The E-Quality Programme: A Review of the Literature.

Background
The IPCRG supports primary care professionals to provide better quality respiratory diagnosis, treatment and care. The IPCRG’s education strategy objective is to ‘create and promote endorsable cross-national educational products and national programmes relevant to members and the contexts in which they work’. The strategy identifies two objectives:

- To identify educational needs of target markets with costed priorities for action to leverage best practice
- To respond consistently and intelligently to proposals received in the next year to endorse, share and accredit educational programmes.

In December 2010, the IPCRG Board approved the development of an E-Quality programme to take forward the first of these two objectives. This paper reports the first phase of this work, a review of literature to support the development of the programme and specific criteria against which proposals from network members may be assessed.

Scope
The literature review explores the current global health agenda and seeks to inform the question – ‘what educational interventions work to improve clinical behaviour with the ultimate aim of improved patient outcomes’. Papers and reports included in the review have been identified from organisations working and/or funding health development work, within the UK, across Europe and internationally. This includes organisations concerned with the development of healthcare generally and those with a specialist interest in primary care and/or respiratory care. The organisations included are listed as Appendix A.

The review encompasses different kinds of literature - policy papers and evaluations of policy initiatives, educational and improvement methodologies, development project reports, practice guidelines, academic studies. The scope is therefore broad and has drawn on diverse types of literature. The unifying theme is that they are all concerned with the development of healthcare or healthcare systems and achievement of appropriate, safe and effective patient care. In addition to published accounts, the review includes material drawn from interviews with eight members of the IPCRG network. The purpose of the interviews was to explore the knowledge and experience of practice based projects related to this field. This is important because there are limited published accounts of small scale educational development projects concerned with respiratory care in primary care settings.

Structure of the review
The review is structured in three sections. First, we review some of the literature relating to the global health and international development agenda. This literature helps us to understand the issues and some of the strategic solutions proposed. Many of the proposed solutions are normative, but some are empirical accounts in which we see evidence from large scale interventions designed to strengthen health systems. This helps us understand the wider context for the IPCRG’s E-Quality programme and clarifies some important principles and values relative to the initiative.
Second, we review some of the literature concerning specific educational and quality improvement approaches. Here we see a number of papers which have sought to explore the evidence base for different interventions designed to change clinician behaviours and improve patient outcomes. This section also includes insights from specific educational/quality improvement programmes in primary care. This is supplemented by accounts from IPCRG network members of educational development projects. In the third section of the paper, we propose a set of criteria for the E-Quality programme.

1. The global health agenda

**Strengthening health systems**

There is wide variation in health care delivery systems globally; successive reforms have failed to deliver desired results (Crisp 2010, Roberts et al 2008). Roberts et al (2008) have proposed a framework for improving health systems adopted by the World Bank. They argue that health reforms should start by defining issues in terms of ‘performance deficiencies’ or problem definition; followed by causal diagnosis and policy development. They advocate ‘a deep sensitivity’ to local circumstances such as economic resources, political circumstances, and administrative capacities.

Between 1997 and 2008 the World Bank led a global capacity building programme designed to strengthen health systems – The World Bank Institute Flagship Programme on Health System Reform and Sustainable Finance. The programme operated at global, regional and national level and used a combination of learning approaches – short term training events, distance learning, video conferencing, and web based learning. The framework underlying the programme consists of five ‘control knobs’ – a metaphor for the ‘discreet areas of health systems and functions that matter for health system performance’ – these are financing, payment, organisation, regulation and behaviour (Roberts et al 2008). In an evaluation of the programme, one of the key learning points was the value of an ‘extended coalition of partnerships’ and the development of a repository for learning materials; especially regarding implementation issues and behaviour modification (Shaw et al 2008).

This is an example of a large scale intervention designed to develop health systems. This type of intervention lies beyond the scope of the IPCRG programme, but we include it here for several reasons. First, the work of Roberts et al (2008) with the World Bank emphasises the variation across health systems globally. Second, we recognise that any educational intervention does not take place in isolation, but in the context of a wider health system and needs to be sensitive to local circumstances. Third, there are some sound principles and values in this work which we propose to reflect in the E-Quality programme.

**Are education systems working?**

Frenk et al (2010) have also argued that global health systems are not coping with current demand and that inequity persists. They argue that the issue relates to professional education systems which are fragmented and curricula are outdated producing ill equipped graduates. As there is little evidence to support the validity of current professional education systems, Frenk et al propose a re-examination of professional education for health care based on a global outlook; a systemic approach which is multi-professional in nature. A revised educational sub system could combine ‘instructional’ and ‘institutional’ reforms (Frenk et al 2010).

Instructional reforms are concerned with three levels of learning -
- Informative – acquiring knowledge and skills
- Formative - socialising students to shared set of professional values
- Transformative leadership – which produces enlightened change agents.
Frenk et al (2010) advocate a competence driven approach to instructional design; adapted to local context /conditions; drawing on global resources; promote inter-professional, trans-professional education that breaks down professional silos; enhancing collaborative and non hierarchical relationships; exploiting the power of IT/ICT; strengthening educational resources faculty (capacity building); values and social accountability (rights to health). ‘Institutional reforms’ suggests the potential to develop local and global health networks (academic centres, primary care and hospital networks) to maximise resources and strengthen infrastructure.

How is this helpful? Frenk et al (2010) takes a global perspective with a focus on whole education systems but differentiates between ‘institutional’ – (i.e. where does education sit organisationally) - and ‘instructional’ reforms – (i.e. what and how are people learning). The paper focuses on pre service education and does not mention continuing medical education (CME), but reflects some important values relating to ‘instructional reforms’ that we will seek to reflect in the E-Quality programme. IPCRG may also want to consider the ‘institutional’ issues, which educational level of training programmes they support and accreditation options.

Addressing shortages in health workers
The ‘Taskforce for Scaling up Education and Training for Health Workers’ (2008), is an initiative led by the Global Health Workforce Alliance, which explores shortages of health workers; a critical constraint in the achievement of health and development goals. The report identifies three system level critical success factors:

- Political: government involvement/support; collaboration/country-led health plan; significant financial investment.
- Workforce planning: short and long-term workforce planning; appropriately trained health workers; expansion of pre-service education.
- An enabling environment: information systems for health workforce and education; effective management and leadership; labour market capacity.

Again, these factors lie beyond the scope of the E-Quality programme. However consideration should be given, so that IPCRG supports educational interventions which are meaningful and sustainable within the context of local, national and global health systems.

The Taskforce proposes a framework to develop strong education and training systems with three guiding principles:

- Address local needs and embed education and training within the health system
- Increase equity and inefficiencies of scale through innovations in curriculum design and delivery
- Enhance quality through leadership and collaboration

These three principles underpin the following strategies:

- Reduce attrition among students and teachers, and improve accessibility.
- Integrate pre-service and in-service education and training.
- Develop common educational platforms for different types of health worker.
- Move learning to the community, using modular education and action learning.
- Increase use of information and communication technologies.
- Improve education through quality assurance programmes.
Build institutional capacity by:
  a. expanding teaching capacity;
  b. fostering twinning and partnerships;
  c. maximizing impact through regional approaches; and
  d. harnessing public–private partnerships.

This is a strategic framework which sets out some clear principles and strategies to support education and training systems for health-system development. We propose the IPCRG programme should reflect similar principles.

In the context of the E-Quality programme it highlights important questions - how do proposed educational interventions fit within the principles identified in the framework? What do we know about the bigger picture and how any proposed educational intervention sits within the wider education and training system? Do interventions meet any of the strategies outline in the above framework for example - increased use of information and communication technologies or building institutional capacity?

Learning from low and middle income countries
Traditionally international development work has tended to concentrate on poorer, vulnerable, and underserved populations (Koplan et al 2009). Although developed counties may have an unparalleled access to new science, technologies and expertise, their well established health systems and complex infrastructure can prove intractable and difficult to change (Crisp 2010). Richer countries can learn a great deal about health and healthcare services from poorer countries – who are often working with fewer resources and may have higher levels of innovation and creative solutions to issues (Crisp 2010). Crisp (2010) argues a rethink and suggests there are significant opportunities to share learning between developing/developed countries to provide new insights into how to improve health.

Reflecting this argument, the IPCRG’s E-Quality programme will not focus exclusively on developing countries and will include bids from developed countries if interesting and appropriate.

Social accountability
International development work inevitably involves choices about the nature of collaboration, interventions and the allocation of resources. Roberts et al have argued that a ‘grounding in basic political and moral philosophy is essential’ for those involved in international development work (2008:vi). The issue of social accountability is raised by a number of IPCRG network members as a critical concern in the E-Quality programme.

Social accountability is defined by the World Health Organization (WHO) as ‘the obligation to direct education, research and service activities towards addressing the priority health concerns of the community, the region, and/or the nation they have a mandate to serve’ (cited by Boelan 2008). In the context of the IPRCG E-Quality programme, the priority health concern is clearly to enable primary care professionals to provide better quality respiratory diagnosis, treatment and care. The E-Quality programme will seek to be transparent in the choices it makes concerning those projects it supports and the decision-making process. We will need to be sensitive to other issues of social accountability in the E-Quality programme as these emerge.

In this section we have explored the global health agenda. In spite of some progress successive health reforms have failed to deliver desired results. Variation in the strength and functionality of
health systems; the weakness of health education programmes; and shortages of trained health workers are all contributing factors. Various principles and strategies are proposed; including the importance of social accountability in international development work and the potential for system wide learning. In the next section we review some of the literature concerning specific educational and quality improvement approaches.

2. What educational interventions work to bring about clinical behaviour change and improve patient outcomes?

In this section we describe the principle strategies found in the literature. We have broadened the term ‘educational interventions’ to include other strategies designed to bring about clinical behaviour change and to improve patient outcomes – this is commonly associated with improved quality and safety in primary care.

A noticeable theme in the literature is that interventions may take place at different levels in a health system. For example: working with an individual, a group, an organisation or practice(s), national, regional, global. In the first section, we explored a global programme led by the World Bank and other examples are identified by IPCRG members which work at global regional or national level:

- Delegates attended the 5th Global Alliance against Respiratory Disease (GARD) General Meeting in Canada in 2010. The meeting reviewed and planned the GARD activities to support the WHO Action Plan of the Global Strategy for the Prevention and Control of Non-communicable Diseases 2008-2013 with a special focus on chronic respiratory diseases (App A: WHO).
- The Practical Approach to Lung health (PAL) is a syndromic approach to the management of patients who attend primary care services for respiratory symptoms. The PAL strategy targets multi-purpose health workers, nurses, doctors, and managers in primary health care settings with successful TB control programmes in low and middle-income countries (App A:WHO).

It is likely that the interventions supported by IPCRG E-Quality programme will be at significantly smaller scale. We found there are few published accounts of small scale educational development projects concerned with respiratory care in primary care settings. We have therefore supplemented the literature review with information provided by IPCRG network members who have been involved in practice based projects in the field.

The use of guidelines

Evidence based guidelines are considered one of the principle strategies designed to improve the quality of patient care (Feder 1999, Grol 2010). Generally guidelines set out the preferred treatment methods for specific conditions; for example: British Guidelines on the Management of Asthma published by the British Thoracic Society 2009;IPCRG Practice guidelines and asthma management in primary care: an international perspective 2008.

However, despite a proliferation of guidelines, it remains difficult to translate these into to general practice and to change clinician behaviour (Cabanna 1999, Dawda et al 2010, Siddiqi 2005). This is due to a range of factors; a lack of awareness or familiarity; failure to agree with guidelines; lack self-efficacy; poor outcome expectancy; or the inertia of previous practice. Clinicians may also encounter environmental barriers such as time or organisational constraints (Cabana 1999:1462).
Interviews with IPCRG network members confirm this view.

- One respondent commented ‘These are worthy documents, but they don’t get read’ or used by clinicians’; the reason being the nature of the patient/doctor consultation in general practice.
- Another respondent commented that ‘guidelines for treatment for COPD and/or Asthma may recommend treatments (equipment or medication) which are beyond a clinician’s wildest dreams in some [developing] countries’.

Grol (2010) has argued that guidelines should be used in combination with other quality improvement initiatives. This requires ‘intensive collaboration’ with different stakeholders which is often lacking (Grol 2010:394). An example from the IPRCG network demonstrates how guidelines can be used in combination with other interventions.

- A local group of clinicians were invited to work with a set of guidelines and to come up with a set of local guidelines. This engaged clinicians in an ‘action research’ type approach, where they engaged with the guidelines and thought about their use locally. A small scale evaluation of this initiative suggested it resulted in changes to clinical practice.

**Education and training**

A second strategy commonly associated with clinical behaviour change is education and training. A simple conception of knowledge transfer is commonly found in the literature – ‘education and training concerns ‘transferring knowledge to practising professionals with an aim to change their practice’ (Davies cited by Siddiqi 2005). We should acknowledge this is a simplistic definition, which belies the complexity of the learning process. Swanwick offers a much richer insight into contemporary medical education which he describes as a ‘busy, clamourous place where a host of pedagogical practices, educational philosophies and conceptual frameworks collide’ (Swanwick 2010:xv).

The focus of the IPCRG’s E-Quality programme is on continuing education rather than pre service or pre registration educational programmes. Education and training may include face to face teaching in small groups, lectures and large group work; distance learning; it may be uni or multi-disciplinary; it may be part of an accredited further or higher education programme or non accredited, focussed around a particular individual or local need.

Contemporary medical education may also encompass problem based learning, work based learning, simulation, reflective practice, supervision, mentoring and coaching (Swanwick 2010). Educational sessions or workshops can improve professional practice and healthcare outcomes for patients; but may not be as effective as other forms of continuing medical education, such as audit and feedback, and educational outreach. Educational meetings alone are not likely to be effective for changing complex behaviours (Forsetlund L et al 2008). No educational design is shown to have an advantage over others, but multiple methods (or ‘blended learning’) are more successful, as are those interventions which address local educational needs.

This is clearly where IPCRG network members have the most knowledge and experience.

- The European Academy of Teachers in General Practice/ Family Practice ([http://www.euract.org/](http://www.euract.org/)) provide workshops in which participants can explore evidence based medicine in the context of their own practice. Uses simulations, vignettes, video, scenarios.
Education for Health (http://www.educationforhealth.org/) provides accredited programmes which use a combination of online educational resources and interactive study days which are facilitated small group work. Learning is assessed in practice which is a valuable way to evidence change in practice.

The MECORE (methods in epidemiology, clinical and operations research) programme provides training in respiratory research based in the US. http://www.thoracic.org/global-health/mecore-courses/index.php

An important consideration given the international scope of this programme is national and educational culture. A starting point may be a consideration of the work of Hofstede, a Dutch sociologist who developed a framework for assessing national culture (2001). Those educational interventions in keeping with local culture were shown to be more successful (Siddiqi 2005:449).

One IPCRG respondent was involved in an educational project in Thailand/Laos which was not as successful as the team anticipated. Local participants were unwilling to question or challenge Tutors as this was seen as unacceptable behaviour. The Team had to think ‘in what way would it be acceptable for participants to question’ – they adjusted their teaching and learning strategy to allow more time for participants to adapt to a different teaching and learning approach.

Another respondent commented ‘the only way to develop [a sustainable educational programme] was to understand the culture’ - ‘you need to be sure you’re backing a winning horse’.

**Educational outreach and local opinion leaders**
Siddiqi et al (2005) describe educational outreach as a ‘visit by a trained person to a health professional in his/her own setting’ in which they seek to influence professional practice. Studies in this area (based in Kenya and Indonesia) demonstrate this is an effective strategy to achieve small changes in practice (Siddiqi et al 2005). This view is supported by O’Brien et al (2007). Educational outreach has proved effective in changing prescribing behaviours in primary care (Grol & Grimshaw 2003). A potential disadvantage is that this is generally a small scale intervention and uses a potentially disproportionate amount of resources. This approach is comparable with supervision, coaching and mentoring.

Local opinion leaders are health professionals recognised by peers as ‘educationally influential’ who can through education or supervision influence the clinical behaviour of colleagues (Siddiqi et al 2005:450). One of the difficulties here is that it can prove difficult to identify effective local opinion leaders (Grol & Grimshaw2003).

**Distance learning**
Typically distance learning is concerned with programmes and resources for learners who are not physically present in an educational setting. Learners, teachers/specialists with expertise and educational materials may be separated by location and time differences. There is some variation in the modes of distance learning and educational resources available.

At a simple level, educational materials may include printed and/or audio visual materials aimed at influencing professional behaviour.

A DVD was produced to accompany a lecture series in Pakistan, where an asthma specialist is one of a small number of covering a large geographical area. The outcome of this approach is unknown.
Given technological advances, there are increasing numbers of computer based educational resources.

- Health Sciences Online (www.hso.info) is one repository for online resources with open access to a wide range of learning material; it has been argued that this could potentially ‘revolutionise health science knowledge’ (Frank 2008). In particular HSO could meet the demand for innovative training solutions to meet global shortages of health workers identified by the WHO (Frank 2008).

More complex and specialist programmes can be delivered using distance learning.

- Spirometry Training (http://www.spirometrytraining.org/) is an online distance learning programme which combines a computer based training programme (regarding the administration and interpretation of spirometry); case based learning supported by clinical experts; followed by a period of online ‘over reading’ and feedback from clinical experts.

The advantages of distance learning and online educational resources are that they allow easy access and flexibility, with the potential to train large numbers of participants. Given this potential IPCRG may want to support the roll out of existing programmes to new settings or the development of new educational products, however there are some significant limitations.

Walsh et al (2010) conducted an impact evaluation of e-learning modules based on NICE (National Institute for Clinical Excellence) guidelines in the UK. The study tested skills and knowledge pre and post study and resulting practice change. The results suggest that e-learning results in a positive evaluation by participants; and improved knowledge and skills in the short term. Longer term changes in clinical practice as a result of completion of e-learning modules are unknown.

The evidence suggests that online educational resources are unlikely to influence change on their own but may be useful in combination with other strategies (Siddiqi et al 2005, Grol et al 2003). This approach tends to focus on individual practice and is based on the principles of knowledge transfer; educational resources are not tailored to specific local contexts, educational support/facilitation maybe limited and therefore change difficult to assess. However the examples cited here (http://www.spirometrytraining.org/) have sought to address some of these limitations. A further clear limitation of technology based learning materials, is their reliance on both technology and internet access in order to access resources.

**Information and communication technologies**

Rapid technological advances have seen a growth in the potential for further innovative modes of learning using information and communication technologies. Frenk et al (2010) have argued the need to exploit IT/ICT in transforming healthcare education. Crisp (2010) argues that we need ‘creative ways to educate, engage and empower people’ – and advocates the potential of online learning communities for networking and knowledge sharing globally (Crisp 2010:136). An example of this is doctors.net.uk an extensive online network of medical professionals which enables communication and knowledge sharing across a wide network.

In this context, learning is understood as a social process which takes place through participation in a ‘community of practice’ (Wenger 1998) – a network of relationships which are developed; knowledge and experience is shared; supportive and challenging conversations take place supported by technology. This has the potential to not only create a global network, share and develop knowledge but also to develop transferable skills such as communication and critical thinking.
Further possibilities include: synchronous communications – such as chat rooms, instant messaging, video conferencing. Asynchronous communication: virtual learning environments (vle), discussion boards, blogs. This is not mentioned in the literature to any great extent and this may be as a result of rapid advances in the possibilities for online learning and engaging in online communities of practice. A consideration here may be access to electricity (which may be variable in some settings).

A further emerging area of interest is ‘m-health’ or the use of mobile communication devices in health care. These can be used for education and awareness; remote data collection; remote monitoring; communication and training for healthcare workers; disease and epidemic outbreak tracking; diagnostic and treatment support (Vital Wave Consulting 2009).

Quality improvement methodologies
The Institute for Healthcare Improvement (IHI) have led the development of quality improvement (QI) methodologies worldwide. These have been shown to demonstrate significant improvements in, for example: waiting times, hospital attendance, costs and sickness absence (IHI 2003). IHI has trained and supported the spread of this approach across many different health systems across the world; including the NHS Institute for Innovation and Improvement in the UK. The IHI has also worked with the World Health Organisation to explore the use of QI in resource poor countries (see Leatherman et al 2010).

Typically groups of health professionals from across a heath system come together to work on improvements to an agreed area – the identification of measures for quality improvement is integral to the process. A common approach termed ‘QI Collaboratives’ - adopts an organised and multifaceted programme with five features – a focus on a specific topic, participation of clinical experts and quality improvement experts who provide information and ideas for improvement; multi professional teams working across multi sites; a model for improvement (e.g. pdsa cycles) ; a collaborative process which involves a series of structured activities (Hulscher et al 2010).

Recent work supported by the Health Foundation (building on the work of Schouten et al in the BMJ 2008), a charitable Trust based in the UK, has explored the evidence base for QI methodologies. The study concluded despite qualitative evidence in support of QI, that there is limited published evidence relating to the success of QI Collaboratives. The study suggests there is a limited clinical behaviour change in for example, prescribing behaviours. This study contributes to an improved understanding of the factors associated with a positive impact - but it is difficult to draw conclusive results because of the wide range of variation in topics and settings (Hulscher et al 2010).

This is a common argument related to QI. The gold standard for evidence based medicine – the randomised control trials (RCT) are limited in evaluating complex social changes such as QI. Results tend to be inconclusive about benefits (Dawda 2010). Berwick (cited by Davies et al 2007) argues for alternative methods for evaluating QI including systematic observation and reflection. This is theoretically grounded and often qualitative in nature. Davies et al 2007 discuss a ‘pyramid of impacts’ which includes improved patient outcomes (which tend to be difficult to measure); improved clinical behaviours and peer led engagement of clinicians in QI (which tend to be easier to measure).

Other strategies
A number of other strategies are explored in the literature; although we acknowledge their potential to support change we will not develop them any further here.
Audit and feedback – in a Cochrane review Jamtvedt et al (2006) concluded that audit and feedback can improve professional practice, but the effects are variable. Siddiqi (2008) explored the effectiveness of clinical audit in improving the quality of diagnostic care provided to patients suspected of tuberculosis. He concluded that audit can be effective in improving quality in resource poor settings when integrated with other health improvement programmes (Siddiqi et al 2008, Siddiqi and Lee 2009).


Local Consensus Development - Siddiqi et al (2005) review the evidence relating to local consensus development. This is defined as a decision making process that involves clinicians in identifying, prioritising and developing local clinical policies. The review concluded that locally developed guidelines failed to change clinical behaviours.

Incentives - Grol et al (2003) identify this category as incentives, regulation and accreditation. In the UK quality is explicitly aligned with the funding contract for GP’s. As a result of incentives frameworks (QoF) many clinicians had disengaged from audit (Dawda et al 2010). Goodwin et al (2011) suggests that incentives such as protected time and rewards may be required to engage GPs in quality improvement.

In summary, the literature suggests that change is possible given carefully designed interventions (Grol & Grimshaw 2003). Evidence shows that most interventions have some effect; however no type of intervention is more effective than any other. Different approaches are needed for different issues – and for different levels of care (individual, doctor, practice, regional care group, national health system) (Booth et al 2008).

The context for change is critical (Grol & Grimshaw 2003, Booth et al 2008). The evidence base for educational interventions is weak due to poor methodological design (Siddiqi et al 2005); but also because of the difficulty in evaluating complex quality improvement interventions - social changes in a wide range of topics and settings (Dawda et al 2010, Hulscher et al 2010).

What about the context of primary care?
Concerns have been raised about the quality of medical advice in primary care settings developing countries (Das et al 2008). Although most urban and rural populations in low income countries now have improved access to health facilities and trained medical staff; the quality of medical advice may be poor and compounded by low competence and low effort on the part of doctors (Das et al 2008). How is this to be addressed?

In the developed world, primary care systems are well developed and yet little is known, for example, about the quality of care provided in the UK (Goodwin et al 2011). A recent inquiry by the UK based Kings Fund concluded that quality improvement is not ‘routinely embedded as a way of working’ in general practice. Many GPs lack awareness of the variation that exists in the quality within their own practice and between practices. Improved quality related data and information could prove a first step to raise awareness and for GPs to identify and prioritise issues for change. Skills in quality improvement methodologies are generally lacking and various incentives may be required to engage GPs such as protected time and rewards. Critically, ‘General Practice must own the quality agenda and take on professional leadership for quality improvement’ (Goodwin et al 2011).
A critical concern here is how individual clinicians understand and engage with the idea of quality improvement. IPCRG respondents comment on the importance of working with ‘motivated individuals’. While healthcare professionals may espouse strong support for the principles of quality patient care, they may not have a clear idea of how quality is defined, recognised or improved. Further, their beliefs may not translate into practice (Davies et al 2007). Healthcare professionals may assert that quality care is being provided and may need to be challenged about their conviction (Davies et al 2007). QI may offer a way to do this by using real data to drive improvements.

Dawda et al (2010) also argue that the concept of quality improvement in primary care is problematic because of two seemingly incompatible quality paradigms. The first is based on a clinician led ‘craft model’ where individual performance is the main indicator of quality. Quality improvement interventions tend to focus on improving individual knowledge, skills and performance; these might be termed ‘educational interventions’.

This ‘craft based’ model is increasingly being challenged, as technical skill is only one dimension of quality improvement – increasingly there is a shift towards a (second) systems based approach to quality improvement, which sees quality as a product of the healthcare system and the various interacting features of the system. Booth et al support this view, arguing that a simplistic approach to quality improvement in primary care will not work. Many theories of change are based on a mechanistic and linear models but it is difficult to view general practice as a ‘coherent system’. It may be more appropriate to see primary care as a ‘complex adaptive system’, hence a systems mindset may be more helpful in thinking about change. For example often large scale inputs can be ineffective whereas small changes can have disproportionate outcomes (Booth et al 2008:23). There may be difficulties in accepting that small changes can be useful, with many GPs believing that effective solutions tend to be complex and highly specialised. Further, many GPs have an ambivalent attitude to the idea of continuing quality improvement and lack a systems mindset (Goodwin et al 2011).

A further potential barrier to the use of QI is the perception of ‘quality improvement’ in primary care. The language of quality improvement can be ‘unappealing’ to GPs who associate it with belonging to the field of management. Traditionally GPs are socialised to an individual mindset whereas improvement approaches tend to be collective. This shift from an individual to a systems design can be experienced as a personal affront by some GPs (Goodwin et al 2011).

What are the implications of the issues outlined here? The perception of quality and ownership of the QI agenda has significant implications for the success of any educational or quality improvement intervention. QI approaches may offer a way to engage clinicians in a meaningful way that results in tangible change in practice. But there are potentially significant barriers to interventions designed to bring about clinical behaviour change and improved patient outcomes.

In this section we have explored the evidence base supporting a range of educational and quality improvement approaches. In many areas the evidence base is weak because of poor methodological design or as a result of the complexity of reviewing educational interventions applied in different settings. We have drawn some conclusions about what works – and finally explored some of the contextual issues related to primary care. In the final section of this paper we outline the criteria for the IPCRG E-Quality programme.
3. **E-Quality criteria**

Based on the preceding discussion we propose the following application process and underlying criteria for the IPCRG E-Quality programme.

- The IPCRG E-Quality programme seeks to support educational programmes to enable primary care professionals to provide better quality respiratory diagnosis, treatment and care.
- Educational interventions are meaningful and sustainable within the context of local, national and global health systems.
- The E-Quality programme proposes to support continuing education and training programmes only.
- The focus is on educating doctors and/or other health professionals involved in respiratory care, this may include multi disciplinary groups.
- The E-Quality programme will not focus exclusively on developing countries and will include bids from developed countries if interesting and appropriate.
- The E-Quality faculty can offer applicants support to develop their bid based on an initial outline proposal (i.e. capacity building)

Applicants will be requested to complete the following proposal which demonstrates criteria as identified.

1. **Quality Improvement/Educational Project Description:**

   Provide a brief outline of the proposed project;
   - What is the problem you wish to address? What data are there to support the nature and extent of the problem?
   - What is the change you want to bring about and how would you know it had happened?
   - Tell us about the setting/context for the change
   - Is there anything about your healthcare setting that will make it particularly difficult (barriers) or easy (facilitators) to bring about change? What can you do to overcome any difficulties?

2. **Aims and justification for the project:**

   - Define and justify the project

3. **Quality Improvement/Educational Approach:**

   Describe the proposed intervention, quality improvement or educational approach:
   - Include (if possible) a theoretical rationale or explain why you think your intervention will work
   - Have you piloted this approach? Do you have any evidence to support your approach?

4. **Qualifications, experience and skills of the team:**

   - Who is the lead applicant? What is their professional, and/or educational background? What qualifications, experience and skills relevant to this project do they have?
   - Who are the supporting staff involved in the project, and what are their backgrounds, qualifications and skills?

5. **How does the programme build and complement existing educational practices/infrastructure in your practice, locality or country?**

6. **Does information and communication technology have a role in this proposal?**

   - Applicants should consider if/how and where technological solutions may be part of the solution
7. Partnership organisations/collaborations
   • Who are the people/organisations locally whose ownership/support/awareness will be important?
   • Who will you need to work with for the programme to be successful?

8. What specialist clinical /quality improvement/educational expertise do you require to support the project?
   • Is expertise available locally or needed from the IPCRG faculty?

9. Detailed costings, payments and incentives:
   • How do you propose to use the award funding? (Provide a breakdown of costs)
   • Do you propose to pay or reward participants? Please provide details of how any expenses incurred by participants will be reimbursed

10. Evaluation:
   • How will you know if the intervention has been successful? (Refer back to Q1)

11. Dissemination
   • How will you share lessons learned from the project locally and with IPCRG? Remember that recipients of an award will be expected to present their findings at an IPCRG conference, and consider publication in a peer reviewed journal or practical guidance to share with member countries.

12. Project Management
   • Who will be responsible for supervising the project, and how much time per week will they allocate to the project?
   • Who will be responsible for the day to day management of the project and how much time per week will they have allocated to the project?
   • What support staff will be needed, and how much time per week will they have allocated to the project?
Appendix A: Organisations working and/or funding health development work.

These include: organisations working within the UK, across Europe and internationally; organisations concerned with the development of health services generally and those with a specialist interest in primary care and/or respiratory care.

British Thoracic Society (UK)
DoH Respiratory team (UK)
The European Academy for Teachers in General Practice and Family Medicine. http://www.euract.org/
European Forum for Primary Care
The Gates Foundation (US)
The Health Foundation (UK)
IMPRESS Project (UK)
Institute for Health Improvement (US)
Kings Fund (UK)
National Primary Care Development Centre (UK, now closed Dec 2010 and part of the Health Sciences Unit, University of Manchester)
Nigel Crisp (UK)
REBEQI – Research Based Education and Quality Improvement.
http://www.rebeqi.org/?pageID=31&ItemID=0
The Nuffield Centre for Health & Development, Leeds University (UK). Kamran Siddiqi’s work, based at the Nuffield Centre in the UK, is particularly useful because it is one few based in primary care which focuses on work in developing countries.
World Bank
The Network - Towards Unity for Health –
http://www.thenetworktufh.org/home/index.asp
World Health Organisation – Practical Approach to Lung Health (PAL)
World Health Organisation – Global Alliance Against Respiratory Disease (GARD)
http://www.who.int/respiratory/gard/en/
International Union against Tuberculosis and Lung Disease http://www.theunion.org/ich/about-the-division.html
Education for Health - http://www.educationforhealth.org/
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The International Study of Asthma and Allergies in Childhood.
http://isaac.auckland.ac.nz/
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