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Why do a literature review in health and social care?

Why are literature reviews important? • Why is there so much available information? • Why does one piece of research often contradict another? • Literature reviews help you to see the full picture • Uncovering new evidence • Encouraging objective thinking • The importance of a systematic approach to the literature review • The systematic review • Less detailed approaches to reviewing the literature • Narrative reviews • The literature review as a research methodology • Can I undertake a literature review for my dissertation? • What is the difference between a dissertation and an essay? • In summary • Key points

It makes sense to begin by defining what a literature review is. In short, a literature review is the comprehensive study and interpretation of literature that relates to a particular topic. When you undertake a literature review, you identify a research question then seek to answer this question by searching for and analysing relevant literature. This review leads you to the development of new insights that are only possible
Why are literature reviews important?

Literature reviews are important because they seek to summarise the literature that is available on any one topic. They make sense of a body of research and present an analysis of the available literature so that the reader does not have to access each individual research report included in the review. This is important because there is an increasing amount of literature available to health and social care professionals, who cannot be expected to read and assimilate all the information on any one topic. Everyone who works within health and social care has a professional duty to be up-to-date with recent developments and ideas that inform their practice. Yet, it is virtually impossible for any one practitioner to assimilate, process and decide how to implement all this information in their professional lives.

Why is there so much available information?

The amount of information available to all health and social care professionals is vast and expands on a daily basis. Every day there are media headlines, reports from conferences, reports of research from scientific journals, expert opinion followed by an opposing expert opinion. There are many reasons for this increase in information available to professionals. It is partly due to the increase in information technology which has led to the increasing availability of information from on-line journals and other websites offering information about health and social care. However, the main reason for the increase in information available within this field stems from the recent emphasis on evidence-based practice, which has led to the increasing demand for research evidence upon which practice decisions should be based. Evidence-based practice has been described as a new paradigm within health and social care which has gradually emerged since the 1970s. Practitioners began to question their practice and to search for a scientific rationale for the care they delivered, which previously might have been given according to
tradition and experience. As more and more research was carried out and the body of evidence within health and social care expanded, concern about getting this research into practice also increased.

The term evidence-based practice is used to refer to the appropriate application of this research knowledge to practice. Evidence-based practice has been described by David Sackett, founder of the NHS Research and Development Centre for Evidence Based Medicine in Oxford, England, as the ‘conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients’ (Sackett, 1996, p. 71).

Evidence-based practice involves identifying a clinical question to answer. One example of a question might be: ‘What is the evidence for the use of leeches in wound healing?’ The research evidence about leeches in wound healing is then searched for. Are there any clinical trials or is there just anecdotal evidence? The validity or quality of that evidence is assessed and critiqued. Finally, this evidence should be applied to the care of the patient whose need precipitated the clinical question. It is clear that the literature review plays a vital role in promoting evidence-based practice. A comprehensive and competently carried out review enables the practitioner to apply a body of research evidence to practice rather than to rely on – and attempt to interpret – individual studies. This is evidence-based practice in practice!

Why does one piece of research often contradict another?

It often seems to be the case that a piece of research is published one month which contradicts the findings of a piece of research published the month before. For example, one week working mothers are told that preschool care benefits their child and the next they are told that it is better for the child to stay at home. There is often then an outcry – people are confused by the differing messages conveyed and wonder why the results can vary so much. This can be due to the media portrayal of the research in which a complex set of results is reduced to a simplified message. However, it is also due to the fact that any one individual piece of research, or indeed any single piece of health care information, is like just one part of a large jigsaw. It does not represent the whole picture – it represents merely a section of that picture and needs to be set in the context of other information. An individual piece of health care
information, taken in isolation, does not necessarily help the reader to achieve a better understanding of the bigger picture towards which the information contributes. There are many reasons for this. For example, the research might have been undertaken in a specific area of practice or with a specific group of people, or sample, and is not generalisable to other areas. Alternatively, there might be flaws in the research design which affect its overall validity. Therefore, when you read a report that seems to conflict with a report you read the previous week and are uncertain as to which report you should consider the most reliable, it is important to consider the merits of each individual report and to remember that each single piece of research contributes just part of the bigger picture and should not be viewed in isolation. This is why literature reviews are so important in health and social care because they enable the reader to view one piece of research within the context of others.

For example, consider the MMR (measles, mumps and rubella) vaccination media stories in 1998–1999. In 1998, Professor Wakefield published an article in The Lancet suggesting that there was a possibility of a link between the vaccination, autism and bowel disorders. This article was based on a small case study of 12 children who had attended Wakefield’s hospital with the aforementioned conditions and who had also had the vaccination. Wakefield stated that there were possible environmental triggers to the development of autism in these children, but without controls this was very uncertain.

It is easy to identify from the basic facts presented in the paper that the evidence conveyed by this paper is not strong. Seen in isolation, this report sparked alarm in both media and medical circles alike. Newspaper headlines led the public to believe that the link between the vaccination and bowel disease and autism to be more certain than Wakefield’s report concluded. In addition, there is evidence that many health care professionals felt less confident in recommending the vaccination to parents than they had done before the release of the paper (Petrovic et al. 2001). The effect of the adverse publicity surrounding the MMR vaccination which resulted from the publication of this paper is associated with a drastic effect on vaccination rates in the United Kingdom. Prior to the publication of the paper vaccination rates had been in excess of 90 per cent. Yet Asaria and MacMahon (2006) report that following the publication of Wakefield’s paper, as many as 44 per cent of preschool children and 22 per cent of primary school children were unvaccinated in one area of London. As the vaccination rate dropped, the effectiveness of ‘herd immunity’ was reduced, leading to the reappearance of measles which had previously been almost eradicated. Asaria and MacMahon
(2006) report 449 confirmed cases of measles in the United Kingdom to the end of May 2006 and the first death since 1992. So you can see how important it is to assess critically the value and contribution of any one article before its results are implemented in practice.

**Literature reviews help you to see the full picture**

The MMR controversy highlights the need to critically scrutinise research reports and this is discussed fully in Chapter 4. The strength of the evidence presented by Wakefield and his colleagues in this early report was not strong. It was based on a sample of just 12 children and did not have a control group. However, it also demonstrates the need for an adequate evidence base which is reviewed and presented in a systematic way, so that an academic judgement can be made about the links postulated by Wakefield rather than a judgement made on one small piece of published information.

This is indeed what happened following the publication of Wakefield’s paper. Much research was commissioned in order to explore the possibility of a link between MMR vaccination and autism/bowel disease. Studies were carried out in many countries and gradually more pieces of evidence were added to the jigsaw. Individual studies were published. These were then brought together and systematically reviewed so that the results from each one could be viewed together as a whole (Demicheli *et al.* 2006). As the results from further studies became available and the bigger picture emerged, no evidence was found to confirm the link speculated upon by Wakefield and the fears raised in this early report were not substantiated.

**Uncovering new evidence**

The MMR controversy provides one clear example as to why it is important to review all the evidence together and how one piece of information can give a misleading picture. Without the comprehensive review of the literature which followed Wakefield’s paper, the concerns expressed in his initial paper could not have been refuted. Another example of the importance of systematically reviewing literature is found in the
development of the evidence base for the use of the drug Streptokinase in the treatment of myocardial infarction, which is now recognised to have saved many lives. Mulrow (1994) discusses how in the 1970s, 33 small clinical trials were undertaken to compare the use of Streptokinase versus a placebo (dummy drug) in the treatment of myocardial infarction. These trials were all carried out independently and due to the small size of each trial, most did not find conclusive results in favour of the use of Streptokinase. However, these 33 trials were subsequently brought together and reviewed systematically. The results were subjected to a meta-analysis (a process which is discussed in Chapter 5) in which all the results were pooled and reanalysed. The combined results demonstrated clearly the beneficial effect of Streptokinase and as a result the drug became part of the standard treatment plan following myocardial infarction, thereby revolutionising care. This review emphasised the importance of reviewing the literature systematically and the limitations of relying on any one piece of evidence. Furthermore, Mulrow (1994) identified that had this review been carried out 20 years earlier, many more lives could have been saved.

Encouraging objective thinking

There are other similar examples that illustrate the importance of the evidence provided by literature reviews that are carried out systematically compared to reviews that are not. Take, for example, Linus Pauling, the world accredited scientist, who wrote a book entitled *How to live longer and feel better*. In this book he quoted from a selection of articles that supported his opinion that vitamin C contains properties that are effective against the common cold. This book makes an interesting and convincing read. However, the arguments presented in the book were challenged some years later by Professor Knipschild (1994), who undertook a systematic review of all of the evidence surrounding the effectiveness of vitamin C and came to very different conclusions. He argued that Pauling had not looked systematically at all the research and had only selected articles that supported his view, while apparently ignoring those that did not. This is why when you read a report by an expert in a particular area, you should remember that his or her report represents just an expert view which might not be substantiated by evidence. This is why expert opinion is generally not considered to be a strong form of evidence.
In summary, literature reviews are important in health and social care because they enable information and research about health and social care to be viewed within its particular context and set amid other similar information and research, so that its impact can be evaluated systematically. Reviewing the literature provides a complete picture, which remains partially hidden when a single piece of research or other information is viewed in isolation.

The importance of a systematic approach to the literature review

The literature review is a vital tool because it provides a synthesis of research and information on a particular topic. It is important that the review is approached in a systematic manner so that all the available information is incorporated into the review. When you read literature reviews, you will discover that some are undertaken in more detail than others. The most detailed type of literature review is often referred to as a systematic review.

The systematic review

A systematic review strives to identify comprehensively and track down all the available literature on a topic, whilst describing a clear, comprehensive methodology. Systematic reviews have been defined as ‘concise summaries of the best available evidence that address sharply defined clinical questions’ (Mulrow et al. 1997). The most well known method for conducting a systematic review is produced by the Cochrane Collaboration. The Cochrane Collaboration was established in 1993 and is a large international organisation whose purpose is to provide independent systematically-produced reviews about the effectiveness of health care interventions. The Cochrane Collaboration provides detailed guidance about how to undertake the review.

One of the main features of a systematic review is that reviewers follow a strict protocol to ensure that the review process undertaken is systematic by using explicit and rigorous methods to identify, critically appraise,
and synthesise relevant studies in order to answer a *predefined question*. The reviewers then develop a comprehensive *searching strategy*, and leave no stone unturned in the search for relevant literature, and do not regard the process complete until the search is exhausted. For example, reviewers search for unpublished research and might talk to researchers about unpublished data or articles not accepted for publication, in addition to published data on the topic in question. The reason for this is that there is evidence that a publication bias exists; that results which show clear benefit of an intervention are more likely to be published than those which do not. Thus using only published data could bias the result of the review. Reviewers then develop *inclusion and exclusion criteria* in order to assess which information they retrieve should be incorporated into the review, and to ensure that only those papers that are relevant to the question(s) addressed by the literature review are included. The reviewers then *critique* the selected papers according to predetermined criteria in order to assess the quality or validity of the research identified. Studies that do not meet the inclusion criteria are excluded from the review. This is to ensure that only high quality papers which are relevant to the literature review question are included. The results of research that has been poorly carried out are likely to be less reliable and may bias the findings of the review. Finally, the findings of all the papers that are identified and incorporated for the review are then pulled together and *combined* using a systematic approach. For example, a *meta-analysis* might be undertaken if the results of the research included in the review are reported using statistics, or a *meta-ethnography* can be undertaken if the results of the research included are mainly qualitative. This enables new insights to be drawn from the summary of the papers that was not available before.

The methods of undertaking a systematic review are rigorous and time-consuming. The production of a systematic review usually requires the dedication and effort of a team of experienced researchers over a period of time. Because of the comprehensive nature of the searching strategy, critique and synthesis of the literature, a systematic review undertaken in the detail required by the Cochrane Collaboration is usually considered to be the most detailed and robust form of review that exists. For example, in the United Kingdom they are used in the formulation of guidelines for the National Institute for Clinical Excellence (NICE), whose recommendations for clinical practice are based on the best available evidence. Given the rigorous nature of Cochrane Collaboration systematic reviews, undertaking a review in this amount of detail is beyond the means and timescales of many researchers, especially novice researchers.
Less detailed approaches to reviewing the literature

Even if the stringent requirements of a Cochrane Collaboration style systematic review may not be within the capacity of a novice researcher, it is still possible to undertake a ‘systematic approach’ to reviewing the literature. The term systematic review is used by the Cochrane Collaboration to describe the reviews they produce which are carried out according to strict protocol. However, a literature review can be approached in a systematic manner even if the detail required by the Cochrane Collaboration is not attained. While the term systematic review is often used to refer to reviews undertaken according to the Cochrane Collaboration method of reviewing, there is no reason why this term cannot refer to a review of the literature that has been undertaken using a systematic approach, but which is less rigorous and detailed than the methods described above. This means there can be some confusion concerning the meaning of a systematic review. One reader might interpret the term systematic review to mean nothing less than a review conducted using the methods advocated by the Cochrane Collaboration approach, while another reader might accept that a systematic review incorporates a systematic approach but may not reach the same exacting standards.

Undergraduate and postgraduate students who are undertaking a literature review for their dissertation would not normally be expected to achieve a systematic review of the standard required by the Cochrane Collaboration. They would, however, be expected to apply the general principles and guidelines of this approach to produce a literature review that used a systematic approach in the search for, critique and synthesis of the literature. For those new to literature reviewing, it is possible – and indeed essential – to achieve a systematic approach to reviewing the literature, otherwise there can be no assurance that the review has been undertaken in a rigorous manner. If a literature review is to be submitted for an academic degree, the method undertaken to review the literature should always be systematic.

Narrative reviews

It is generally accepted that a Cochrane Collaboration systematic review offers the most robust form of evidence for health and social care professionals. However, not all reviews are conducted to this level. Literature
reviews vary in the extent to which they are conducted in a systematic manner. For example, a literature review can incorporate a systematic approach but not in the amount of detail as described in the previous section. This approach would be expected of all those submitting a literature review as a component for an academic degree. At the other end of the spectrum there are literature reviews which are undertaken with no defined method or systematic approach. These are often referred to as narrative reviews.

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<th>Narrative review</th>
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<td>Undefined methods of searching, critiquing and synthesising the literature</td>
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There is general concern that narrative reviews do not produce reliable evidence. The lack of a systematic approach to a narrative review is described by Greenhalgh (1997), who makes reference to essays written by medical students who may ‘browse through the indexes of books and journals until [they] came across a paragraph that looked relevant and copied it out. If anything did not fit in with the theory [they] were proposing [they] left it out’ (p. 672).

The narrative literature review is one that does not use specific identified methods for searching for, critiquing and synthesising the literature. Instead the methods used are undefined and only a small selection of available literature is incorporated in the review, which may or may not have been appraised (Hek et al. 2000). There is not a clear indication as to how the study was conducted and therefore the study is not repeatable. Consequently, the conclusions drawn are likely to be inaccurate. These ‘traditional’ or narrative reviews have a number of biases. There is normally the personal bias of the author(s), a bias in the selection of included material, and with no clear methodology they cannot be reproduced independently, so conclusions cannot be verified easily and may be misleading. The example given earlier about the evidence for the use of vitamin C illustrates this point. Professor Knipschild challenged the findings presented in a narrative style review when he undertook a more systematic approach to a review on the same topic.

The danger of a narrative review: it can lead to misleading conclusions because a comprehensive search for and critique of literature is not undertaken.
In a narrative review, the searching strategy is not clearly defined or organised. There is no specific structure to the searching strategy and it is not clear how the authors search for the literature they identify, how much of the identified literature is incorporated in the review or whether any strategies for critical appraisal of the literature were used. As a result, a narrative review might be no more than a biased collection of research papers and other information about a given topic. This may lead to a biased and one-sided review of the literature which is not comprehensive. Individual research papers that are relevant to the review question may be identified but because the search is not systematic, other similar papers may not be identified. The research papers that are identified are then not set in their context but remain like single pieces of a jigsaw. Furthermore, in a narrative review, there is often no clear statement about which studies to include in a review and how these should be critiqued. In a systematic review, predefined inclusion and exclusion criteria are set which determine the relevance of each study identified. In a narrative review, these standards are not defined and any literature might be included without justification or rationale. Therefore, the reader of the review is unclear how much relative importance should be attached to each individual research report included as its merits are not discussed.

While it is acknowledged that a fully systematic approach is beyond the scope of most novice researchers, the narrative review is not a strategy that should be resorted to. One of the first researchers to raise concern about the quality of the narrative review was Mulrow in 1997, who criticised the lack of rigour with which many reviews were carried out. Mulrow (1997) examined 50 literature reviews published in four major medical journals and identified that 49 had no statement of the methods used and 47 had inappropriate summaries of the information included. She concluded that, at that time, medical reviews did not routinely use scientific methods to identify, assess and synthesise information.

The main differences between a narrative and a systematic review are summarised below:

- **Narrative review**
  - no focussed research question
  - no focussed searching strategy
  - no clear method of appraisal or synthesis of literature
  - not easily repeatable.

- **Systematic review**
  - well focussed research question
• well focussed searching strategy with comprehensive and explicit methods
• rigorous methods of appraisal and synthesis of the literature
• method of undertaking review is explicit and repeatable
• the most detailed reviews require a rigorous and demanding process – not for the faint hearted!

If you are undertaking a review of the literature, you are strongly advised to adopt a systematic approach to the review and to avoid a narrative approach where possible. Those new to reviewing the literature are not normally expected to undertake a systematic review in the detail as required by the Cochrane Collaboration. However, you are required to undertake a systematic approach to the literature review; the possible methods for achieving a systematic approach to a literature review are outlined in the subsequent chapters of this book.

The literature review as a research methodology

It is important to remember that a literature review that is carried out systematically is a research methodology in its own right. Your review will have a defined research question and you will follow a systematic approach to answering that question. Even if you are not undertaking a Cochrane-style systematic review, you need to follow a systematic process when you are undertaking your review and you will need to document this process very clearly when you come to write up your review. It is important that you document clearly how you undertook the steps you have taken. The reader needs to know that you undertook a comprehensive and systematic approach to your literature review and the only way to determine this is to give a full account of your literature review process. If you do not document a process that was undertaken, the reader will be given the impression that this process was not undertaken.

There should be a clearly defined section detailing the methods used to address the question. The methods section will usually commence with how you identified your research question. Discuss the rationale for your research question and explore its origins. You can draw on related literature at this point. Remember also to justify your use of a literature review as your chosen research methodology. Why did you not choose another research methodology, such as one involving primary data collection?
You should then document how you searched for appropriate literature. You are advised to include a report of the search terms you used and your search strategy. You should then document how this literature was critiqued and justify your choice of critical appraisal tools. Finally, you need to document how you brought this information together. Present information in a graph or chart if this is appropriate. Overall, your methods section will contribute a large portion of the overall review and is likely to amount to approximately one-fifth to one-quarter of the overall word count.

Finally, your literature review is likely to contain the following components:

- a clearly defined research question
- a clearly documented methods section
- a clear presentation and analysis of the results of your literature search. Relevant literature might include primary research reports, books, discussion articles and other published information. The literature is analysed in order to shed new light on the topic question.
- a final discussion section, in which you make conclusions and give recommendations based on the findings.

**Can I undertake a literature review for my dissertation?**

Yes. A literature review is particularly suitable for undergraduate or postgraduate students because you can undertake your review from sources that are already published and easily accessible. Undertaking a literature review does not require the formal approval of a research ethics committee, which can be a lengthy process. Students who are undertaking primary data collection (for example, interviews or questionnaires) have to submit a research proposal to their local research ethics committee for approval before they can collect their data. This process seeks to promote the safety of participants who are involved in research. The student who is undertaking a literature review is not required to obtain ethics approval prior to undertaking a review. This is because the reviewer collects data in the form of published material that relates to the research topic and then undertakes to critique and analyse the literature. The reviewer does not have direct access to those who participated in the
original research and hence is exempt from seeking the approval of an ethics committee. If you are undertaking a literature review as the dissertation component of your degree, this clearly meets the requirements for a dissertation. This book is specifically directed towards students of health and social care who may be undertaking a literature review for the first time when they undertake their dissertation.

While there are many approaches to and types of dissertations, there is widespread agreement that a dissertation should meet the following criteria:

- A dissertation should be an independent and self-directed piece of academic work.
- It should offer detailed and original argument in the exploration of a specific research question.
- It should offer clarity as to how the question is answered.

A literature review meets the above criteria because a review should always commence with a research question which is then addressed in a systematic way. It should be clearly evident that the results of the review arise from the methods used to undertake the study. The aim of a literature review is to uncover new insights on a topic by reviewing the literature in a systematic way. George Watson summarises the essence of a dissertation in his book, *Writing a Thesis*:

> It is not essentially about what is already known; it is about what is unknown or unrealised or misinterpreted. It is concise in its account of familiar materials for just that reason, and expansive only when the crucial point at issue is reached.

(Watson 1987, p. 29)

The student undertaking a literature review moves into the unknown, unrealised or misinterpreted when he or she identifies new insights from the literature that is reviewed. This is not intended to sound like a daunting prospect but rather will be the result of your inquiry. Without the process of bringing together individual pieces of information to complete the jigsaw, an individual research study or other information stands alone and its real impact and relevance cannot be judged. The researcher who completes a literature review is moving from the known (the individual pieces of research and other information) towards the unknown (combining the results of the different information to reach new insights on a topic).
What is the difference between a dissertation and an essay?

Students are often concerned about the differences between an extended essay and a dissertation. The differences are as follows: a dissertation always has a focused research question. This question is addressed logically as the dissertation progresses. The method with which the question is answered is also addressed.

For example, a dissertation question might be ‘What is the role of the social worker in supporting single parents of children under five years of age?’ The researcher might then explore the literature to determine what the prescribed roles are and how these roles are played out in practice. The review would be logical, systematic and organised, incorporating all the relevant research and policy concerning the role of the social worker. An essay on the same topic might be entitled ‘What is the role of the social worker in supporting single parents’. The essay writer would describe the main body of knowledge surrounding the role of the social worker in this context.

Broadly speaking, the differences between an essay and a dissertation are these:

- The essay title is likely to have a broader scope than the dissertation research question. The dissertation research question is limited to parents of children under five years old. Whereas the essay topic is broader with no such restriction.
- If you are writing an essay, you are expected to summarise the main body of knowledge and information about a particular topic. If you are writing a dissertation, you are expected to develop new insights from the knowledge and information that has been written on the topic.
- If you are writing a dissertation, you are expected to summarise all known information and move towards addressing what is unknown.
- Those writing an essay are not necessarily required to be explicit in the way that they obtained the information to answer the essay question. It is generally sufficient to answer the question without describing the ways in which the information was obtained. Those writing a dissertation are required to give an explicit account of the way in which they searched for, critiqued and brought together all the information.
- If you are writing an essay, you are permitted to refer to key textbooks to answer the essay title. If you are writing a dissertation you are expected to refer back to the original sources wherever possible.
The difference between an essay and a dissertation should be apparent. While an exceptional essay might seek to develop new insights into a particular topic, a dissertation will always aim to do so. Additionally, a dissertation will have a clearly defined research question which is addressed by searching for, critiquing and reviewing the relevant literature in order to shed new light on the topic question.

**Characteristics of an essay**

- The focus of the topic can be broad.
- A good essay will summarise current knowledge and information on a topic.
- The way in which knowledge is accessed is not necessarily made explicit.
- Textbooks may be referred to rather than original sources.

**Characteristics of a dissertation**

- The focus of the topic will be well defined.
- A dissertation summarises current knowledge prior to addressing the research question.
- The way in which information is identified is made explicit.
- Original sources are accessed and critically appraised.
- Synthesis of information occurs to offer a new perspective on the topic and to answer the research question.

**In summary**

You should be starting to see how and why literature reviews are such an essential tool for health and social care professionals. First and foremost, they enable us to gain a comprehensive overview and summary of the available information on a particular topic. Literature reviews are generally more useful to the health and social care practitioner than any one individual piece of research because they allow one piece of research to be viewed within the wider context of others. The process of undertaking a literature review has also been introduced in this chapter. Emphasis has been placed on the importance of the literature review as a research method in its own right and its relevance as a research methodology for an undergraduate or postgraduate dissertation. We have also discussed
the need to review the literature using a systematic approach in order to achieve an understanding of the body of literature as a whole in relation to a particular research. As a general rule, when you set out to review the literature, you should aim to undertake a systematic approach as outlined in this chapter, irrespective of whether it is feasible to achieve the detail in the review as required by the Cochrane Collaboration, for example.

Key points

- Literature reviews are an essential tool for those who work in health and social care in order to make sense of the range of information that may be published on any given topic.
- The literature review process is a research methodology in its own right and should commence with a research question, followed by a research design, presentation of results and finally, a discussion of the results.
- The literature review process can and should be approached systematically when undertaken by a novice researcher.