the two year duration of their award. Unfortunately, submission dates for the drafts of protocols and full reviews have not been recorded systematically, therefore the date of protocol and review publication is the only means available to measure the length of time taken by fellows to complete each stage of the work on their Cochrane Review.

As shown above, 59 per cent of fellows (N=29) who have completed their fellowship have published a full Cochrane Review, to date. However, 41 per cent of fellows whose grants have completed are yet to publish a full review. It should be noted that almost half of this group (nine out of 20) were awarded their fellowship in 2008 and only completed the award in 2010. Therefore, with editing and publication

of the full review taking up to 24 months after publication of the protocol, publication of a full review is likely to be shortly forthcoming for the majority of these fellows. However, two fellows awarded in 2008 failed to get their protocols published by the time the fellowship period elapsed. There is no evidence of either fellow engaging or progressing this further since the end of their award.

Of the remaining 11 fellows who have published a protocol but are yet to publish a full review, five fellows received their awards from 2003 – 2006; the remaining six received their awards in 2007. From the former group (2003 -2006 awardees) two fellows progressed to the stages of protocol submission and publication during the period of the fellowship but did not get to the stage of submission of draft full Cochrane Review. With the passage of time, the Co-ordinating Editors of the relevant CRGs deemed that the respective review teams had ceased work on their review, and the published protocols were subsequently removed from the Cochrane Database of Systematic Reviews. The remaining fellows are officially still engaged with the review process and their protocols remain accessible in The Cochrane Library.

2.5.1. Time to completion the protocol for a Cochrane Review

The first major stage in producing the review is the publication of the review protocol. This document outlines the review topic and proposed methodology and undergoes peer review before acceptance for publication by the relevant CRG Co-ordinating editor. Figure 6 shows the amount of time taken by fellows to publish the Cochrane protocol. Time is shown as number of weeks from commencement of award to publication of protocol. The majority of fellows (60 per cent) took more than one year to publish their protocol. The average length of time between the beginning of the award and publication of the protocol was 61 weeks. However, it should be noted that the publication of the protocol includes the interval between its acceptance for publication and the actual publication. This previously ranged from two to five months when The Cochrane Library was published quarterly, dropping to one to two months when The Cochrane Library became monthly in early 2010.

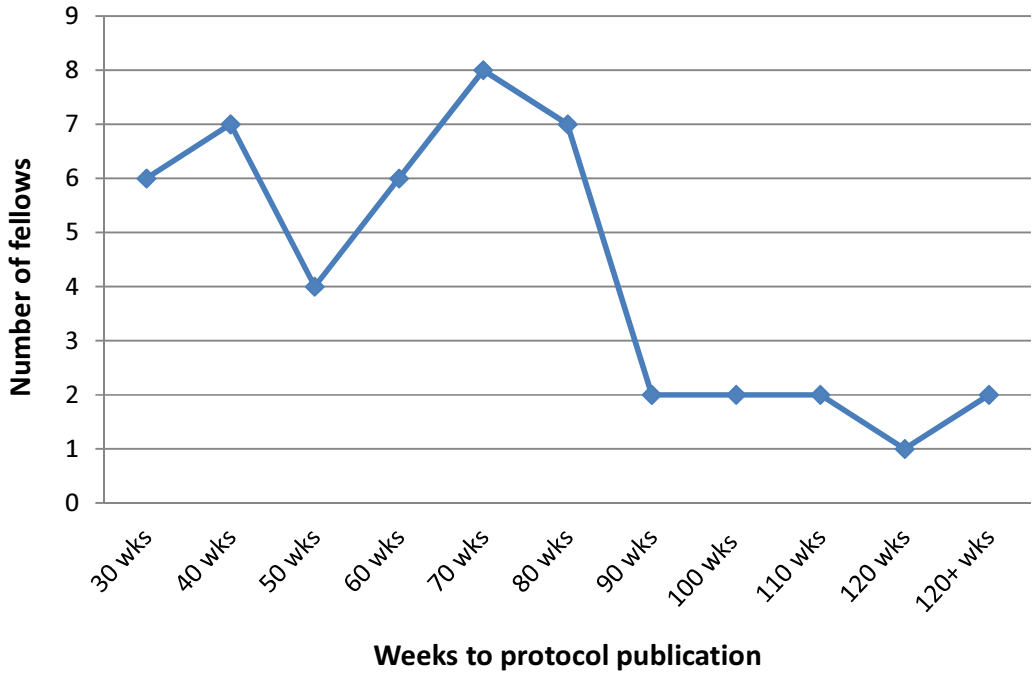

Figure 6: Time taken by fellows to publish Cochrane protocol from start of grant

2.5.2. Time to completion of Cochrane Review

The publication of a full review in the Cochrane Database of Systematic Reviews is the final and most important step in the review process (although authors are required to update their review at future points). Figure 7 shows the time taken by fellows to publish a Cochrane Review, from the point at which their protocol was published. The average number of weeks from protocol publication to publication of the full review in the Cochrane Database of Systematic Reviews was 108 weeks. However, there was a large variation in the time taken to publish a review - while the shortest period was 39 weeks, the longest was 356 weeks (more than six years). Unfortunately, due to the lack of reliable data, it was not possible to benchmark the fellows' completion statistics against the 'standard' time taken to publish a review by all Cochrane authors. Furthermore, as noted above for protocols, the time to publication for the full review also includes the interval between its submission for publication and the actual publication.

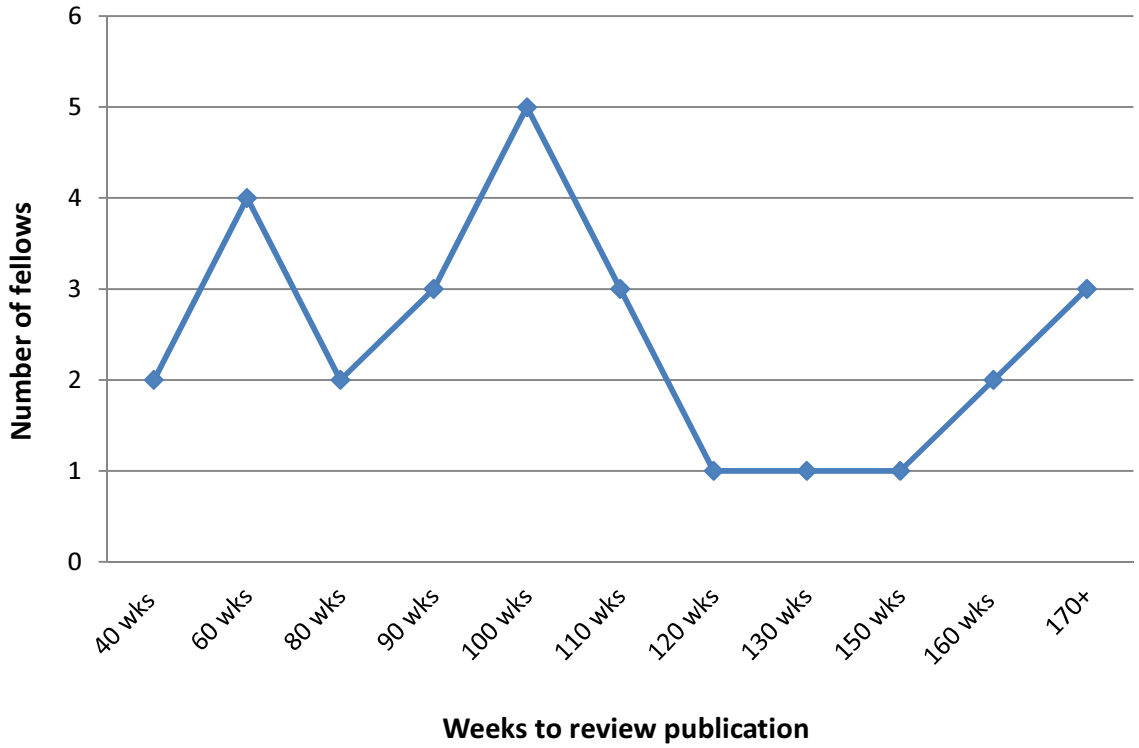

Figure 7: Time taken by fellows to publish Cochrane Review from publication of protocol

The overall time taken by fellows to complete a Cochrane Review (as calculated from the start date of their grant to the date of publication of the review in The Cochrane Library) was 158 weeks on average. Only 23 per cent of the fellows published their full review within the standard funding CTF funding period of two years. A further 15 per cent of the fellows published their review within six months of the end of the grant.

2.6. CTF review access statistics

The publishers of The Cochrane Library, Wiley-Blackwell, record access data for all reviews produced, which gives an indication of the level of awareness and usage of the reviews. Of the 29 full Cochrane Reviews produced by CTF recipients, the average number of download in Ireland during 2010 was 17 per review. This compares with an average of nine Irish downloads per review for all Cochrane Reviews. The level of access of CTF reviews by global audiences also paints a favourable picture. CTF reviews were downloaded globally on average 558 times per review in 2010, compared to the average of 449 downloads per 'standard' Cochrane Review.

The level of national and global access of CTF reviews is also favourable when compared to the level of access of reviews produced by unsuccessful applicants to the CTF scheme (five of whom still went on to

produce a Cochrane Review). Cochrane Reviews produced by this group of five people were accessed on average 13 times per review within Ireland, and 335 times per review globally. Reviews produced by CTF fellows were, therefore, accessed more frequently on average both within and outside Ireland compared to reviews produced through non-CTF mechanisms.

3. Experiences and Views of the Cochrane Community

3.1. Survey of past fellowship holders

In order to assess the effectiveness of the CTF scheme in meeting its stated objectives, information was elicited from CTF holders concerning their experiences during the fellowship, as well as the impact of the fellowship on their subsequent career. An online questionnaire survey of fellows funded through the scheme from 2002 to 2008 was conducted (current grant holders were excluded from the survey). Contact details were identified for 48 of the 49 fellows funded in these years. The total number of respondents was 37, representing a response rate of 77 per cent.

3.1.1 Motivations for applying to the CTF scheme

The respondents were asked about their motivations for applying to the CTF scheme. Figure 8 shows the relative importance of various motivating factors as ranked by respondents, according to their principal motivation for applying to the scheme (while most respondents indicated one factor as the most important, some respondents selected several factors as equally important). As can be seen, fellows were mainly motivated by gaining skills and experience in conducting systematic reviews, followed by the desire to answer a specific clinical question. An additional motivation mentioned by respondents was the desire to form collaborations with researchers in different disciplines.

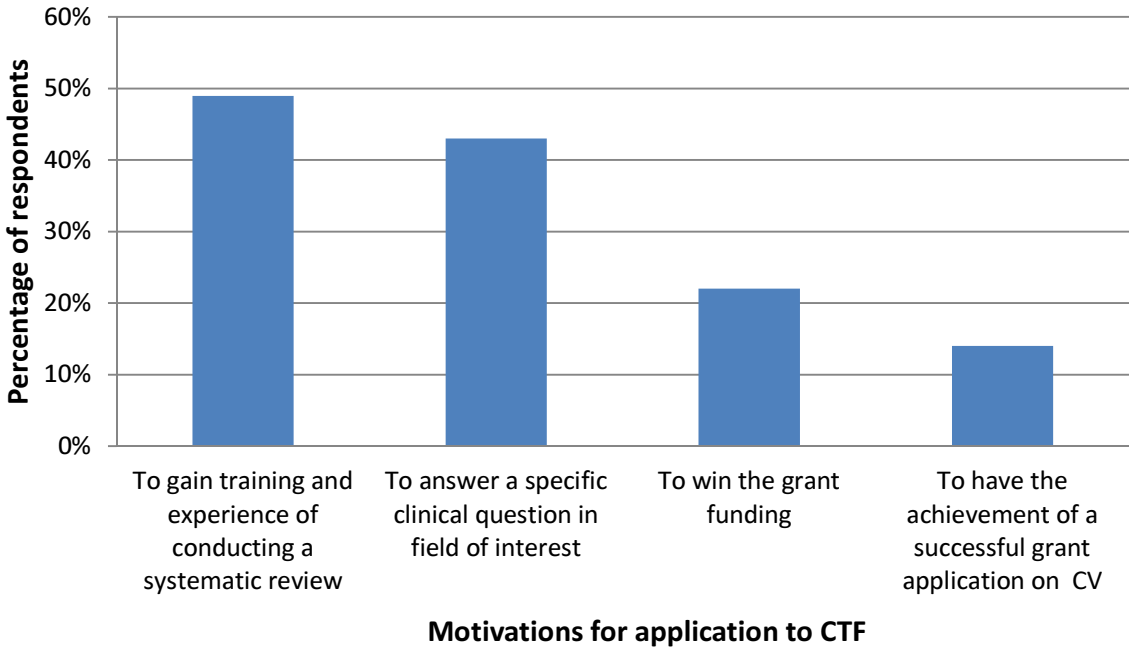

Figure 8: Motivational factors for application to the CTF scheme and their proportional importance

Respondents were also asked about their motivations for selection of their review topic. Respondents were asked to indicate which motives were most relevant to their choice of review topic. Figure 9 shows the percentage of respondents who selected each choice as a motivation (respondents could tick multiple boxes and most indicated more than one reason for their choice of topic). Adding to their existing research portfolio was the most frequently cited reason, while over half of the respondents wanted to provide evidence to health policy-makers. An interesting finding was that over a quarter of respondents used the fellowship to develop knowledge and expertise in a new field. In addition to the above, other motivations cited by respondents included choosing a topic to contribute to their PhD research (two respondents, five per cent) and selecting a topic that was identified by the Cochrane Review Group as a 'priority review topic' (one respondent, three per cent).

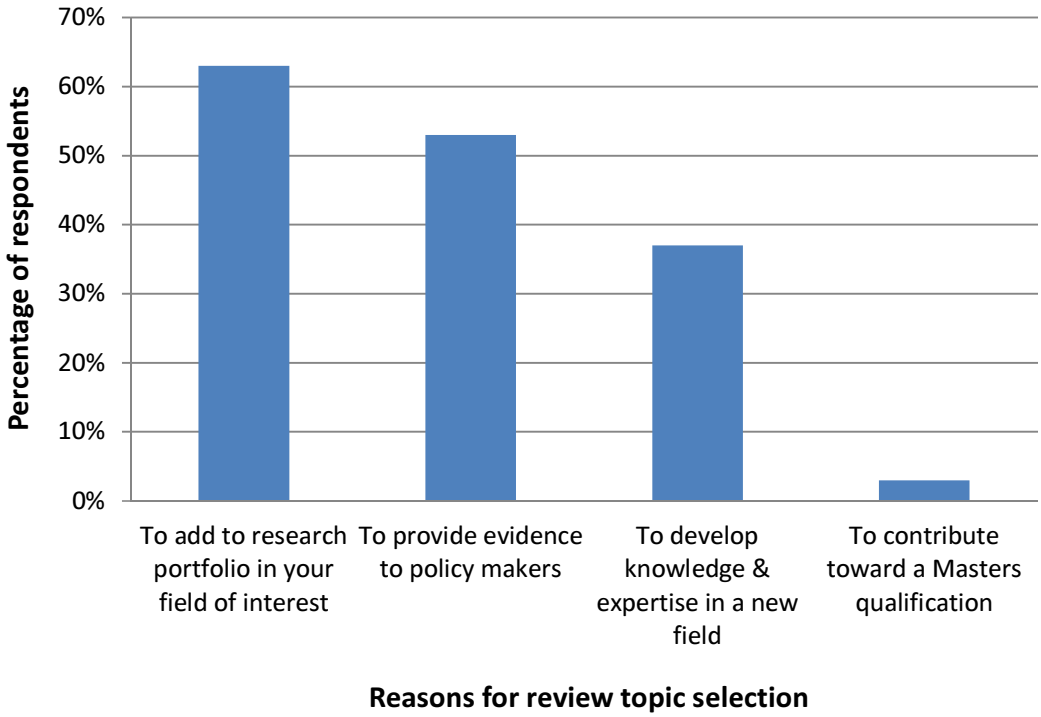

Figure 9: Motivational factors for review topic section

Finally, respondents were asked whether they would have conducted a Cochrane Review without having received the CTF funding. As shown in Figure 10, without the dedicated funding provided by the CTF scheme, less than 40 per cent of the fellows would have conducted a review. This is nevertheless a significant minority of respondents and perhaps a surprising statistic given the effort and time commitment required to complete each stage of a review. However, it is not inconsistent with the earlier finding that approximately 40 per cent of respondents were primarily motivated to apply for a CTF in order to answer a specific clinical question (as shown in Figure 8) rather than career-related motivations.

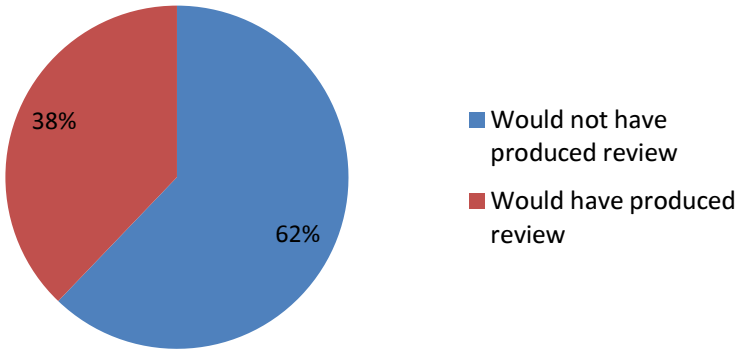

Figure 10: Percentage of respondents who would have conducted a systematic review without CTF funding

3.1.2 Completion of Cochrane Reviews

Figure 11 shows the proportion of all respondents who had completed their Cochrane Review. As shown, almost three-quarters of respondents have completed the full review, while over a quarter have yet to do so. The latter statistic compares favourably to the analysis presented in Section 2.5 – based on data provided by the UKCC – which showed that 41 per cent of fellows had not yet had their review published in The Cochrane Library. The reason for this difference is unknown but may relate to the final part of the process (e.g. peer review, copy editing and the interval between acceptance and publication) yet to be completed before the review is published in The Cochrane Library.

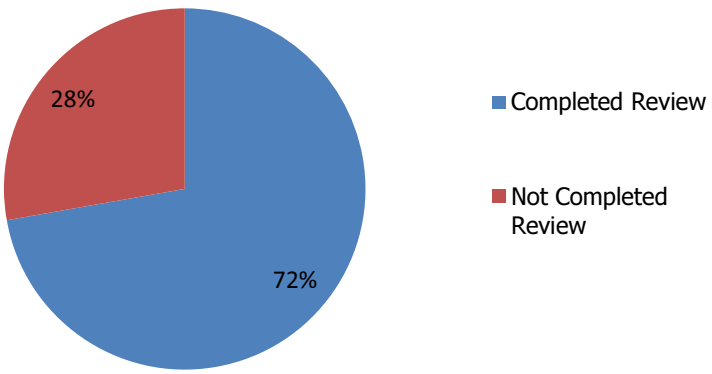

Figure 11: Proportion of respondents who have completed their review to date

3.1.3 Management of time during fellowship

Respondents who completed the Cochrane Review by the end of the fellowship were asked how difficult it was to finish the review within the funding period. Overall, 60 per cent of these respondents

reported some difficulty, while 40 per cent stated that it was not difficult. Respondents who found it difficult to complete the review offered several reasons for this – most commonly, finding locum or teaching cover for the days 'bought out' by the CTF was an issue. Another frequently raised issue related to delays in receiving feedback from the CRG at various stages of the review. In addition some respondents mentioned problems with their co-reviewers and organising the review team.

The CTF buys out some of the fellows' time so that it can be dedicated for review activity. The balancing of review work with their other duties is important so that fellows are indeed able to commit a specific part of their working week to fellowship-related work. In this context, respondents were asked how difficult they found balancing review work with their other duties. As shown in Figure 12, three quarters of respondents stated that they experienced at least some difficulty achieving an effective balance, while a third found it 'very difficult'. Only a quarter of respondents did not experience any difficulty in this regard.

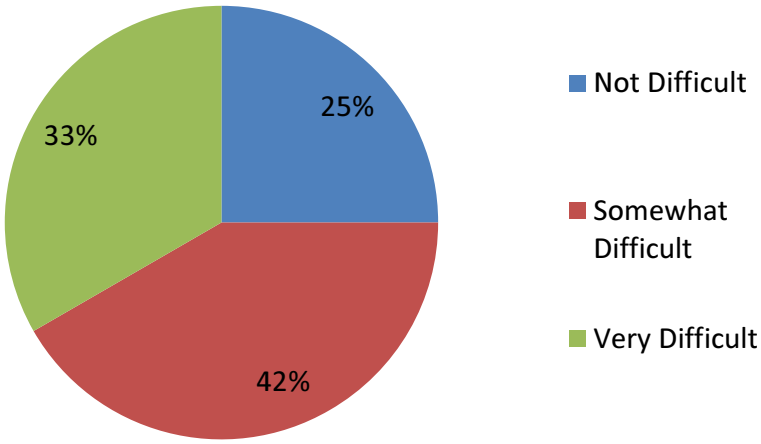

Figure 12: Level of difficulty experienced by fellows in balancing reviewing activities with other duties

Respondents were also asked what percentage of their week they devoted to CTF-related work. As shown in Figure 13, the largest group of respondents (33 per cent) stated that they devoted 11 to 20 per cent of their working week to review activities. Overall, the majority of respondents (61 per cent) devoted less than 31 per cent of their working week to CTF-related activity. Thus, while most fellows were funded for two days per week over two years, the majority were able to devote less time than this to review activity. Respondents were also asked if the amount of time they were able to devote to their review was what they had anticipated at the beginning of award. A total of 65 per cent of the respondents stated that the time they devoted to their review work was what they originally anticipated, while 35 per cent stated it was not.

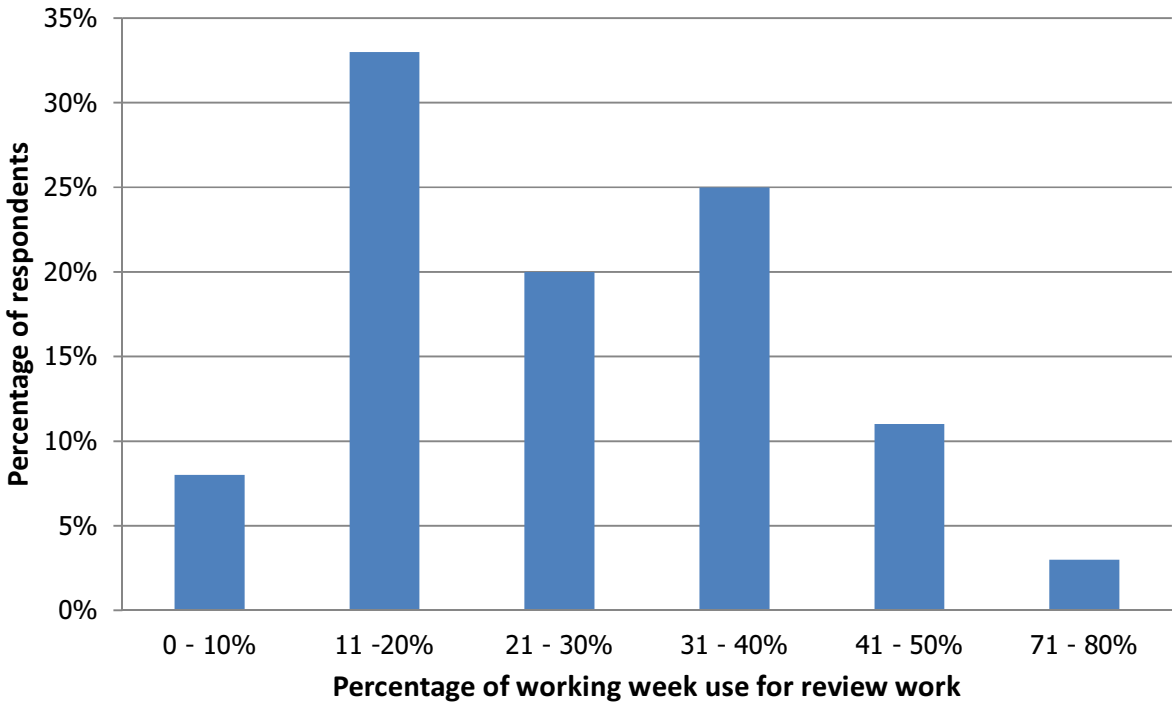

Figure 13: Proportion of the working week that respondents devoted to review activities

3.1.4 Supervision and training

Consistent with other HRB fellowship schemes, CTF applicants must have the support of an official supervisor in order to apply for a fellowship. Respondents were asked how satisfied they were with the supervision they received during their fellowship. As shown in Figure 14, satisfaction levels were very high with 86 per cent of respondents describing themselves as 'quite' or 'very' satisfied. Amongst those fellows who published their review within the CTF funding period there was, surprisingly, slightly more reported dissatisfaction with supervision. Among this group, 18 per cent were dissatisfied with their supervision, compared to 12 per cent dissatisfaction amongst those who did not publish their review within the funding period.

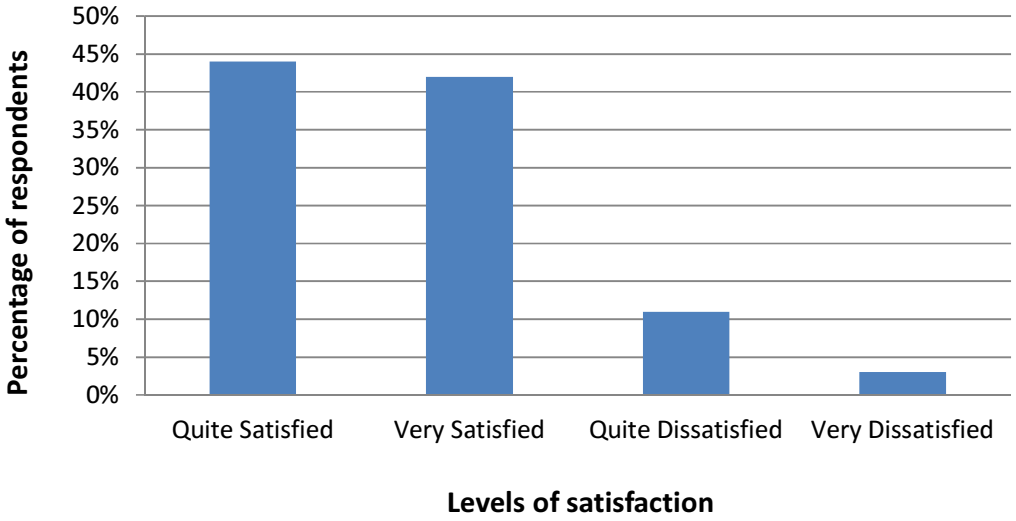

Figure 14: Fellows' satisfaction with supervision received during fellowship

An important aspect of the CTF is the learning component, including mandatory training courses in Cochrane Review methodology (including development of a review protocol and completion of the full review), organised by the funders and delivered by the UKCC in Dublin and Belfast. All respondents reported that they participated in training courses during the course of their fellowship. Optional courses completed by respondents included online training courses, training in data analysis techniques and 'training the trainer' offered in centres in York, Bristol and the UKCC in Oxford. As shown in Figure 15, a high level of satisfaction with the training received was reported by fellows, with over 70 per cent very satisfied and a further 25 per cent quite satisfied.

Figure 15: Level of satisfaction with training received during the CTF

3.1.5 Interaction with the CRGs

All Cochrane Reviews are registered with a CRG according to the topic of the review. The CRG exercises editorial control over all reviews within their field and mediates external peer review of submitted protocols and reviews. Respondents were asked about their experience with the CRG and specifically about their satisfaction in terms of receiving timely and effective feedback. Most respondents (64 per cent) gave entirely positive accounts of their experiences of the CRG, a typical comment included:

"The feedback from the Cochrane Oral Health group was outstanding. Feedback was timely, extremely detailed, critical and constructive. In particular, the comments from the peer reviewers on the final draft of the review were extremely helpful in enhancing the quality of the end product."

A smaller proportion (31 per cent) of respondents gave mostly positive feedback, but also expressed an element of dissatisfaction in relation to what they considered was an excessive period of time to receive feedback from the CRG. Similarly, the two respondents (five per cent) who described their experience with their CRG as 'poor' indicated that it was the time taken to receive feedback from the CRG that was the main cause of their dissatisfaction:

"Very poor - this has been the most disappointing part of the project. I had little or no support from the CRG. They have yet to answer emails sent in December 2010 and they have still not acknowledged that they have received the final review."

3.1.6 Outputs and impacts of fellowship

In addition to attending Cochrane training courses and producing a Cochrane Review, it might be expected that the dedicating funding and time would enable fellows to engage in additional activities to enhance the impact of their review. Such activities might include publication of reviews in peer-reviewed journals (in addition to The Cochrane Library) and wider dissemination in order to make policy-makers and healthcare professionals aware of their review findings, consistent with the stated objectives of the scheme.

<u>Additional publications</u>

Respondents were asked if their review was published in a peer-reviewed journal other than the Cochrane Database of Systematic Reviews. Additional publication may increase the awareness of and the impact of a review as it enlarges the readership, particularly if accepted into a higher impact journal. Almost one fifth of respondents reported that their review was published in a peer-reviewed journal, equating to seven publications. The survey elicited details on six out of seven of these

publications. The impact factors of these journals varied from 1.19 to 13.66. The two highest impact factor publications were:

- Blackwood B, Alderdice F, Burns KEA, Cardwell CR, Lavery G, O'Halloran P. Protocolized versus non-protocolized weaning for reducing the duration of mechanical ventilation in critically ill adult patients: a Cochrane Review. BMJ 2011; 342:c7237 (Impact factor: 13.66)

- O'Rourke K, Berge E, Walsh C, Kelly PJ. Percutaneous vascular interventions for acute ischemic stroke. Stroke 2011; 42: e31-e32 (Impact factor: 7.04)

Presentations

Presentation of review findings at scientific conferences or other events is another means by which review findings may be disseminated to a wider audience. It was therefore encouraging that a total of 61 per cent of respondents stated they had presented their review findings at scientific conferences or meetings. Figure 16 shows the proportion of presentations delivered by fellows in Ireland (NI and ROI), internationally, or both. As shown, a significant proportion of fellows presented their findings at international conferences (57 per cent), while over 80 per cent of presented their findings in Ireland.

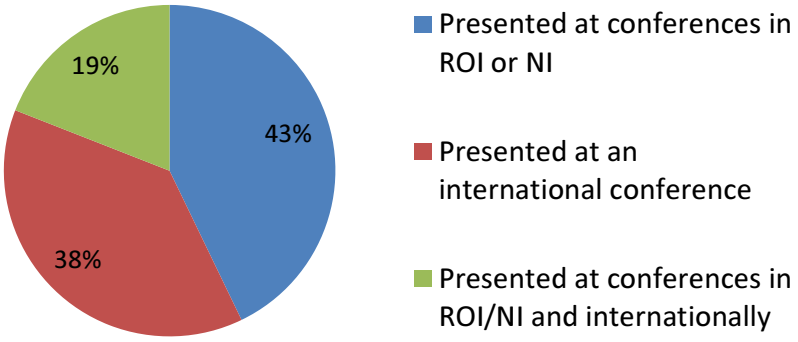

Figure 16: Presentations delivered by fellows nationally and internationally

Wider dissemination

In addition to scientific publication and presentation, dissemination of review findings to a wider, non-scientific audience is a desired output and indeed raising awareness of Cochrane Review findings in the public arena is another means by which health decision-makers may be informed. Respondents were asked about any non-scientific publication or publicity, and almost a quarter reported some activities in this area. Of this group, 22 per cent stated that their review results had received media coverage.

Other respondents had their findings published in medical publications such as newspapers or magazines.

Policy/Practice influences

The CTF scheme seeks to increase awareness of The Cochrane Library and Cochrane Reviews among policy-makers and healthcare professionals and to promote the use of reviews in decision-making. While it should be acknowledged that submission of a dissemination plan was not a condition of funding, it would nevertheless be expected that fellows would seek to inform key individuals of their review findings in order to inform clinical practice and policy. Over half of respondents stated that they had engaged in activity of this type. The most common type of engagement was submission of the review or a summary of findings to relevant practitioners, other researchers in the field, or to policy-makers and/or service planners. Other notable activities included membership of national or European guideline development committees where the reviews were contributing to the work of these committees (three respondents), and the creation of podcasts for The Cochrane Library (two respondents).

Consideration of a Cochrane Review in the formulation of a policy document or clinical guideline is perhaps the most concrete example of an influence on policy or practice. It is therefore encouraging that 17 per cent of the respondents reported that their reviews had contributed to policy or clinical guideline documents. Some specific examples given by fellows where their reviews informed guidelines included:

- management of acute soft tissue injury
- recall interval between routine dental examinations
- control of second hand smoke
- prevention of hyperthermia in premature and low birth weight infants

Post-fellowship involvement with Cochrane

A stated aim of the CTF is to increase capacity in the island of Ireland to conduct Cochrane Reviews. It would therefore be hoped that CTF recipients would continue their involvement in Cochrane or other systematic review activity after their fellowship had concluded. When asked about continued activity with systematic reviews, 69 per cent of respondents stated they had remained involved to some extent (see Figure 17 - respondents could tick more than one activity). It was encouraging that 45 per cent of the respondents had produced, or were currently producing, another systematic review, Cochrane or otherwise. The use of systematic reviews in their work was the most common means of continued involvement by respondents - some examples included using systematic reviews as information sources for other research, using information from systematic reviews to inform teaching, teaching systematic reviewing as a methodology, and using Cochrane Reviews for clinical guideline formulation. Also of note was that 16 per cent of fellows went on to supervise another fellow, which is a particularly

desirable outcome of the scheme in terms of building and sustaining capacity for conducting Cochrane Reviews on the island of Ireland.

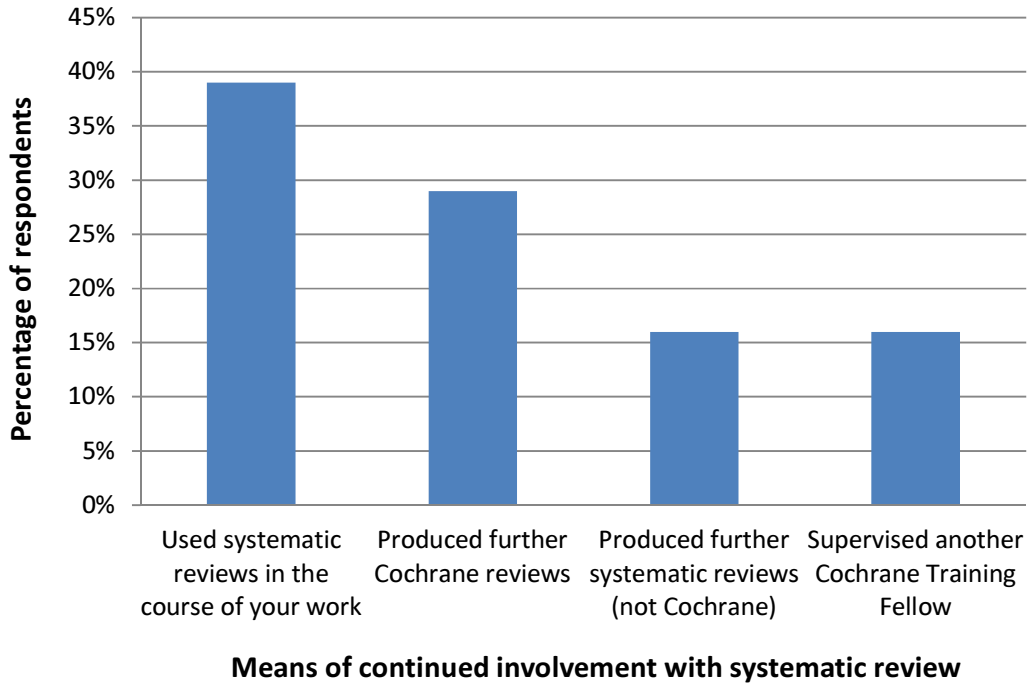

Figure 17: Methods by which respondents continued their involvement with systematic reviews following completion of the CTF

3.1.7 Impact on career

As per the HRB's other fellowship schemes, the CTF is expected to impact positively on fellows' future careers and it is also expected to provide a foundation for their future involvement in Cochrane and systematic review skills. Respondents were therefore asked whether completing a CTF Cochrane Review impacted on their career. The vast majority of the respondents (81 per cent) stated that it had been beneficial to their career to some degree. Most positive comments related to gaining a new methodological skill, raising the respondent's profile as an expert in their topic area, and enhancing their career competitiveness within their field. A selection of comments is included below:

"I am now a more competitive candidate for the position of consultant neurologist with a special interest in stroke"

"(The CTF) provided expertise in research techniques - has been recognised by my employers in the types of tasks now allocated to me"

"It provided me with invaluable high quality training that has enabled me to contribute further to reviews that will be published in the high impact factored Cochrane Library; has enabled me to devise educational modules to teach understanding & practice skills to others"

The remaining 19 per cent of respondents stated that completing the systematic review did not have a particularly beneficial effect. Of those who provided an explanation for this, the lack of career opportunities in Ireland together with the lack of structures or mechanisms to exploit their Cochrane training was the most frequently cited reason.

3.1.8 Barriers to use of reviews

Respondents were asked what obstacles they consider to exist currently on the island of Ireland regarding the adoption of systematic reviews into policy and practice. Most responses to this question stated that a lack awareness of the value of Cochrane Reviews was the main obstacle:

"Policy-makers and health care professionals not fully aware of their (systematic reviews) importance"

Another common response was the perception that there is an unwillingness to accept and adopt evidence from systematic reviews due to entrenched practices within the health system, for example:

"The unwillingness at government/managerial level to rethink existing practices/organisations to allow for the implementation of evidence based practice within their organisations."

Finally, the lack of a formalised system to translate review finding into policy decision or clinical guidelines was also seen as a major obstacle (although the very recent establishment by the DoH of a National Clinical Effectiveness Committee to act as a clearinghouse for clinical guidelines is a positive development):

"There is virtually no process in either jurisdiction for incorporating the results of systematic reviews in policy/funding decisions"

3.1.9 Feedback and suggestions

Respondents were asked for their feedback on the management and administration of the CTF. The feedback in this regard was very positive overall, with almost all (92 per cent) of the respondents expressing satisfaction with the administration and management of their fellowship. A typical comment included:

"The scheme was very well managed and any problems I had were met with understanding and prompt replies at all times. The funding was made available in a timely manner and all correspondence throughout the scheme was friendly and helpful."

Only 5 per cent of respondents (two fellows) were dissatisfied with the administration of their fellowship. Their dissatisfaction was mainly in relation to interaction with the host institution administering their award.

Respondents were also invited to offer suggestions on improvements to the CTF based on their experiences. Several suggestions were made such as the funders facilitating greater linkages and networking between fellows, and facilitating networking between fellows and potential supervisors or former CTF grant holders, for example:

"I think it would be great to know people who had experience of doing a Cochrane Review beforehand and who were interested and willing to supervise such a project. If I had this knowledge beforehand, I think it would have been of great assistance to me in selecting a supervisor and have made doing the review a lot easier. I think that supervisors should also be offered such training."

[Comment on the above remark: In 2005 the HRB held a meeting of funded fellows and this issue of facilitated networking for fellows was raised. In response the HRB has funded an All-Ireland Cochrane e-discussion list since then and this has been highlighted in CTF calls since 2006. The e-discussion list facilitates dialogue and discussion on Cochrane generally but also assists with networking and finding fellows/supervisors for Cochrane fellowship calls. There have, therefore, thus far been efforts to facilitate networking for CTFs].

Additional suggestions from the respondents on how the scheme could be improved included:

- Dedicated funding for dissemination: presently the scheme does not have a specific budget for attending conferences or other dissemination activity
- More Cochrane training courses run in Ireland
- Greater publicity for the CTF scheme to increase awareness
- More flexibility with the funding model: It was suggested that the scheme should allow greater flexibility both in terms of the number of days that can be dedicated per week and the duration of the award, to cater for seasonal workloads for instance

3.1.10 Conclusion

The findings of the survey of past fellows illustrate a high degree of satisfaction with the scheme, in particular with key elements such as the supervision and training. Also, specific goals of the CTF are to build capacity for conducting Cochrane Reviews in Ireland and to raise awareness of Cochrane Reviews

among health decision-makers. The survey results provide evidence that the scheme is achieving success in this regard. Just under half of respondents have produced, or are working on, further systematic reviews following their CTF, and Cochrane Reviews have been widely used as a data source by past fellows. Furthermore, over half of respondents have engaged in activities to make policy-makers and healthcare leaders aware of the findings of their reviews. The fact that over 80 per cent of respondents considered that the fellowship made a positive difference to their career is also encouraging.

On a more negative note, the survey confirms the difficulty of completing the Cochrane Review within the CTF funding period. The difficulties experienced by respondents in ring-fencing time and balancing CTF-related work with regular duties, and delays in receiving feedback from the respective CRG, were the main reasons cited for the inability to complete reviews within the funding period. The lack heretofore of the existence of structures in the health and social care system to exploit the skills of CTF graduates was cited by some respondents as a barrier to their career aspirations.

3.2 Survey of CTF Supervisors

In order to gain further insight into the issues relating to the CTF scheme, CTF supervisors were also surveyed. Contact details were identified for all 33 CTF supervisors since the scheme started. An online survey link was sent to this group and 22 responses were received, representing a response rate of 67 per cent. Supervisors were asked about their experience with the scheme, their route to becoming supervisors, and their views and recommendations concerning the operation and impact of the scheme.

3.2.1. Becoming a Supervisor

Respondents were asked how they became a CTF supervisor. As shown in Figure 18, almost half the supervisors were approached by the fellow who requested their supervision at the point of application to the CTF scheme. In this case the fellow had already registered their title with the appropriate CRG before selecting a supervisor. A significant proportion of supervisors took a more proactive approach and either recommended the fellowship to an individual (16 per cent) or became more heavily involved in the development of the review topic and CTF application in partnership with the fellow. In addition to the reasons outlined below, respondents were asked to describe any other reasons that led to them becoming a CTF supervisor - two were given: (1) they had been supervising the fellow as a PhD student and recommended the fellowship to them and (2) co-authors of the fellow's Cochrane protocol recommended them as a supervisor.

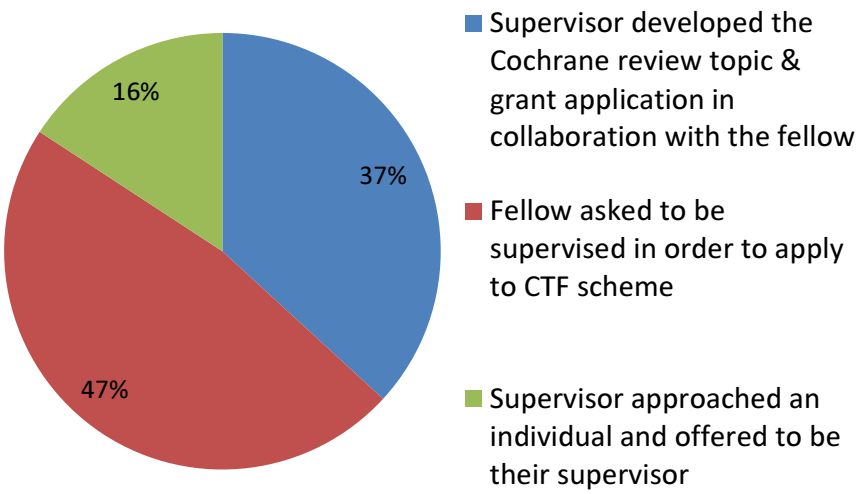

Figure 18: Route into CTF supervision

Respondents were asked about their experience with Cochrane Reviews or The Cochrane Library before becoming a CTF supervisor. A significant proportion of the respondents (45 per cent) stated that they had previously conducted a systematic review themselves. In addition, 23 per cent of respondents stated they were previously involved with a Cochrane Review Group. The remaining respondents stated that they used Cochrane Reviews as a source of information. Only one respondent stated that they had little experience with The Cochrane Collaboration before agreeing to supervise a fellow. The level of knowledge and experience with Cochrane Reviews was therefore high amongst the respondent group.

3.2.2. Benefits and challenges of being a supervisor

Respondents were asked to describe the benefits that accrued to them from supervising a Cochrane fellow. The most frequently cited benefit was learning a new methodological approach or keeping up to date with review methodology. Opportunities to further develop networks, to further develop their expertise in their own research area, or to research areas outside their own primary field were also described as important. Increasing their publication record through co-authorship of review papers and gaining additional experience of supervision were cited as additional benefits.

As the CTF is primarily a capacity-building scheme, only individuals who have not previously completed a Cochrane Review are eligible to apply to this scheme. As fellows are therefore inexperienced in systematic review methodology, it is important that supervisors are able to fully commit to mentoring and supporting the fellow. In this context, respondents were asked how difficult it was to balance the supervision of the fellow with their other duties. As shown in Figure 19, most respondents did not find

the supervision difficult to balance with their other duties - reasons given for this included having a good level of experience with the process of conducting a systematic review, the fellow being good and competent, and being in an employment which facilitated supervision of the fellow.

However, almost half of respondents (45 per cent) found it at least somewhat difficult to commit enough time to their supervisory responsibilities. Various reasons were given for this, including:

- High workload in regular role;
- Timescales of feedback from the CRG group;
- Supervising multiple reviews and agreeing to supervise too many fellows.

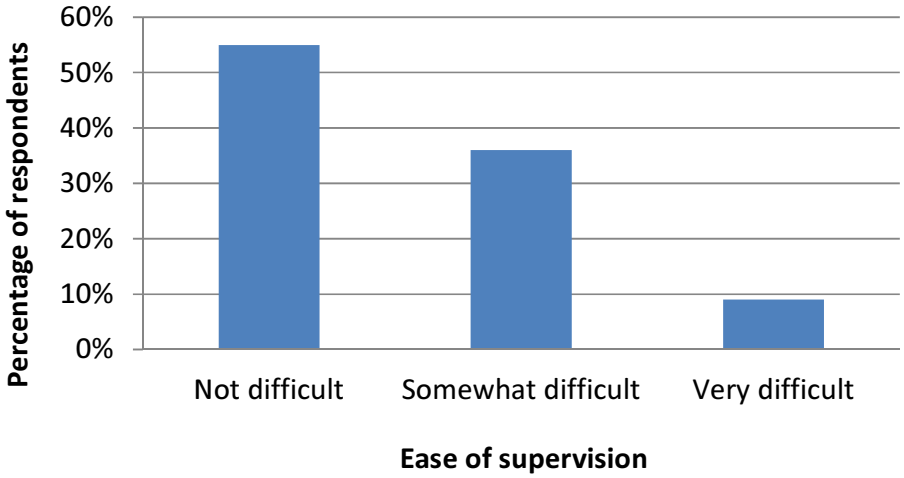

Figure 19: Difficulty of balancing supervision with other duties

3.2.3. Experience with the CRGs

As was the case for fellows, supervisors were also asked about their experiences of interacting with the relevant CRG. Respondents indicated broadly similar satisfaction levels as fellows, with 55 per cent of respondents reporting very positive interactions with their CRG. Of the remaining 45 per cent who expressed some dissatisfaction, the main reasons given were long delays in receiving feedback from the CRG, receiving insufficiently detailed or conflicting feedback, and perceptions that the quality of feedback from different CRGs varies considerably. Below is a selection of respondents' comments:

"In general, the review groups provided timely, critical and constructive feedback on protocols and draft reviews. However, there were delays in getting feedback on a draft review from one review group. In addition, I felt that the feedback received from this review group was insufficiently detailed and insufficiently critical of the submitted draft."

"OK, reasonably timely and helpful. I know that there are substantial differences between the CRGs- some excellent, some poor"

"The feedback was mostly very good. However, in a couple of cases the external reviewers did not appear to understand what a Cochrane Review involved. In some situations, the feedback was very slow to arrive, even if it was good when it arrived."

3.2.4. Feedback on the CTF scheme

Supervisors were asked for their views concerning the funding model and in particular if they considered that the CTF provided satisfactory support for fellows in terms of sufficient protected time and training to complete the review. As shown in Figure 20, the vast majority of supervisors were satisfied with the level of protected time afforded to fellows through the funding. However, while two thirds of supervisors felt that the level of training provided to fellows was satisfactory, one third felt that additional training was required. One respondent gave a detailed description of changes to training provided in the scheme that he would recommend:

"I think that if the Training Fellowship Scheme is to continue, then the current maximum of €1000 for appropriate training over the lifetime of the award may need to be revised upwards. It has been my experience that some Fellows have not attended enough training or have perhaps attended training at an inappropriate time that was not matched with the current stage of their systematic review (e.g. there is little point in attending an "introduction to analysis" workshop when the searching stage of the review had not yet been completed – the knowledge acquired will be lost/forgotten by the time the analysis work commences). I also feel that any training workshops will be most helpful to Fellows if they allow Fellows to make progress with their own specific reviews as part of the workshop (as opposed to a 'general' workshop that makes no provision for attendees to work on their own review). In this context, I think that the new workshop series (RA1 – RA4) offered by the UK Cochrane Centre Training Team should probably be 'compulsory' for Cochrane Training Fellows. In addition to these workshops, I think Fellows could benefit from attending a 'review completion course' towards the end of their Fellowship – I think this would greatly facilitate timely completion of reviews. Attending (RA1-RA4 + review completion course) could potentially amount to a training time of approximately 9 days, which would not be sufficiently covered by the current funding available for training within the Fellowship"

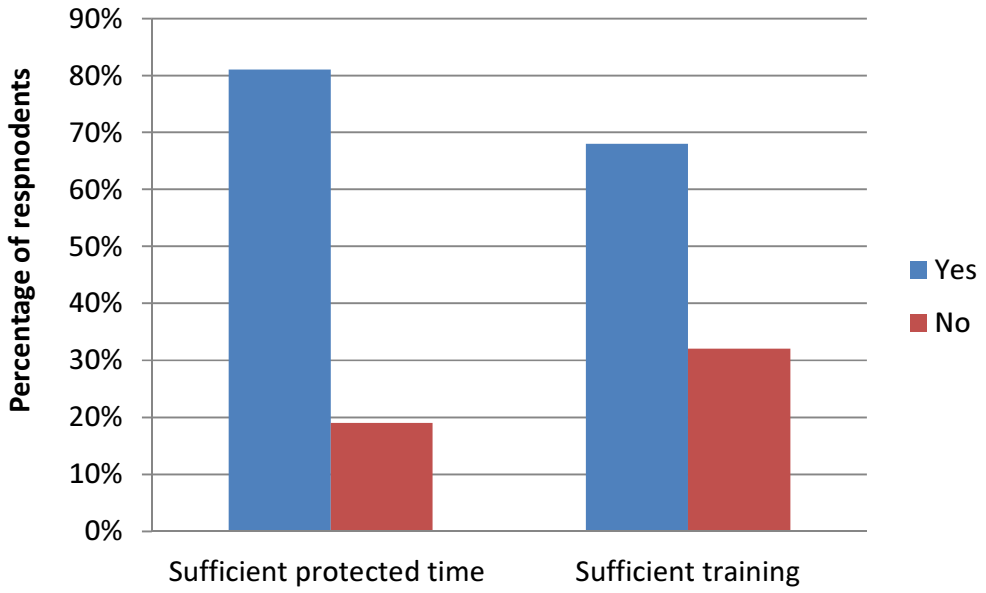

Figure 20: Supervisor satisfaction with CTF funding and support

3.2.5. Use of Cochrane Reviews and barriers to same

Supervisors were asked about any policy/practice impacts of CTF reviews that they were involved with. Of interest was that a higher proportion of supervisors (50 per cent) compared to fellows stated that the Cochrane Reviews produced by their teams had an impact on policy or practice. However, most respondents who answered positively to this question gave vague responses without offering concrete examples, making it difficult to rely on the accuracy of this finding. The best example offered by a respondent concerning impact of a review was the following (which is consistent with an impact example described by one of the fellows):

"High impact- both reviews informed the NICE guideline on dental recall and have led to HTA trials being funded- one on intervals between check-ups and one on the frequency of scale and polish appointments."

Respondents were also asked about the main obstacles that currently exist on the island of Ireland concerning the adoption of Cochrane Reviews into policy and practice. Consistent with fellows' responses, the supervisors perceived a lack of awareness of systematic reviews by policy-makers, and challenges in changing the culture in terms of embedding the concept of evidence-based medicine and policy formulation, as the key obstacles. Typical comments included:

"The absence of an Island of Ireland body specifically dedicated to evidence-based clinical practice guideline development has been a significant obstacle in the past. This deficiency may be remedied by the recently established National Clinical Effectiveness Committee whose remit includes

developing/adapting clinical practice guidelines. I am unaware of the precise modus operandi of the Committee but I am presuming that at least some Committee members have experience in conducting systematic reviews. If this is not the case, then perhaps the Committee might consider drawing upon the expertise of Cochrane Training Fellows to assist them in the guideline development/adaptation process"

"Culture (though this is changing); education (though we are trying to change this via our Evidence Based Medicine teaching in our own institution); more emphasis of EBM and the importance of systematic reviews could be made in terms of postgraduate education and training; lastly, there are some champions re: EBM in terms of policy and practice (e.g. health intelligence unit in HSE), these groups should be brought together and supported with (perhaps) a wider EBM conference, current conference is too limited in its approach to systematic reviews only"

3.2.6. Conclusion

Supervisors were generally very positive about the CTF, with most respondents expressing positive views concerning the benefits of being a supervisor. In line with the fellows' feedback, delays in receiving feedback from CRGs were cited as an issue by some respondents. A third of supervisors considered that additional training, on a mandatory basis, would be of much benefit to fellows but that additional funding would be required to enable this. Of note was that unlike fellows, most supervisors were not able to give many concrete examples of impacts on policy or practice deriving from their Cochrane Reviews. This may suggest that there was little participation by this group in wider dissemination activities. Greater involvement in dissemination of review findings by supervisors may facilitate CTF reviews in having more impact.

3.3 Views of CRG Managing editors and CTF selection committee

In order to further extrapolate the impact of dedicated funding for producing a Cochrane Review, the views of the Managing Editors of the 33 Cochrane Review Groups that hosted the CTF reviews were sought. They were asked what difference they felt dedicated funding, available through the CTF, made to the Cochrane process, and specifically how it impacted on the preparation of the review in terms of both speed of completion and quality. Responses were received from 18 Managing editors, representing a response rate of 55 per cent.

Feedback was also sought from members of the CTF selection committee, which is responsible for making recommendations about the applicants to the scheme to the HRB and HSC R&D Division. The collated feedback from the Managing editors and CTF committee members are included below.

Question	**Collated response**
Does dedicated funding provided by the CTF lead to more timely review completion?	There were varying views as to whether or not having specific funding results in more timely and efficient Cochrane Review completion. Some CRG Managing editors felt that CTF funding did contribute to a more timely review. However, Managing editors who examined specific details of CTF recipients registered in their CRG concluded that CTF funding did not lead to a faster or more efficiently completed review. Several Managing editors stated their opinion that closer monitoring by the funding agency of the completion of the review would be helpful. The current scheme does not penalise fellows who do not complete their review within the funding period, or indeed, those who do not complete their review at all. It was argued that the funders should request a project plan and monitor fellows' progress more closely, possibly linking grant payments to satisfactory progress. In addition, one respondent stated that the call documentation for the CTF has caused confusion for fellows. It states that an individual is not eligible to apply to the scheme if they have already prepared and published a protocol. Fellows have incorrectly interpreted this to mean they cannot do any work whatsoever on the protocol if they wish to apply for funding. The survey analysis showed that a large proportion of fellows' protected time (over one year in the majority of cases) appeared to be spent working on the protocol. This period could be shortened if some preparatory work on the protocol was carried out before the fellowship award officially commenced. [Note: While this appears a reasonable suggestion, CTF fellows are purposefully inexperienced in producing systematic reviews and therefore training in developing a protocol is integrated into the CTF award and period]
Do you feel that CTF reviews are of a higher quality?	There were also mixed opinions regarding the issue of quality and whether or not dedicated funding provided by the CTF had any discernible impact on the quality of reviews. Some respondents felt that reviews produced

	by fellows were of a higher quality by virtue of the increased time they were able to devote to their review and the funding available to access training. However, most respondents felt that reviews produced by fellows were not necessarily of a higher quality, as quality depends on many factors, including: - the skill of the reviewer; - support from their supervisor; and - the quality of feedback from peer reviewers and the editorial team. One respondent opined that the question should not be whether or not a higher quality review was achieved, as the Cochrane process should ensure that a consistent high quality is achieved by all reviews. Rather, the issue is whether fellows, who are often less experienced than other reviewers, achieve the same high standard. This respondent felt that high quality was generally being achieved by the fellows, and that the scheme is increasing capacity for producing Cochrane Reviews across a diverse range of professional backgrounds.
Do you have any further feedback relating to any aspect of the scheme?	In addition to training fellows and providing dedicated time to produce a Cochrane Review, this respondent group felt that the CTF has wider value, in the sense that it gives recognition and value to the activity of producing a systematic review and gives the fellows additional recognition beyond simple authorship of a review. While the scheme was well regarded by the respondent group generally, the following suggestions were made in the interests of improving the scheme: - Stronger monitoring of fellows and their progress throughout the lifetime of the fellowship should be considered. There appears to be no consequences, in terms of continued funding, for those fellows who do not complete each stage of their review in a timely manner. Closer monitoring of fellows, either through linking of grant payments to satisfactory progress (as judged by the funder with the assistance of the CRG Managing editor), or setting final deadlines for review completion with financial penalties for non-completion, was suggested by 29 per cent of the respondent group. - The Managing editors are sometimes unaware that one of their Cochrane authors is in receipt of a CTF and the conditions associated with the award, such as the amount of protected time afforded. It was suggested that better communication to the relevant CRG editors

	about the scheme and the individuals funded would benefit all partners. - A CTF selection committee member recommended that the scheme should encourage more focus on dissemination of findings and networking of fellows/supervisors. - It was recommended that the time between the announcement of the call and the deadline for applications should be increased. Currently the call is announced approximately 10 weeks before the deadline. It was suggested this should be increased to at least three months, as registration of a review title with the relevant CRG (which must happen before application to the scheme) takes at least six to eight weeks. To avoid a situation whereby CTF applicants have to put undue pressure on the CRG to register a title in order to meet the CTF application deadline, an extended application deadline should be considered by the funders.

4. VIEWS OF KEY NATIONAL STAKEHOLDERS

4.1. Background

In the period since the inception of the CTF scheme in 2001, the health sector in Ireland has changed significantly and continues to evolve at a rapid pace. The key health changes that have occurred since 2001 in the Republic of Ireland include:

- The establishment of the Health Service Executive in January 2005, formed from an amalgam of the regional health boards, as the single statutory agency responsible for the delivery of health services in Ireland;
- The establishment in 2007 of the Health Information and Quality Authority as the independent statutory agency to drive continuous improvement and quality and safety in Ireland's health and social care services, including implementation of a national programme in Health Technology Assessment (HTA);
- The reconfiguration of the Department of Health and the establishment of a dedicated Research division in 2008 to drive research policy and strategic research-relevant initiatives;
- The publication in 2009 of the HRB's new Strategic Business Plan 2010-2014 which outlines a shift in the HRB's emphasis from basic biomedical research towards applied biomedical, clinical, population health, and health services research, and to place a more explicit emphasis on evidence synthesis and knowledge brokering activities;
- The establishment in 2010 of the Directorate of Quality and Clinical Care and the 22 National Clinical Care Programmes within the HSE to drive and strategically coordinate healthcare provision, to improve outcomes, and to save money and;
- The establishment during 2011 of the National Clinical Effectiveness Committee, under the aegis of the Department of Health, to act as a clearinghouse for clinical guidelines formulated or adopted for the Irish context, and to identify and prioritise areas where new or better guidelines are needed.

Following a review of public administration in Northern Ireland the following four changes to the health system were implemented. The new structures came into effect from 1st April 2009:

- A regional Health and Social Care Board replaced the four Health and Social Services Boards. This focuses on commissioning, resource management and performance management and improvement.
- A regional Public Health Agency was established. This incorporates and builds on the work of the Health Promotion Agency but has much wider responsibility for health protection, health improvement and development to address existing health inequalities and public health issues for all the people of Northern Ireland;

- A regional Business Services Organisation, which provides a range of support functions for the whole of health and social care system, was established;
- A Patient and Client Council replaced the Health and Social Services Councils. This organisation aims to provide a strong voice for patients, clients and carers.

The Public Health Agency was established in April 2009 as part of the above described reforms to Health and Social Care in Northern Ireland. The previous R&D Office in Northern Ireland that operated the CTF scheme in partnership with the HRB became a division of the new Public Health Agency and is now called the HSC Research and Development Division, Public Health Agency (HSC R&D Division).

It is therefore vital, when assessing the outputs, outcomes and potential impact of the CTF scheme going forward, to reflect on the implications and opportunities presented by the changed health policy and practice environments described above. The use of and demand for the highest standards of evidence such as Cochrane Reviews, as well as the need for people trained in the systematic review methodology, by those charged with formulating healthcare policy and producing or approving clinical guidelines is important to gauge in this review of the CTF scheme. In this context, the views of key stakeholders were sought regarding their current awareness and use of Cochrane Reviews, the demand for people with systematic review skills (Cochrane or otherwise) within their work programmes, any future plans or developments in train relevant to the CTF, and any recommendations they had in terms of funding model and maximising the impact of the CTF scheme on policy and practice in Ireland.

4.2. Details of respondent group

Contact was made with a variety of stakeholders in the health sectors in both ROI and NI. Interviews were conducted with, the following individuals:

- Dr Jennifer Martin, Deputy Chief Medical Officer, Department of Health
- Mr Robert Murphy, Research Officer, Research Division, Department of Health
- Dr Colin Doherty, Clinical lead for HSE epilepsy programme and HRB board member
- Dr Mairin Ryan, Director of Health Technology Assessment**,** HIQA
- Dr Jean Long, Head, HRB Evidence Generation and Knowledge Brokering Unit
- Professor Hilary Humphries, Chairman of National Clinical Effectiveness Committee

In addition, e-mail feedback was received from the following individuals:

- Dr Una Geary (HSE clinical lead - Emergency Medicine programme)
- Dr Peter Kelly (HSE clinical co-lead - Stroke programme)
- Dr Michael Power (HSE clinical lead - Critical Care programme)

- Dr Oliver Fitzgerald (HSE clinical lead – Rheumatology programme)
- Professor Hannah McGee (Dean of Medicine, RCSI; Chair of the DoHC Cardiovascular Policy Group)
- Dr Christine McMaster (Consultant in Public Health Medicine, Public Health Agency, NI)
- Mrs. Olive MacLeod (Director of Nursing, Northern Health and Social Care Trust)

The collective comments and recommendations of the stakeholder group are thematically summarised below.

4.3. Current awareness and use of Cochrane Reviews

While few of the stakeholders could cite the use of reviews specifically produced by CTF fellows, there was a very high level of awareness and appreciation among stakeholders of Cochrane Reviews as valuable sources of evidence, and most have referenced Cochrane Reviews for their work in relation to any guideline/policy development they were involved in.

HIQA and the HSE clinical leads in particular regarded Cochrane Reviews as hugely important to their work in conducting health technology assessments and formulating clinical guidelines:

"There is no doubt Cochrane systematic reviews have contributed greatly to the development and dissemination of critical care knowledge and its consequent effective use at the bedside."

"The Cochrane Reviews are a highly valuable source of summary information based on high-quality evidence, prepared and evaluated in an objective standardised way. I and other Clinical Leads find them very useful to summarise the evidence base to clinicians and management teams. In formulating the Stroke Programme business case for 2011, we relied on Cochrane Reviews for Stroke Unit and Thrombolysis care as unbiased data sources."

4.4. Benefits of people being trained in the Cochrane technique

Almost all stakeholders considered it very important to have a pool of individuals in Ireland with the expertise to conduct a Cochrane Review and more generally with systematic review skills. In this context, the dedicated time and funding provided by the CTF, as well as the training provided, was considered very useful by the stakeholder group:

"I believe that it is essential to have expertise to conduct Cochrane Reviews here in Ireland...The support of the HRB Cochrane programme is very valuable in this regard."

"In terms of supporting people to do Cochrane training and Reviews – I'd see it as our contribution to the international pool of Cochrane Reviews we happily draw from, either in their raw form, or as already built into international guidelines. The skills in doing the work, and the benefit we get from Cochrane more generally, are as important I think as specific items of reviews we can pin down to Irish reviews."

Indeed, some stakeholders – notably HIQA and some of the HSE clinical leads – commented that the cohort of fellows who have already completed the CTF and published Cochrane Reviews would provide an invaluable resource to tap into in the immediate future, given a lack of internal expertise.

"International guidelines will be adapted for Ireland and systematic reviews of the evidence will be used to do this. The [clinical] programmes won't necessarily have the expertise in house to carry out the systematic reviews, therefore we will need to use external groups/individuals. The group of funded fellows would be ideally placed for this."

"I would welcome the opportunity for the clinical programme to use Cochrane Reviews and to have access to people with the appropriate skills and training."

Thus, the establishment of these bodies and their demand for individuals with systematic review expertise provides an unprecedented career opportunity for Cochrane fellows to utilise their skills and training following completion of their fellowship. There was enthusiasm among stakeholder organisations for linking with the CTF – either through a formal mechanism whereby a member of the organisation completes a Cochrane fellowship, or indirectly by accessing the expertise of fellows who have successfully passed through the scheme.

4.5. Comments and suggestions regarding the funding model

The general view among the stakeholder group was that the impact of the CTF to date on health policy and health service delivery in Ireland was likely to be minimal, due to a lack of direct alignment between the CTF and health sector needs and priorities. However, this statement must be considered in the broader context that the impact of any research evidence on policy and practice decisions in Ireland to date is likely to be low. This is firstly a result of the historically low emphasis on the development of structures or processes for driving evidence–based decision making by policy-makers and health service planners in Ireland, and secondly a result of the fact that the funders (through the CTF or other schemes) have not been asked to respond directly to Irish healthcare system priorities. Thus, CTF review topics to date have been mainly selected by fellows based on their personal, local or professional interest rather than as a response to the direct evidence needs of the health system, while

selection of successful CTF candidates is the remit of a selection committee comprising of three external experts with no strategic prioritisation dimension available to add to the selection criteria.

The possibility of introducing a more strategic dimension to the CTF scheme to partly use the scheme to address the evidence needs of health policy-makers was discussed with the stakeholders. There was significant enthusiasm and interest among stakeholders in the concept of more closely aligning CTF topic selection with the strategic health service needs ("*Personally I believe that a dedicated fellowship scheme is potentially beneficial but it should be aligned with service provision...the fellowships should be focused on what is a priority on service provision in Ireland.")* Many were of the view that the time was right to consider such a proposal given the recent developments in the health system, the convergence of the HRB with the health service, and the establishment of organisations (such as HIQA) and programmes (such as the National Clinical Effectiveness Committee and HSE Clinical Programmes in ROI, and their equivalent in NI) with a remit to formulate healthcare standards and clinical guidelines based on the most rigorous scientific evidence.

One stakeholder was of the view that the part-time structure of the fellowship excluded candidates - particularly those from a clinical background - who are unable to dedicate two days a week to producing a Cochrane review:

"The (current) model requires the fellow to be employed in another position whereby two days of the fellows time is given to the review. I fear that good candidates and interested services will be disqualified from this process by not having people who could possibly take such a large part of their time out from either regular duties or research studies…….there could be candidates for full time 1-2 year fellowships to create systematic reviews for many clinical programmes and policy units".

Specific suggestions put forward by stakeholders

- To increase the potential impact of the CTF on Irish health policy and practice, amending the selection criteria so that added weight is placed on proposals that are relevant to the evidence needs of the health service could be considered. Also, the funders might consider a full-time funded fellowship over 1-2 years in addition to the current part-time model to facilitate candidates who could take a year or two out full-time from their current position to produce reviews for clinical programmes and policy units. Such candidates, particularly from a medical background, find it difficult to dedicate part of their current role to the review process.

- The majority of CTF holders have, to date, been based in university settings and in academic positions although the scheme is open to all including from practice and policy making organisations. It was suggested that the funders should promote the scheme more widely to encourage more applicants from clinical settings and regulatory/policy-making bodies

(assuming that applicants would have the necessary support of their employer to commit a proportion of their working week for CTF activities).

- The CTF funders should seek to encourage strategically relevant partnerships within the health service in order to maximize the impact of a Cochrane Review. For example, applications where the review teams include partners who may be able to react/implement the findings of the review could be encouraged.

- As CTF fellows are receiving dedicated funding to produce a Cochrane Review, and a strategic objective of the scheme is to raise awareness and promote the use of Cochrane Reviews among policy-makers, there should be an expectation for fellows to engage in dissemination activities as part of their fellowship. It was suggested that a requirement should be built into the funding model for dissemination and knowledge transfer of review findings.

- It was commented by some stakeholders that the nature of the topics covered by The Cochrane Collaboration does not necessarily meet the needs of policy-makers - most Cochrane Reviews synthesise randomised trial and quantitative data and the topic must address a specific intervention for the prevention, treatment or rehabilitation of a condition. Those concerned with health system/service configuration issues, may have further data needs including the need for qualitative/prevalence/epidemiological data and frequently more 'macro' level data (e.g. effectiveness of mass public health interventions) while the more 'micro' level of review topics to date would limit their use in the policy sphere (*"I would be inclined to suggest perhaps the Cochrane Review process might also look at health systems i.e. the effect of 'macro' health service delivery and organisation (SDO) on outcome e.g. centralisation.")* A suggestion was made to extend the fellowship scheme to include different types of systematic reviews and organizations - including but not necessarily limited to Cochrane - to also include qualitative and prevalence data, which are also important data sources for evidence-based policymaking.

Other proposals linked to but outside of the fellowship scheme that came though the stakeholder interviews included (i) within the DoH, and linked to the work of the National Clinical Effectiveness Committee and the work of the HSE clinical programme teams, the support of the HRB in training and support needs in relation to evidence synthesis and appraisal would be greatly appreciated, and (ii) as short-term evidence needs will always arise for these agencies, the issue of commissioning rapid reviews is one that needs to be explored further by the HRB.

4.6. Conclusion

The Cochrane method of producing systematic reviews is highly rated by the stakeholders and the evidence provided by the reviews is regarded as high quality. Accordingly, the stakeholders were

enthusiastic and positive about the possibility of the CTF scheme serving as a more direct national source of strategic evidence and methodological expertise and they offered several suggestions in this regard. The existence of new structures such as the HSE Clinical Programmes and the DoH Clinical Effectiveness Committee means that the demand for the highest quality research evidence provided through Cochrane is increasing significantly in Ireland.

While it is encouraging that stakeholders are enthusiastic about further engagement with the CTF scheme, it is important to reflect on the purpose and nature of the scheme. The CTF provides training to those with little previous experience in systematic review methodology. Fellows on this scheme are, therefore, inexperienced in carrying out this form of evidence synthesis and may not be an appropriate group to provide high level strategic information. The scheme does, however, provide a significant opportunity to influence policy-makers and practitioners. The inclusion of more individuals from policy organisations would lead to reviews carried out in areas relevant to those organisations, would enable these fellows to carry out further strategic reviews for their organisations and increase knowledge of Cochrane reviews as an information resource for evidence-based policy formulation. In addition, while active Cochrane fellows may be regarded as insufficiently experienced to provide evidence to stakeholders, graduates from the CTF scheme are trained and experienced. This group of individuals may be promoted to policy organisations as potential providers of policy-relevant information, for example through commissioning of reviews.

5. CONCLUSIONS AND RECOMMENDATIONS

The CTF scheme was established in 2002 as a partnered initiative between the HRB and HSC R&D Division with two main objectives:

1. To increase the capacity of researchers on the island of Ireland to conduct high quality systematic reviews;
2. To produce Cochrane systematic reviews of relevance to the island of Ireland, and for policy-makers and professional to be aware of systematic reviews, and to be able to act upon their findings.

In the last ten years, many contextual developments have occurred on the island of Ireland which have resonance for the scheme, notably reconfigured health sectors in both parts of the island, a transformed national research system in RoI, and new strategic remits on the part of both funders. Therefore, it was considered appropriate to review the success of the CTF scheme to date in meeting its two main objectives. The operational effectiveness of the CTF scheme, in particular the appropriateness of the funding model employed to date, was also examined. This section synthesises the main findings of the review and outlines some key recommendations and areas for discussion in order to improve the effectiveness of the scheme going forward.

5.1. Overview of findings

As a general conclusion, the review finds that the CTF scheme has to date been successful in meeting its original objectives. The vast majority of CTF participants who have completed the fellowship to date have completed Cochrane Review training and have published a review, or are in the process of preparing a full review. The capacity for producing systematic reviews (both Cochrane and non-Cochrane) on the island of Ireland has increased significantly in the last decade and much of this can be attributed to the CTF. Furthermore, the evidence from the stakeholder consultations is that there is a high awareness of the scheme and the value and importance of Cochrane Reviews more generally. The recent developments and new structures in the health sectors in both parts of the island are creating new demand for the highest level of research evidence to inform policy and practice development. This presents a great opportunity together with the enthusiasm among key stakeholder organisations to avail of the CTF as a more direct provider of strategic evidence and systematic review expertise. By making some adjustments to the scheme to improve its delivery and seeking to strengthen the link between the producers and users of Cochrane Reviews, the funders can play an important role in shaping the CTF as a key initiative at the convergence of the health and research systems.

An assessment of the success of the scheme in terms of the three areas outlined is included below, based on the analysis presented in the preceding chapters.

5.1.1. The capacity for producing high-quality systematic reviews in Ireland

The findings of the review indicate that the CTF has significantly increased the capacity for producing Cochrane Reviews in the island of Ireland. Since 2002, the CTF has funded 76 individuals to receive training in Cochrane methodology and to produce a Cochrane Review, the majority of whom stated that they would not have produced a review without the support provided by the CTF. Also, given that Cochrane Review teams typically include three or four individuals additional to the lead author, a much higher number of people in Ireland have gained expertise and experience of the Cochrane Review process. This is confirmed from data received from the UKCC (presented in Appendix 2) which shows that the number of Cochrane authors with an address in RoI has increased hugely from a very low base of nine in the year 2000 to 269 authors in 2011, representing a proportional growth in Cochrane authors which is among the greatest seen for any country. The vast majority of CTF recipients to date were academics or researchers based in university settings, with healthcare professionals employed in a practice setting comprising just over a fifth of recipients and one recipient based in a health policy organisation.

Discounting the currently active fellowships, over 70 per cent of fellows stated that they have completed a Cochrane Review, although data provided by the UKCC showed that 41 per cent of past fellows had yet to have their a review published in The Cochrane Library. All survey respondents had completed at least the mandatory methodological training and some had attended optional courses. It should be noted, however, that a third of supervisors surveyed considered that additional core training would benefit fellows and that additional funding should be provided to this end. Importantly, fellows reported very high satisfaction levels in terms of their fellowship experience, in terms of both the training and supervision received and the management and administration of the scheme. In terms of career impact, fellows attributed general career benefits to completing the CTF, although the historic lack of formal bodies to formulate evidence-based guidelines in Ireland to exploit the skills of CTF graduates was considered an obstacle to harnessing the full benefits of the CTF. Encouragingly, almost half of the survey respondents had produced further systematic reviews of some kind (30 per cent had worked on another Cochrane Review), while 16 per cent had gone on to supervise a CTF recipient. These are important outcomes in the interests of sustaining and increasing the capacity for producing Cochrane Reviews in Ireland.

For those fellows who completed their full review, with a couple of exceptions the CRG Managing editors were generally positive about the quality of the end product. The access and usage statistics for the CTF reviews published in The Cochrane Library indicated a higher degree of awareness and interest in CTF reviews among national and global audiences, compared to reviews produced through non-CTF means, which may also be an indicator of quality. However, the current lack of reliable benchmark data did not enable a comparison between CTF and non-CTF reviews in terms of the timeliness and scientific impact (i.e. citation rates). While only seven fellows had to date produced additional publications in peer-reviewed journals related to their Cochrane Review, a majority had presented their findings

internationally at scientific conferences. A quarter of fellows had engaged in wider dissemination activities such as media engagement or producing articles in health professional publications.

One main area of concern uncovered by the review was the time taken by fellows to publish their Cochrane Review and a lack of progress by a small minority of fellows in completing key stages of the review process. A key deliverable is that fellows should aim to submit their draft full review by the end of the fellowship period, even though editing and publication of the final draft can take several additional months. The review found that less than a quarter of fellows completed and published their Cochrane Review within the two year CTF funding period (note that the review gathered data on publication dates rather than submission dates). The average CTF review took three years to publish, with half of the reviews published to date taking between three and seven years to publish their review. A major issue appears to be the proportion of the fellowship time needed to publish the review protocol. On average, fellows took more than one year to publish their protocol, taking up over half of the fellowship period for this first step. Dedicated funding through the CTF was not, as a general observation, associated with a faster or more efficiently produced review. Furthermore, the review identified two examples whereby fellows completed the full term of the fellowship but had not produced either a protocol or a full review. Also, there were additional cases were the CRG had deleted the protocol from The Cochrane Library following their conclusion that the CTF review team had ceased work on the review.

5.1.2. The relevance of CTF reviews to the island of Ireland and awareness among key stakeholders of the value of systematic reviews

To the extent that CTF reviews contribute to the international pool of evidence around a specific topic that has been identified as a global evidence gap, the scheme has been indirectly relevant to those shaping policy and practice on the island of Ireland. Also CTF recipients were able to provide some good individual examples of how their reviews (and themselves through membership of guideline committees) had informed health policy and practice in Ireland and internationally, while key stakeholders interviewed during the review provided some evidence that the general pool of Cochrane Reviews have been used for guideline and policy development in Ireland (e.g. the HSE Stroke Clinical Programme, and development of the DoH Cardiovascular Health Policy). It is however the case that the CTF scheme has to date not been used as a direct strategic mechanism to inform policy, service planning and delivery in Ireland. Of course, this should be considered in the context of the fact that health research generally in Ireland has not historically been used to inform policy and service delivery in Ireland in any systematic or structured way[1]. This is mainly due to the lack of articulation by the relevant stakeholder organisations of their strategic evidence needs and the absence of appropriate structures to harness research evidence for the benefit of the health sector. However, a widespread

[1] Hiney, M, Curran, B and Clarke P (2011) Review of Population Health Research and Health Services Research in Ireland. Health Research Board, Dublin.

consultation with key national policy stakeholders for the purpose of this review of the CTF scheme indicated a high degree of awareness of, and enthusiasm for, the role of Cochrane Reviews and CTF graduates as valuable sources respectively of high-quality research evidence and systematic review expertise.

It should be clearly stated that the purpose of the CTF scheme is to provide training in review methodology and therefore the use of the scheme to address the priority evidence needs of policy-makers is not appropriate. However, the CTF scheme has succeeded in building up capacity in terms of increasing overall numbers of individuals who are trained and now possess significant experience in systematic review methodology, and could go on to work on these high priority reviews. CTF graduates have not heretofore been used as a resource for policy-makers or those engaged in guideline development. Rather than regarding the CTF scheme itself as a means of providing strategic information, the cadre of professionals trained through the scheme are well placed to provide do so, now that the structures are being put in place to utilise this group.

To maximise the policy relevance and impact of Cochrane Reviews, there are key issues to address and clarify among the stakeholders. The main focus of Cochrane Reviews (comparing interventions using RCT data) means that policy-makers often need access to additional evidence sources, particularly population level data. Therefore, while stakeholders are positive about Cochrane Reviews and use them when possible, their evidence needs are often broader than the evidence that Cochrane Reviews focus on. Also, due to the time needed to produce a review and the nature of topics accepted by The Cochrane Library, potential for the strategic use of Cochrane Reviews is currently limited in Ireland. As Cochrane Reviews typically take more than two years to complete, organisations would need to formulate multi-annual evidence needs to be able to commission a Cochrane Review. Thus, for the health sector to derive maximum benefit from Cochrane Reviews, a ground shift will be required so that multi-annual and longer-term evidence needs are articulated. However, certain high-priority health themes have been identified by the DoH (such as obesity, alcohol consumption and healthy aging) and Cochrane Reviews concerning these topics may have increased potential for influencing policy.

5.1.3. The operational effectiveness of the scheme, in particular the appropriateness of the funding model employed to date

The review did not reveal any major issues with regard to the administration of the scheme and feedback received from CTF participants was very positive in terms of their dealings with the funders. Several suggestions were made by survey participants in areas such as extending the application deadline and improving the timeliness of feedback from CRGs to fellows. The CTF host institution in the vast majority of cases was a university and with one or two exceptions, fellows were satisfied with how their institution administered the award. The review did however highlight a problem on the part of fellows in availing of their full protected time mainly due to pressure of work in their regular role. In

fact, the majority of fellows (61 per cent) devoted less than 31 per cent of their working week to CTF-related activity even though most CTFs buys out up to two days per week.

In terms of the funding model, the analysis did not provide any strong evidence that a cluster-based approach (focusing the CTF awards in centres of known Cochrane expertise) would be more successful than the current system whereby individuals from any institution can apply once they have sponsorship. There was no observable pattern - or difference in supervisory satisfaction ratings - between fellows supervised by an individual who supervised multiple fellows, and those supervised by an individual with no previous experience of the CTF scheme. Also the number of fellows (six) who published their review within the two year funding period was too small to enable a meaningful analysis of any likely success factors. It may be noted that four out of this group of six were based at Queens University Belfast; however, this institution also hosted the most fellowships (17 fellows). The issue of review completion within the lifetime of the fellowship was analysed in relation to the current funding model. CTF funding has thus far been available for a maximum of two years. The average time period between award commencement and review publication was three years. This finding leads to the question of whether the fellowship period offers sufficient time to complete a review. While additional funded time may be justifiable for some fellows, a clearer definition of completion (submission of a final draft rather than publication) and closer monitoring by the funders to ensure continuous progress and to address any issues as they arise is proposed and discussed below in recommendation eight.

5.2. Main Recommendations

In order to address some gaps and weaknesses with the scheme that were identified in this review, the below recommendations are made. The recommendations aim to 1) clarify the objectives of the scheme 2) address the identified issues regarding length of time taken to produce reviews through changes in the application procedure and grant monitoring and 3) propose how the scheme may have an increased influence on policy and practice development.

<u>Call and application stage</u>

1. **Clarify that the primary objective of the CTF scheme is to increase capacity for the production of Cochrane Reviews on the island of Ireland, among those working in health-related roles in academic, practice and policy settings. This is distinct from any mechanisms to deliver the high priority and urgent evidence needs of policy-makers.**
   Through the course of this evaluation, the role of the CTF scheme in providing strategic policy information has been carefully examined. As the purpose of the fellowship is to train individuals with little previous experience in systematic review methodology, fellows currently undertaking a Cochrane Review through the scheme are not regarded as an appropriate group

to provide strategic information to policy-makers in the context of the review they are working on. However, the CTF scheme should still aim to influence and inform policy making, but the means by which this may occur is through raising awareness of Cochrane Reviews as an information resource and providing a cadre of professionals, including policy-makers, with experience in systematic review methodology. It is therefore proposed to reword the second stated objective of the CTF scheme from its current wording:

"To produce Cochrane systematic reviews of relevance to the island of Ireland, and for policy-makers and professional to be aware of systematic reviews, and to be able to act upon their findings."

To the following:

"To produce Cochrane systematic reviews of relevance to the island of Ireland, and to create a cadre of policy-makers and professionals whose awareness of systematic reviews, and ability to act upon their findings, has been increased through their participation in the scheme."

2. **Continue to promote the scheme widely to encourage applicants from health practice and policy organisations and seek to address any barriers faced by prospective applicants to the scheme by engaging with these organisations**
   Three-quarters of CTF recipients to date were academics (lecturers or researchers), almost a quarter were healthcare professionals in a practice setting, while only one fellow to date has been based in a policy-related organisation (HIQA). The existence of new structures such as the HSE Clinical Programmes and the National Clinical Effectiveness Committee that require systematic review expertise, together with increased demand for systematic review training within organisations such as DoH, HIQA and the HSC clinical guideline development programmes in NI, means that there is now an opportunity to increase the relevance and policy impact of the scheme by seeking applications from these quarters. Both funders have thus far made significant effort in this area. Continued innovation by the funders to making the CTF scheme attractive to those employed within health policy and service delivery organisations will be necessary, particularly in a time of time of increasing staff shortages However, issues around appropriate supervisory arrangements and the need for dedicated time for fellowship work, would need to be satisfactorily addressed.

3. **Extend the deadline for submission of CTF applications to at least 12 weeks**
   Currently the call document is published approximately 10 weeks before the deadline. It was suggested this should be increased, as registration of a review title with the relevant CRG (which must happen before application to the scheme) usually takes at least six to eight weeks. To avoid a situation whereby CTF applicants have to put undue pressure on the CRG to register

a title in order to meet the CTF application deadline, an extended application deadline will be considered by the funders.

4. **Request an explicit commitment from the applicant's Employer and Host Institution at the point of application that the applicant has their support for dedicating two days a week for the CTF and follow up on this as part of routine monitoring.**
   The review highlighted the difficulties experienced by many fellows in protecting their time for fellowship work and balancing CTF-related work with their regular employment duties. This may be partly as a result of tacit pressure from the fellows' employers in an increasingly pressurised environment impacted by the public sector recruitment moratorium and resultant staff-shortages. While both funders have thus far required institutional sign-off on all applications to the CTF scheme, a clear commitment should be sought from employers that successful candidates will be permitted (and expected) to commit the minimum amount of time to their fellowship. The funders will monitor the compliance of employers at scheduled reporting periods (see below point) to ensure ongoing institutional support for fellows.

5. **Request a dissemination and knowledge transfer plan as part of the CTF application process**
   While a stated aim of the CTF is to make policy-makers and practitioners aware of the findings of Cochrane Reviews, a minority of fellows had engaged in wider dissemination activity. As per other HRB funding schemes, it would be appropriate to request applicants to submit a knowledge transfer and stakeholder engagement strategy as part of their application to emphasise the importance of this ambition. Also, applications where the review teams include partners who may be able to react to or utilise the findings of the review should be encouraged.

<u>Fellowship management and monitoring</u>

6. **Harmonise the fellowship commencement date across a cohort of fellows in a particular year to facilitate interaction with the UKCC's Training Team and the funders' monitoring of the awards**
   To facilitate the new proposed grant monitoring procedure, outlined in point four, the funders intend to harmonise the fellowship commencement date across the cohort of fellow in each year. This will facilitate more effective monitoring of all fellowships at the six monthly intervals. This will also assist in better engagement with the UKCC's Training Team to ensure that all fellows attend required and appropriate training.

7. **Agree on an appropriate CTF training schedule with the UKCC's Training Team and render these mandatory at certain time-points in the fellowship**
   In order to ensure that all fellows attend sufficient training or attended training at an appropriate stage of their fellowship, the training schedule should be reviewed. A revised

training schedule should be informed by recommendations from the UKCC and local information on available courses. A greater match between the timing of training courses and the stage of review should be ensured (e.g. the "introduction to analysis" workshop should be completed only after the searching stage of the review has been completed). A further suggestions was to make the new workshop series (RA1 – RA4) offered by the UKCC Training Team compulsory for fellows. Also, fellows may also benefit from attending a 'review completion course' towards the end of their fellowship to facilitate timely completion of reviews.

8. **Introduce a milestone-based progress reporting framework for fellows to link their progress to achievement of key Cochrane Review milestones (e.g. submission of the review protocol within six months of commencing the fellowship)**
   As outlined above, the review highlighted that the majority of fellows do not publish their review within the HRB funding period. In a small number of cases, there was no progress made by fellows in terms of completing a review or even producing a protocol and no sanctions were applied to the grant holder by the funders. The most recent call document states that the fellow is expected to 'complete' their full review during the lifetime of the award. As discussed in Section 2.5, completion for fellows is better measured by their submission of a final draft of their review, rather than its date of publication. Thus far, this definition of completion has not been defined for those beginning a fellowship. There is a need for clearer communication to the fellows about what is expected of them and more robust monitoring of progress by the funders to ensure value for money. In this context, and given the clear stages of the review process, there is a strong argument for introducing milestone-based progress reporting. It is proposed that that the following monitoring measures be introduced. Fellows will be informed of a specific expectation that they will submit a final draft of their protocol to their CRG within six months of the beginning of the award. Within 24 months from the beginning of the award, fellows will be expected to have submitted a final draft full review. All fellows will be monitored at intervals of six months. If a fellow is not on track to submit his/her draft protocol and review at the above stated times, the funder will investigate the case further. The funders should also consider amending the regulations of future CTF awards to allow for the termination of a fellowship, or withholding some payment, should the fellow not provide a satisfactory progress report.

9. **Review the progress of fellows with currently active CTF grants, and fellows with concluded grants who are yet to publish a full review, to ensure that they are on track to submitting their protocol and full reviews.**
   As discussed in section 2.5, there are currently twenty fellows whose grant have expired and who are yet to publish a full review and, in two cases, a protocol. These are in addition to the 27 fellows with active grants. The funders will assess the progress of all active fellows, and those with expired grants who are yet to publish their full review. For those fellows who are

appear to have stalled in the progress, the funders will liaise with the relevant CRG Managing Editor and the UKCC to establish how those reviewers may be helped towards completion and submission.

Communications and Feedback

10. **Implement a strategy to improve the timeliness of feedback between the Cochrane Review Group and CTF participants.**
    The review highlighted some gaps in communication between various CTF partners that should be addressed by the funders. For instance, recurrent feedback from fellows and supervisors was the time taken to receive good quality feedback from the CRGs. In some cases a lengthy delay occurred, and work on the review stalled during this time period. In order that protected time is not wasted, suspending the funding until feedback is received may be an option to consider. This may not be possible for all fellows; particularly if locum or teaching cover has been recruited for the duration of the grant to cover the fellow's bought out time. However, the possibility of suspending funding could be considered as an option to assist fellows in optimising their protected time. Furthermore, the CRG Managing editors were sometimes not aware that one of their Cochrane authors was in receipt of a CTF and did not appreciate the conditions associated with the award, such as the amount of protected time afforded. For any future fellowships awarded through this scheme, the relevant CRGs will be informed when a fellowship is granted to a reviewer in their group, and the terms of the grant outlined to the Managing editor.

11. **Develop a communication link with key stakeholder organisations/committees so that the expertise and capacity derived from the CTF may be tapped into by those organisations**
    As stated above, there was much enthusiasm and a clear and urgent demand among key policy stakeholders for individuals with the expertise to conduct systematic reviews. Similarly, fellows and supervisors referred to the lack of structures and opportunities to utilise their skills and experience following completion of the CTF. It would therefore seem appropriate for the funders to seek to capitalise on this opportunity and facilitate communication between fellows and policy stakeholders.

APPENDIX 1 - Overview of the Cochrane Review process

Preparing a Cochrane Review is a highly formalised process. Strict criteria govern how a Cochrane Review should be conducted, and each distinct stage of the process is quality assured. With very few exceptions, a Cochrane Review is produced by a team of people (rather than a single author). This team should include people with expertise in the relevant topic area, and experience in systematic review methodology.

When formulating their review topic, the review team will identify the relevant Cochrane Review Group (CRG), based on their chosen topic. CRG's comprise of researchers, healthcare professionals and service users within a specific field of healthcare. There are 53 CRGs in total in 2011, and each group is responsible for preparing and maintaining reviews within their field (i.e. colorectal cancer, HIV/AIDS, and pregnancy and childbirth etc). Each CRG organises internal and external peer review of the review at both its protocol and full review stage, and also ensures that the topic proposed for the review is suitable. This ensures the appropriateness of the reviews to be conducted and the quality of the end product.

The first stage of producing a review is the **registration of a title** with the relevant CRG. The CRG assesses each submitted title in accordance to the eligibility criteria, checks that the same topic has not already been covered, and confirms its suitability as the basis for a Cochrane Review (i.e. relating to the effects of healthcare interventions, the accuracy of diagnostic tests, or the methodology for the evaluation of healthcare). The choice of topic is guided by specific requirements; the review must seek to answer a specific question and must address practical choices faced by individuals. A process of feedback, and modification of the title, takes place until the CRG is satisfied. The title is then formally registered within The Cochrane Collaboration.

After registering the title, the review team is invited to submit a **protocol**. This describes the rationale for the review, the objectives, and the methods that will be used to locate, select, and critically appraise studies, and to collect and analyse data from the included studies. Protocols are reviewed by the CRG editorial team and also by experts external to the team. This ensures that the methods to be followed are appropriate including, for example, the relevance of the proposed outcome measures. When agreed, the protocol is published in the Cochrane Database of Systematic Reviews (CDSR) where it is open to scrutiny by potential users of the final review. Once the protocol is published, the review team is generally expected to publish the **full review** within two years but the typical experience across the Cochrane Collaboration is that this might take longer depending on the size of the review and the extent of the refereeing process when the draft is submitted. The draft for the full review is reviewed by the editorial team of the CRG and by a minimum of two experts external to the team, with many CRGs using a higher number of referees. A process of feedback and revision usually follows, and the review is published in CDSR only when the Co-ordinating editor of the CRG is satisfied. The review team must also commit to provide periodic up-dates for the completed review.

Before applying to the Cochrane Training Fellowship scheme, the applicant must have already registered their title with the relevant CRG. The applicant should also have identified a local supervisor, who has experience in conducting systematic reviews and who is accepted by the CRG as a suitable sponsor. Furthermore, as the scheme provides protected time for the fellow to complete a Cochrane Review, the applicant must also show they have the agreement and support of their employer in order to be eligible for a fellowship.

APPENDIX 2 - Trends in Irish authorships of Cochrane reviews

Data from the Cochrane library shows a significant increase in the number of systematic reviews carried out by review teams based in Ireland following the commencement of the CTF scheme in 2002. This increase is reflected in the large increase of authors with an Irish address who were registered with the Cochrane library since 2000 (see Table 2 below - the numbers refer to authors with an address in RoI only. Numbers of authors based in NI are not recorded below as these are counted within the UK figure. Data for 2001 was not available). The figures are the cumulative total of authors with an Irish address registered in the Cochrane database each year, and include the lead authors and other members of the author teams. The growth in numbers of Cochrane authors for RoI is among the greatest seen for any country.

Table 2: Numbers of authors from RoI registered with The Cochrane Collaboration

Year	No. authors
2000	9
2001	N/A
2002	20
2003	23
2004	31
2005	40
2006	39
2007	55
2008	88
2009	194
2010	241
2011	269