



Healthcare professional education: the perspective of value chain analysis

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ABSTRACT

A value chain is a chain of activities that are carried out in order to provide an output of value. A value chain analysis is an analysis of the efficiency of these individual activities and the relationship between them and the effect that they have on the output. This short paper uses the methodology of value chain analysis to evaluate the efficiency of healthcare professional education institutions. Value chain analysis is likely to be able to generate efficiencies in undergraduate medical education in a number of ways – including selection, the provision of e-learning and simulation, transitions between phases of education, procurement, infrastructure, and the supply of doctors that will meet patient and population healthcare needs. When used appropriately value chain analysis is likely to result in both more effective and more efficient healthcare professional education.

KEY WORDS: Medical education, cost, economics

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INTRODUCTION

Healthcare professional education is expensive. [1] At a macro level, the spend on healthcare professional education in the UK is 5 billion. At a micro level medical students in the UK pay tuition fees of £9000 per year for their undergraduate education (and this is only a contribution to the overall cost). In light of the cost of healthcare professional education and its importance, anything that could save costs or generate efficiencies is likely to be welcome. However this begs the questions as to how efficient our healthcare professional education institutions are currently, and the question as to what we could do to make them more efficient. Efficiency can manifest itself in multiple forms – it can result in financial saving, resource sharing, and/or leaner processes. To date there has not been much work conducted in this field. Certainly there is likely to be a need for more. One way of looking at the efficiencies of institutions is to look at them through the prism of a value chain analysis. A value chain is a chain of activities that are carried out in order to provide an output of value. A value chain analysis is an analysis of the efficiency of these individual activities and the relationship between them and the effect that they have on the output. This short paper uses the methodology of value chain analysis to evaluate the efficiency of healthcare professional education institutions. The purpose of the article is not to list the many educational reforms that are currently being introduced to many medical schools. Rather the purpose is to outline the hypothesis that value chain analysis could be a useful means of analysing and improving some components of medical education.

HYPOTHESES

A value chain analysis looks at the journey that learners must take when navigating their healthcare professional education. As with any journey, it is best to start at the beginning: in the terminology of value chain analysis this is known as “inbound”.

The start of healthcare professional education is entrance into medical school and to make this entrance prospective students must undergo a selection process. This process may be by means of a written examination (such as UKCAT) or a single interview or a multiple mini-interview or an objective structured clinical examination (OSCE). [2 3] If this is the case then the healthcare professional education institutions should consider whether it could reuse some of the content or format of its medical school assessments in its selection assessments. For exam existing OSCE stations used in the first years of medical school might be modified so that they could be used in the selection assessment. This is likely to generate efficiencies. Currently most selection processes only enable entry to medical school – certain students get into medical school and the selection process is immediately forgotten. However the results of the selection could be passed on to first year tutors to give them an idea of the strengths and weaknesses of individual learners and indeed of the strengths and weaknesses of the entry cohort as a whole. This should enable more targeted and efficient education in the first years.

The next step in the value chain in medical school is undergraduate education itself. In the language of value chain analysis this might be termed “operations”. Here there is likely to be potential for efficiency in a variety of areas. Looking at the area of e-learning, the same e-learning platform could be used in different years and in different specialties. [4] The same platform could be shared with the nursing school or with other schools that are responsible for the education of allied healthcare professionals. [5 6] Indeed the same platform could be used to provide continuing professional development resources to faculty.

Value chain analysis typically looks next to “outbound” – in this context what happens when students leave medical school. Once again the potential for efficiency is abundant. At present too much of healthcare professional education is

carried out in silos, and there is insufficient communication between undergraduate education, postgraduate education, and continuing professional development. There are few reasons of this other than those of history or tradition. In the field of simulation, quite often simulation centres are not used to their maximum capacity or there is insufficient sharing between the institutions responsible for the different stages of healthcare professional education. This will not lead to high value medical education. [7] However sharing, scaling up usage, and using the simulation centre to its maximum capacity are likely to make for an improved value chain. In the future it is likely that much more attention will be paid to the cost and value of simulation. [8]

Better communication and handover between the different stages of education is also likely to be helpful. Those responsible for postgraduate education could receive not just notification that certain students have just passed their final medical examination and are ready to start as trainee doctors, but also could receive an insight into the strengths and weaknesses of the newly graduated doctors. This once again would lead to more targeted and efficient postgraduate education. Transitions from one part of the value chain to the next offer ample opportunities for efficiency. [9 10]

Procurement is a vital support to any value chain and indeed is an important part of healthcare professional education provision. Healthcare professional education institutions cannot create all the resources needed to provide high quality healthcare professional education in-house and so must on occasion procure products or services from another source. Procurement activity might range from technology to consumable equipment to actual lecture theatres. The quality of procurement can make a real difference to the quality of the value chain. Procurement should ideally be strategic; it should be based on the identified needs of the institution; and it should be joined up between different departments and schools. Often different departments need to procure the same services and are likely to achieve a much better financial and service deal if they group together.

The infrastructure of the medical school is another critical support to the value chain. Infrastructure constitutes not just the medical school buildings but also the management services provided to the school – including general management, financial, quality assurance, and legal services. These services are naturally generic and so there is no reason why they could not be provided to schools of nursing, pharmacy and the allied healthcare professions. Efficiencies in the support of the value chain are likely to be as important as efficiencies within the value chain itself.

Lastly there is the issue of the output of the medical school. In some ways healthcare professional education can be seen as a service industry – its purpose is to provide healthcare professionals that will meet patient and population healthcare needs. [11] If a local population needs primary care healthcare professionals and local provision of healthcare professional

education supplies these healthcare professionals then all is working as it should. But if the school produces tertiary care professionals or healthcare professionals who leave the country on graduation then there will be significant waste of resources in the system. This last step in the value chain may well be the most important. Efficiencies in all other earlier steps are likely to be rendered redundant if this last one does not work as it should. To evaluate and improve this last step better communication and transitions and more joined up thinking is required.

CONCLUSION

The discipline of value chain analysis can offer significant insights into the activity of healthcare professional education. It can offer help at many levels and in many professions and especially at the interface between different levels and professions. However value chain analysis is not a panacea that can generate endless efficiencies. Some aspects of education – such as clinical education – are unlikely to be fertile ground for the generation of such efficiencies. Nonetheless when used appropriately value chain analysis is likely to result in both more effective and more efficient healthcare professional education.

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