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Exploring the research culture in the Health Information Management profession in Australia

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Keywords:	health information management, Information management, Research, culture, Research capacity, engagement
Abstract:	Background: Research is an important activity that informs knowledge and practice. The research culture within the Australian Health Information Management (HIM) profession has not been previously reported. Objective: This study explored the perceptions of HIM practitioners about research in their role to establish if there is a research culture in the Australian HIM profession. Method: An online survey was distributed to the HIM community using a snowball recruitment strategy. Results: Of the 149 respondents, more than half (54%) identified they possessed research skills from prior education, whilst 40% considered they had a strong knowledgebase in conducting research. However, only a quarter of respondents indicated they undertake research in their role. Barriers to undertaking research included recognition, organisational support, and time. Discussion: The findings from this study reflected other studies within clinical workforces. The lack of recognition and support to incorporate research into practitioner roles has implications for the profession and its body of knowledge. Conclusion: Advocating for research to be incorporated into practitioner roles is required to inform knowledge and practice. Increased professional development opportunities may create a stronger research culture within the HIM profession in Australia and strengthen the position of the profession within health.

Abstract

Background: Research is an important activity that informs knowledge and practice. The research culture within the Australian Health Information Management (HIM) profession has not been previously reported.

Objective: This study explored the perceptions of HIM practitioners about research in their role to establish if there is a research culture in the Australian HIM profession.

Method: An online survey was distributed to the HIM community using a snowball recruitment strategy.

Results: Of the 149 respondents, more than half (54%) identified they possessed research skills from prior education, whilst 40% considered they had a strong knowledgebase in conducting research. However, only a quarter of respondents indicated they undertake research in their role. Barriers to undertaking research included recognition, organisational support, and time.

Discussion: The findings from this study reflected other studies within clinical workforces. The lack of recognition and support to incorporate research into practitioner roles has implications for the profession and its body of knowledge.

Conclusion: Advocating for research to be incorporated into practitioner roles is required to inform knowledge and practice. Increased professional development opportunities may create a stronger research culture within the HIM profession in Australia and strengthen the position of the profession within health.

Keywords: Health information management, information management, research, culture, engagement, research capacity

Key Messages:

HIM professional have research skills but time, recognition and support are barriers to conducting research in their roles.

HIM professionals should advocate for research to be incorporated into their roles and professional development.

Peak bodies need to advocate for practitioners and provide professional development opportunities in research training.

Background

In a healthcare setting, engaging in research is an integral element of any profession. Research fills gaps in knowledge, answers the unknown, and changes the way that healthcare professionals work (The Pennine Acute Hospitals, 2018). It facilitates a better understanding of the issues of a work environment and the development of more efficient work models. Having a positive research culture within any profession allows the determination of areas of concern, the generation of new knowledge, and possible solutions particular to that profession and environment.

The premise of a research culture within a profession has been examined across a number of health disciplines, with many studies examining the barriers and enablers to healthcare professionals integrating research into their roles. Within the medical profession, perceived barriers to undertaking research within their roles included time, available resources, experience, training, and processes related to obtaining ethics approval (Higgins, Parker, Keatinge, Giles, Winskill, Guest, Kepreotes & Phelan, 2010; Rahman, Majumder, Shaban, Rahman, Ahmed, Abdulrahman & D'Souza, 2011; Turner, 2014;). Incorporating research into a role made research less intimidating and improved the understanding of research processes (Reid, Farmer & Weston, 2007). Enablers for undertaking research within the medical profession included the formation of partnerships or collaborations, education on the research processes, mentorship, funding, protected time, and administrative support (Rahman et al, 2011; Turner, 2014; Reid, Farmer & Weston, 2007).

There is a strong culture within allied health professions to participate in research and for research capacity building (Finch, Cornwall, Ward & McPhail, 2013; Holden, Pager & Golenko, 2012; Pager, Holden & Golenko, 2012; Finch, Cornwell, Nalder & Ward, 2015). Allied health professionals are motivated by having supportive environments, mentors, and collaborative networks assisting them to undertake research (Holden et al, 2012; Finch et al, 2015). Similar barriers to the medical profession were identified with allied health professionals, such as time and resources, but also knowledge gaps between researcher and clinicians, and clinical demand to treat patients (Pighills, Plummer, Harvey & Pain, 2013). Within nursing, other barriers included patient care priorities, lack of support or supervision,

and a lack of knowledge and skills (Akerjordet, Lode & Severinsson, 2012; Higgins et al, 2010).

While the literature identified the barriers and enablers within clinical and allied health professions, it was evident that no research has been undertaken to examine the research culture in the Health Information Management (HIM) profession in Australia. The HIM professional applies their knowledge and skills to create, acquire, analyse and/or manage information to meet the medical, legal, ethical and/or administrative requirements of the health care system (HIMAA, 2015). Two examples of HIM professionals are Health Information Managers and Clinical Coders. For the purpose of this article the term 'HIM professional' is used to be inclusive of Health Information Managers and Clinical Coders. In Australia, people seeking a formal qualification to work as a health information manager will complete an accredited bachelor or graduate entry master qualification in HIM at university. In Australia, the Health Information Management Association of Australia (HIMAA) accredits tertiary HIM programs against the HIMAA Competency Standards, to ensure graduate practitioners have a comprehensive knowledgebase and skills in health information. These competencies include designing and undertaking research (HIMAA, 2015). Full membership of HIMAA requires completion of an accredited program, however, not all HIM positions require the completion of a formal qualification or membership of HIMAA, with 22.4% of health information managers reporting in 2018 that they do not hold a tertiary qualification (Butler-Henderson et al 2019). Those seeking to work in clinical coding may receive their training through either the aforementioned tertiary programs, through a vocational level program or on the job, and may apply to be an associate member of HIMAA. There is no accreditation of clinical coding training programs outside of the tertiary system in Australia, and the vocational programs do not include research training. Therefore, there is a large proportion of the workforce who has never received research training, unless they have prior training in a different discipline or on the job.

Whilst a HIM professional should have competencies in research, it is unknown to what extent practitioners actually engage in research in their roles. As with clinical professions, the HIM professional requires this information to build the knowledge and capability of their profession.

Objectives

The objective of this paper is to explore the perceptions of practitioners about research in their role to establish if there is a research culture in the Australian HIM profession, and identify what barriers or enablers existed for practitioners to undertake research in the Australian health system.

Methods

Research design

The study used a prospective cross-sectional survey design. The survey was designed based on two published studies examining research culture in other professions (Reid et al, 2007; Johnson, Lizama, Harrison, Bayly & Bowyer, 2014). The survey included 13 nominal/ordinal items and three open ended questions. The questions captured respondent demographic information, research knowledge, job title (open ended), and HIM experience. Two open ended questions to captured the perceived barriers and enablers of undertaking research. A Likert scale was used to rank confidence and knowledge levels regarding research capabilities. The survey was anonymous, not capturing any identifying information, and obtained consent at the start. The survey instrument was deployed using Research Electronic Data Capture (REDCap), a secure web application for building and managing online surveys and databases.

The study used a non-probability snowball sampling method. An invitation to participate in the study was distributed by HIMAA via a direct email to their ~800 members, and within the research team's own networks (number unquantifiable). Recipients were requested to forward the email/flyer on to their colleagues and networks. The email provided an overview of the study, eligibility requirements of the participants, and a link to the online eligibility test. The eligibility test assessed if the participant met the HIMAA definition of a HIM professional and are currently working in the Australian healthcare industry. A reminder email was sent two weeks after the initial email, and was advertised at the annual national conference. The survey remained open for five months, closing in December 2017.

At the close of the survey, the data was downloaded from the REDCap website and exported into a password protected Microsoft Excel spreadsheet, stored on a secure network drive at the University of Tasmania.

Data analysis

The statistical software package IBM® SPSS version 25 was utilised for the quantitative data analysis, including descriptive and inferential statistics. Thematic analysis of open ended responses was undertaken in MS Excel.

Ethics approval

Ethics approval for the study was obtained from the University of Tasmania Human Research Ethics Committee (HREC H0016639) before commencement of the study.

Results

A total of 149 complete responses were received. Due to the snowball recruitment method the response rate could not be calculated. However, a 2014 HIMAA member survey reported a 21% response rate, with 136 responses, so it is estimated the response rate of this survey is larger than 20% (HIMAA 2016). A summary of the demographic characteristics of the respondents is shown in Table 1.

Table 1 - Summary of respondent characteristics

The majority of respondents were female (85.9%) aged between 26-55 years of age (84.6%), with over two-thirds (67.2%) aged 36 years or older (Figure 1). Nearly all (90.4%) respondents had a tertiary education. Almost two-thirds (66.4%) of respondents were classified into one of two job themes – Health information Manager/Director/District Manager (50.3%), Clinical Coder/Manager (16.1%) (Figure 2). Those classified under "Other" were an Administrative Officer, Auditor/Audit Manager, Change Manager, Classification Analyst/Development Manager, and Health Information Liaison.

Figure 1 – Age group by gender

Figure 2 – Job themes

The survey examined the level of experience of respondents, with 42.3% of respondents indicating they had worked in their current role for less than 10 years (Table 2). A quarter (25.5%) of respondents indicated they perform research in their current health information role and only 8.1% have conducted or published research as part of their current role.

Table 2 - Summary of experience

With regards to the respondent's perceptions about research (Table 3), nearly half (45.0%) of respondents indicated they have confidence in their ability to conduct research, with 40.3% reporting they have a strong knowledgebase on how to conduct research. Although the majority (90.4%) of respondents hold a tertiary qualification, only half (54.1%) indicated their formal education had provided the skills to conduct research. The survey did not capture whether tertiary education included HIM education. The majority of respondents indicated a high level of interest in conducting research (54.4%), yet only 36.9% believed their organisation would support staff to undertake research as part of their role and even fewer (29.5%) that their direct line manager would support research activities.

Analysis was undertaken to identify if there was any emerging patterns between the level of agreement with the perceptions listed in Table 3 and qualification, job title, experience in health information, experience in research and job functions. There was a positive correlation between qualification level and interest in conducting research ($p \leq 0.001$), and between the job titles *HIM, Director, or District HIM* and an interest in conducting research ($p \leq 0.001$). But there was no correlation between the job titles *Clinical Coder, or Coding Manager* and interest in conducting research ($p=0.038$).

Similarly, there was a positive correlation between job title *HIM/Director/District HIM* and both organisational and direct line manager support ($p \leq 0.0001$),but not when the job title was *Clinical Coder/ Coding Manager* ($p=0.058$).

Table 3 – Perceptions about research

The survey also explored current activities that could be classified as research or used similar skills to these in research, to identify where respondents were undertaking research type activities. Only broad activities were examined, and specific activities such as formulating research questions or applying for ethics were not included as it was determined these were inherent within the activities listed, Only 16.8% of respondents stated they had not undertaken any of the listed research activities (Table 4) yet 74.5% of respondents had previously indicated they had not undertaken research in a health information role. This indicates there may be a misconception as to what constitutes a research activity.

Table 4 - Summary of research activities

Several themes were identified as barriers to conducting research (Table 5), with 82.6% (123) of respondents providing at least one barrier. Time (66.7%) was the most frequently reported barrier to conducting research in a practitioner's role. Other barriers included research not regarded as a part of the work role (50.4%), a lack of support from the organisation and/or management (22.8%) and not having the knowledge or skills (19.5%). A small number (7.3%) of respondents identified a lack of resources as a barrier, with resources identified as physical resources (such as data, access to journal articles, administrative support), or support resources (such as funding, relief staffing). A quarter of respondents (27.6%) stated they did not know what to research. Lastly, a lack of mentorship (6.5%) was an identified barrier.

Table 5 – Barriers to conducting research as part of your role

With regards to enablers to undertake research as part of a practitioner's roles (Table 6), 71.1% (106) of respondents provided at least one enabler. Again, time (54.7%) was the most frequently reported enabler. More than half (52.8%) identified that value and support by the organisation/management to incorporate research in the practitioner's role would enable them to undertake research. Furthermore, a third (36.8%) identified that making research a function of the role would be an enabler.

Table 6 – Enablers to conduct research as part of your role

Discussion

With a wealth of knowledge about the research culture in other health professions, this study was able to provide some context for the HIM profession. The results of this study suggest there may be a weak research culture in the HIM profession. A strong research culture is essential for a profession, particularly in healthcare, if it wishes to improve organisational performance and improve staff satisfaction (Harding, Lynch, Porter & Taylor, 2017). It is not until we understand why practitioners do not currently have a strong research culture, particularly in contrast to other health professionals such as nurses and allied health practitioners, that the perceived barriers and the perceived enablers will be able to be addressed. This study begins to address these questions, while suggesting many additional areas for further exploration.

By surveying practitioners working in a variety of roles and by asking open-ended questions, our study indicates that research is not part of the everyday working life of most practitioners. Although many felt that their education had provided the skills they would require to successfully undertake research, the majority did not undertake research. Many practitioners reported utilising research skills such as literature reviews, data analysis and report writing, but they did not identify these as being part of research activities. There is also the possibility that although practitioners may be participating in research activities, such as data collection, they are not taking the next step to thoroughly analyse the data and move through the processes involved in publication

Respondents with postgraduate qualifications demonstrated greater interest in conducting research. This corresponded to a positive perception about research, where practitioners believed their formal education enabled them to conduct and participate in research. Those with postgraduate qualifications were more likely to have research embedded as part of their daily work duties, and therefore were more likely to have a higher perception of the research culture in the profession. Whilst research skills are taught in undergraduate education, they typically do not provide students with experiential research experiences that would encourage future research participation. As a result, those without postgraduate degrees may have limited knowledge and experience of research. These findings were consistent with findings in other research where a higher level of academic training was predictive of higher research engagement (Finch et al, 2015).

Practitioners in this study reported similar barriers and enablers to research as those in other health professions, including nursing, allied health and medicine (Hiscock et al, 2014; Johnson et al, 2014; Akerjordet et al, 2012; Marshall et al, 2016). While the most significant barriers were lack of time and research not being part of their work role (or not seen as being of value to their work role), barriers of 'not knowing what to research' and 'no interest in undertaking research' were identified by practitioners.

Many health professionals are required to maintain professional registration through continuous professional development, which can include engagement in research. Unlike these professions, HIM professionals are not a regulated profession and as such do not have a legal obligation to provide evidence of ongoing training or education. The HIMAA professional credentialing scheme (Certified Health Information Manager CHIM and Certified Health Information Professional CHIP) and the Certified Health Informatician Australasia (CHIA) program provides mechanisms for those who are interested in demonstrating maintenance of professional knowledge, but these are voluntary schemes. When HIM professionals are not obliged to stay up-to-date with relevant research in their field through processes like registration or credentialing, it becomes challenging to identify what areas of their profession require further knowledge and research, other than any that may be immediately apparent in their work roles. The lack of empirical evidence about

practitioners undertaking research as part of their functions creates a research opportunity within itself.

A lack of interest in undertaking research may be due to the absence of a research culture in the environment in which those individuals work. If there is no evidence of research, or the need for research, taking place in and around the practitioner's role, there is no immediate prompt to be interested. There may also be an interaction between other barriers – such as lack of time, absence of organisational support or no direct relevance/function to current work role – with a reduced interest in undertaking any research. Where a health information professional already has a full work role, it may be difficult to garner any interest in adding research without addressing these barriers.

Enablers that were common to other health professions included having protected time for research and research being valued and supported by management and the organisation (Turner, 2014). Without research as a defined work function or without a work culture where research is valued, recognised, and encouraged, HIM professionals do not participate in research. They may use specific research skills, but not consider these to represent research as an entity.

A limitation of the study was the small sample size, which means that the results of the study must be interpreted with caution. Several factors may have affected the lower response rate, such as initial access issues to the survey link, and issues with the timing and distribution of the survey. Whilst respondents were asked to forward the invitation to their network, the initial invitation was sent to HIMAA members. Those who are members of HIMAA may have different characteristics to the broader profession. It would be reasonable to suggest that those who join HIMAA may do so to receive publications, such as the journal, or to attend professional development activities. Completion of the survey may be more likely by those who are more interested in research, or a higher affinity for a stronger research culture. Lastly, a qualitative approach through interviews or focus groups may yield more meaningful information with regards to the perceived enablers and barriers of undertaking research. Further exploration through ongoing research is required to address these limitations.

Providing research skills training during undergraduate study does not always translate to the retention and application of this information over time (Finch et al, 2015). Many of the survey respondents have been working for a considerable length of time and research skills may not have been part of their initial training, they may not previously had the opportunity to put them into practice or they may have never received research training in the past.

These results highlight that there are areas where HIMAA should be advocating and supporting practitioners, including training opportunities, mentorship, establishing collaborative networks, fostering organisational research culture, and tailoring the education curriculum to incorporate research components (Finch et al, 2015). Furthermore, the definition of the health information profession could be broadened to specifically include research elements. Establishment of a centralised research support service or network would potentially build research capacity and facilitate more research (Marshall et al, 2016; HIMAA 2015). This type of network would provide mentoring of participants through the design, ethics approval, analysis and publication phases; standardised and regulatory compliant processes; and an increase in professional leadership skills. Further research is required to establish best practice and the impact of such initiatives.

Conclusion

This is the first study of the research culture in practitioners in the HIM profession in Australia, concluding there is a weak culture in practitioner roles. The results from this study reflect those in other health professions, including a lack of time, organisational and managerial support, recognition and supervision as barriers to incorporating research into practitioner roles. These findings highlight the need for increased training in vocational and tertiary education in HIM and coding courses. Furthermore, HIMAA, as the peak body responsible for the advocacy and support of the profession, needs to promote a stronger research culture, and support practitioners through training opportunities, mentorship, establishing collaborative networks, and advocating for an organisational research culture in HIM. It is important that practitioners consider conducting research activities in their roles as it will strengthen the HIM profession and add to the knowledgebase of this profession.

Acknowledgement: The research team would like to acknowledge the advice received from Heather Grain in regards to the development of this paper.

Funding there was no funding received for this project. All work was carried out in kind by individuals.

Conflict of Interest: This project was part of a mentored research project scheme by the Research Advisory Committee for the Health Information Management Association of Australia. This scheme was developed to match practitioners interested in doing research with an experienced researcher as a mentor. At the time Kerryn Butler-Henderson was the Deputy Chair of that committee and Senior Lecturer at the University of Tasmania. Whilst this is not a conflict of interest, it is acknowledged that her participation in this as the mentor provided a benefit to her role as Senior Lecturer.

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Table Legend:

Table 1 - Summary of participant characteristics

Table 2 - Summary of experience

Table 3 – Perceptions about research

Table 4 - Summary of research activities

Table 5 – Barriers to conducting research as part of your role

Table 6 – Enablers to conduct research as part of your role

Figure legend:

Figure 1 – Age group by gender

Figure 2 – Job themes

Abstract

Background: Research is an important activity that informs knowledge and practice. The research culture within the Australian Health Information Management (HIM) profession has not been previously reported.

Objective: This study explored the perceptions of HIM practitioners about research in their role to establish if there is a research culture in the Australian HIM profession~~research culture in the HIM profession, including the enablers and barriers for undertaking research~~.

Method: An online survey was distributed to the HIM community using a snowball recruitment strategy.

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The study used a prospective cross-sectional survey design. The~~y~~ survey was designed ~~incorporating elements from~~based on two ~~previous~~ published ~~surveys~~ studies examining research culture in other professions (Reid et al, 2007; Johnson, Lizama, Harrison, Bayly & Bowyer, 2014). The survey included 13 ~~to create a~~ nominal/ordinal items and three open ended ~~items~~questions. The questions captured ~~participant~~ respondent demographic information, research knowledge, job title (open ended), and HIM experience~~d~~. ~~, and~~ Two open ended questions to captured the perceived barriers and enablers of undertaking research. A Likert scale was used to rank confidence and knowledge levels regarding research capabilities. The survey was anonymous, ~~and did~~ not capturinge any identifying information, and obtained consent at the start. The survey instrument was ~~created~~ deployed using Research Electronic Data Capture (REDCap), a secure web application for building and managing online surveys and databases.

The study used a non-probability snowball sampling method. An invitation to participate in the study was distributed ~~via the~~by HIMAA ~~network,~~ via a direct email to ~~HIMAA~~ their ~800 members, and within the research team's own networks (number unquantifiable). Recipients were requested to forward the email/flyer on to their colleagues and networks. The email provided an overview of the study, eligibility requirements of the participants, and a link to

the online eligibility test. The eligibility test assessed if the participant met the HIMAA definition of a HIM professional and are currently working in the Australian healthcare industry. A reminder email was sent two weeks after the initial email, and was advertised at the annual national conference. The survey remained open for five months, closing in December 2017.

At the close of the survey, the data was downloaded from the REDCap website and exported into a password protected Microsoft Excel spreadsheet, stored on a secure network drive at the University of Tasmania.

Data analysis

The statistical software package IBM® SPSS version 25 was utilised for the quantitative data analysis, including descriptive and inferential statistics. Thematic analysis of open ended responses was undertaken in MS Excel.

Ethics approval

Ethics approval for the study was obtained from the University of Tasmania Human Research Ethics Committee (HREC H0016639) before commencement of the study.

Results

A total of 149 complete~~d~~ responses were received. Due to the snowball recruitment method the response rate ~~was unable to~~could not be calculated. However, a 2014 HIMAA member survey reported a 21% response rate, with 136 responses, so it is estimated the response rate of this survey is larger than 20% (HIMAA 2016). A summary of the demographic characteristics of the respondents is shown in Table 1.

Table 1 - Summary of ~~participant~~ respondent characteristics

The majority of respondents were female (85.9%)~~,~~ ~~and~~ aged between 26-55 years of age (84.6%), with over two-thirds (67.2%) aged 36 years or older (Figure 1). Nearly all (90.4%) respondents had a tertiary education. Almost two-thirds (66.4%) of respondents were classified into one of two job themes – Health information Manager/Director/District Manager (50.3%), Clinical Coder/Manager (16.1%) (Figure 2). Those classified under "Other" were an Administrative Officer, Auditor/Audit Manager, Change Manager, Classification Analyst/Development Manager, and Health Information Liaison.

Figure 1 – Age group by gender

Figure 2 – Job themes

The survey examined the level of experience of respondents, with 42.3% of respondents indicating they had worked in their current role for less than 10 years (Table 2). A quarter (25.5%) of respondents indicated they perform research in their current health information role and only 8.1% have conducted or published research as part of their current role.

Table 2 - Summary of experience

With regards to the respondent's perceptions about research (Table 3), nearly half (45.0%) of respondents indicated they have confidence in their ability to conduct research, with 40.3% reporting they have a strong knowledgebase on how to conduct research. Although the majority (90.4%) of respondents hold a tertiary qualification, only half (54.1%) indicated their formal education had provided the skills to conduct research. The survey did not capture whether tertiary education included HIM education. The majority of respondents indicated a high level of interest in conducting research (54.4%), yet only 36.9% believed their organisation would support staff to undertake research as part of their role and even fewer (29.5%) that their direct line manager would support research activities.

Analysis was undertaken to identify if there was any emerging patterns between the level of agreement with the perceptions listed in Table 3 and qualification, job title, experience in

health information, experience in research and job functions. There was a positive correlation between qualification level and interest in conducting research ($p \leq 0.001$), and between the job titles *HIM, Director, or District HIM* and an interest in conducting research ($p \leq 0.001$). But there was no correlation between the job titles *Clinical Coder, or Coding Manager* and interest in conducting research ($p=0.038$).

Similarly, there was a positive correlation between job title *HIM/Director/District HIM* and both organisational and direct line manager support ($p \leq 0.0001$),but not when the job title was *Clinical Coder/ Coding Manager* ($p=0.058$).

Table 3 – Perceptions about research

The survey also explored current activities that could be classified as research or used similar skills to these in research, to identify where respondents were undertaking research type activities. Only broad activities were examined, and specific activities such as formulating research questions or applying for ethics were not included as it was determined these were inherent within the activities listed. -Only 16.8% of respondents stated they had not undertaken any of the listed research activities (Table 4) yet 74.5% of respondents had previously indicated they had not undertaken research in a health information role. This indicates there may be a misconception as to what constitutes a research activity.

Table 4 - Summary of research activities

Several themes were identified as barriers to conducting research (Table 5), with 82.6% (123) of respondents providing at least one barrier. Time (66.7%) was the most frequently reported barrier to conducting research in a practitioner's role. Other barriers included research not regarded as a part of the work role (50.4%), a lack of support from the organisation and/or management (22.8%) and not having the knowledge or skills (19.5%). A small number (7.3%) of respondents identified a lack of resources as a barrier, with resources identified as physical resources (such as data, access to journal articles, administrative support), or support resources (such as funding, relief staffing). A quarter of respondents (27.6%) stated they did not know what to research. Lastly, a lack of mentorship (6.5%) was an identified barrier.

Table 5 – Barriers to conducting research as part of your role

With regards to enablers to undertake research as part of a practitioner's roles (Table 6), 71.1% (106) of respondents provided at least one enabler. Again, time (54.7%) was the ~~biggest~~ most frequently reported enabler. More than half (52.8%) identified that value and support by the organisation/management to incorporate research in the practitioner's role would enable them to undertake research. Furthermore, a third (36.8%) identified that making research a function of the role would be an enabler.

Table 6 – Enablers to conduct research as part of your role

Discussion

With a wealth of knowledge about the research culture in other health professions, this study was able to provide some context for the HIM profession. The results of this study suggest there may be a weak research culture in the HIM profession. A strong research culture is essential for a profession, particularly in healthcare, if it wishes to improve organisational performance and improve staff satisfaction (Harding, Lynch, Porter & Taylor, 2017). It is not until we understand why practitioners do not currently have a strong research culture, particularly in contrast to other health professionals such as nurses and allied health practitioners, that the perceived barriers and the perceived enablers will be able to be addressed. This study begins to address these questions, while suggesting many additional areas for further exploration.

By surveying practitioners working in a variety of roles and by asking open-ended questions, our study indicates that research is not part of the everyday working life of most practitioners. Although many felt that their education had provided the skills they would require to successfully undertake research, the majority did not undertake research. Many practitioners reported utilising research skills such as literature reviews, data analysis and report writing, but they did not identify these as being part of research activities. There is also the possibility that although practitioners may be participating in research activities, such as data

collection, they are not taking the next step to thoroughly analyse the data and move through the processes involved in publication~~. Evidence based practice is relatively minimal in the HIM profession.~~

Respondents with postgraduate qualifications demonstrated greater interest in conducting research. This corresponded to a positive perception about research, where practitioners believed their formal education enabled them to conduct and participate in research. Those with post-graduate qualifications were more likely to have research embedded as part of their daily work duties, and therefore were more likely to have a higher perception of the research culture in the profession. Whilst research skills are taught in undergraduate education, they typically do not provide students with experiential research experiences that would encourage future research participation. As a result, those without postgraduate degrees may have limited knowledge and experience of research. These findings were consistent with findings in other research where a higher level of academic training was predictive of higher research engagement (Finch et al, 2015).

~~The literature review did not identify Australian research on the research engagement and culture of health information management.~~

Practitioners in this study reported similar barriers and enablers to research as those in other health professions, including nursing, allied health and medicine (Hiscock et al, 2014; Johnson et al, 2014; Akerjordet et al, 2012; Marshall et al, 2016). While the most significant barriers were lack of time and research not being part of their work role (or not seen as being of value to their work role), ~~unique~~ barriers of 'not knowing what to research' and 'no interest in undertaking research' were identified by practitioners.

Many health professionals are required to maintain professional registration through continuous professional development, which can include engagement in research. Unlike these professions, HIM professionals are not a regulated profession and as such do not have a legal obligation to provide evidence of ongoing training or education. The HIMAA professional credentialing scheme (Certified Health Information Manager CHIM and

Certified Health Information Professional CHIP) and the Certified Health Informatician Australasia (CHIA) program provides mechanisms for those who are interested in demonstrating maintenance of professional knowledge, but these are voluntary schemes. When HIM professionals are not obliged to stay up-to-date with relevant research in their field through processes like registration or credentialing, it becomes challenging to identify what areas of their profession require further knowledge and research, other than any that may be immediately apparent in their work roles. The lack of empirical evidence about practitioners undertaking research as part of their functions creates a research opportunity within itself.

A lack of interest in undertaking research may be due to the absence of a research culture in the environment in which those individuals work. If there is no evidence of research, or the need for research, taking place in and around the practitioner's role, there is no immediate prompt to be interested. There may also be an interaction between other barriers – such as lack of time, absence of organisational support or no direct relevance/function to current work role – with a reduced interest in undertaking any research. Where a health information professional already has a full work role, it may be ~~very~~ difficult to garner any interest in adding research without ~~the~~ addressing ~~of~~ tho~~c~~se ~~other~~ barriers.

Enablers that were common to other health professions included having protected time for research and research being valued and supported by management and the organisation (~~Roxburgh, 2006;~~ Turner, 2014). Without research as a defined work function or without a work culture where research is valued, recognised, and encouraged, HIM professionals do not participate in research. They may use specific research skills, but not consider these to represent research as an entity. ~~Conversely, where HIM professionals are supported with protected research time and a clear value of the importance of engaging in research from direct line managers, they are much more likely to engage in research.~~

A limitation of the study was the small sample size, which means that the results of the study must be interpreted with caution. Several factors may have affected the lower response rate, such as initial access issues to the survey link, and issues with the timing and distribution of the survey. Whilst respondents were asked to forward the invitation to their network, the

initial invitation was sent to HIMAA members. Those who are members of HIMAA may have different characteristics to the broader profession. It would be reasonable to suggest that those who join HIMAA may do so to receive publications, such as the journal, or to attend professional development activities. Completion of the survey may be more likely by those who are more interested in research, or a higher affinity for a stronger research culture. Lastly, a qualitative approach through interviews or focus groups may yield more meaningful information with regards to the perceived enablers and barriers of undertaking research. ~~This is an F~~area ~~for f~~urther exploration through ongoing research is required to address these limitations.

Providing research skills training during undergraduate study does not always translate to the retention and application of this information over time (Finch et al, 2015). Many of the survey respondents have been working for a considerable length of time and research skills may not have been part of their initial training, ~~or~~ they may not ~~have~~ previously had the opportunity to put them into practice or they may have never received research training in the past. ~~Clinical coding education does not include training in research skills, so it is unlikely that clinical coders would have actively engaged in research unless they have prior training in research.~~

~~These results highlight that there are areas where HIMAA could develop research capacity in the HIM profession, which includes training opportunities, mentorship, establishing collaborative networks, fostering organisational research culture, and tailoring the education curriculum to incorporate research components (Finch et al, 2015). Furthermore, the definition of the health information profession could be broadened to specifically include research elements.~~

~~Providing research skills training during undergraduate study does not always translate to the retention and application of this information over time (Finch et al, 2015). Many of the survey respondents have been working in the profession for a considerable length of time. Research skills may not have been part of their initial training, or they may not have had the opportunity to put them into practice. Clinical coding education does not include training in research skills, so it is unlikely that clinical coders would have actively engaged in research.~~

These results highlight that there are areas where HIMAA should be advocating and supporting practitioners, including training opportunities, mentorship, establishing collaborative networks, fostering organisational research culture, and tailoring the education curriculum to incorporate research components (Finch et al, 2015). Furthermore, the definition of the health information profession could be broadened to specifically include research elements. ~~Studies indicate that the e~~Establishment of a centralised research support service or network ~~that participants could access~~ would potentially build research capacity and facilitate more research (Marshall et al, 2016; HIMAA 2015). This type of network would provide mentoring of participants through the design, ethics approval, analysis and publication phases; standardised and regulatory compliant processes; and an increase in professional leadership skills ~~(Dev et al, 2008; Braurer, Haines & Bew, 2007; Marshall et al, 2016; HIMAA 2015)~~. Further research is required to establish best practice and the impact of such initiatives.

~~Studies indicate that the establishment of a centralised research support service or network that participants could access would build research capacity and facilitate more research. This type of network would provide mentoring of participants through the design, ethics approval, analysis and publication phases; standardised and regulatory compliant processes; and an increase in professional leadership skills (Dev et al, 2008; Braurer, Haines & Bew, 2007; Marshall et al, 2016; HIMAA 2015).~~

Conclusion

This is the first study of the research culture in practitioners in the HIM profession in Australia, concluding there is a weak culture in practitioner roles. The results from this study reflect those in other health professions, including a lack of time, organisational and managerial support, recognition and supervision as barriers to incorporating research into practitioner roles. These findings highlight the need for increased training in vocational and tertiary education in HIM and coding courses. Furthermore, HIMAA, as the peak body

responsible for the advocacy and support of the profession, needs to promote a stronger research culture, and support practitioners through training opportunities, mentorship, establishing collaborative networks, and advocating for an organisational research culture in HIM. It is important that practitioners consider conducting research activities in their roles as it will strengthen the HIM profession and add to the knowledgebase of this profession.

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Conflict of Interest: This project was part of a mentored research project scheme by the Research Advisory Committee for the Health Information Management Association of Australia. This scheme was developed to match practitioners interested in doing research with an experienced researcher as a mentor. At the time Kerryn Butler-Henderson was the Deputy Chair of that committee and Senior Lecturer at the University of Tasmania. Whilst this is not a conflict of interest, it is acknowledged that her participation in this as the mentor provided a benefit to her role as Senior Lecturer.

Ethics approval: Ethics approval for the study was obtained from the University of Tasmania Human Research Ethics Committee (HREC H0016639) before commencement of the study.

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Table Legend:

Table 1 - Summary of participant characteristics

Table 2 - Summary of experience

Table 3 – Perceptions about research

Table 4 - Summary of research activities

Table 5 – Barriers to conducting research as part of your role

Table 6 – Enablers to conduct research as part of your role

Figure legend:

Figure 1 – Age group by gender

Figure 2 – Job themes

Table 1 - Summary of ~~participant~~ respondent characteristics

Characteristic		Number (149)	%
Gender	Female	128	85.9
	Male	21	14.1
Age group	<26	4	2.7
	26-35	45	30.2
	36-45	31	20.8
	46-55	50	33.6
	56-65	19	12.8
Highest qualification	Certificate/Diploma	11	7.4
	Bachelor Degree	76	51.0
	Postgraduate Degree	12	8.1
	Master Degree	44	29.5
	Doctorate	3	2.0
	Other (unspecified)	3	2.0
Job Themes	HIM/Director/District	75	50.3
	Clinical Coder/Manager	24	16.1
	Performance Analysis manager	9	6.0
	Information Governance Manager	7	4.7
	Health Informatics Officer/Manager/Director	7	4.7
	Senior/Executive Management	6	4.0
	Project Manager	6	4.0
	Educator	5	3.4
	Research/Statistics Officer	3	2.0
	Other	7	4.7

HIM, Health Information Manager

Table 2 - Summary of experience

Area of experience		Number (149)	%
Health information role	≤5 years	36	24.2
	6-10 years	27	18.1
	11-15 years	23	15.4
	16-20 years	21	14.1
	Over 20 years	42	28.2
Research in a health information role	Yes	38	25.5
	No	111	74.5
Conduct &/or publish research part of role	Yes	12	8.1
	No	137	91.9

Table 3 – Perceptions about research

Question	Response	Number (149)	%
I have a high level of interest in conducting research	Strongly disagree/Disagree	36	24.2
	Unsure	32	21.5
	Strongly agree/agree	81	54.4
I feel very confident in my ability to conduct research	Strongly disagree/Disagree	52	34.9
	Unsure	30	20.1
	Strongly agree/agree	67	45.0
I have a strong knowledgebase about how to conduct research	Strongly disagree/Disagree	59	36.9
	Unsure	30	20.1
	Strongly agree/agree	60	40.3
My formal education has provided me with the skills to conduct research	Strongly disagree/Disagree	45	30.4
	Unsure	23	15.5
	Strongly agree/agree	80	54.1
My organisation supports staff to undertake research as part of their role	Strongly disagree/Disagree	50	33.6
	Unsure	44	29.5
	Strongly agree/agree	55	36.9
My direct line manager supports me to undertake research as part of my role	Strongly disagree/Disagree	49	32.9
	Unsure	56	37.6
	Strongly agree/agree	44	29.5

Table 4 - Summary of research activities

Research Activity	Number (149)	%
Data analysis	108	72.5
Produced a report about project findings	94	63.1
Conducted a project	77	51.7
Presentation about project findings	72	48.3
Literature Review	47	31.5
Written an article	36	24.2
None	25	16.8

Table 5 – Barriers to conducting research as part of your role

Theme	Number (123)	%
Time	82	66.7%
Not part of role or of value to role	62	50.4%
Knowing what to research	34	27.6%
Lack of organisational or management support and/or recognition	28	22.8%
Knowledge & skills	24	19.5%
Resources/funding	9	7.3%
Lack of mentorship	8	6.5%
No interest in undertaking research	8	6.5%
Experience (lack of confidence)	6	4.9%

Table 6 – Enablers to conduct research as part of your role

Theme	Number (106)	%
Protected time	58	54.7%
Value and support by organisation/management	56	52.8%
Training on research processes	41	38.7%
Function of role	39	36.8%
Resources	34	32.1%
Areas of need	22	20.8%
Mentorship	17	16.0%
Culture in the profession	15	14.2%
Funding	12	11.3%

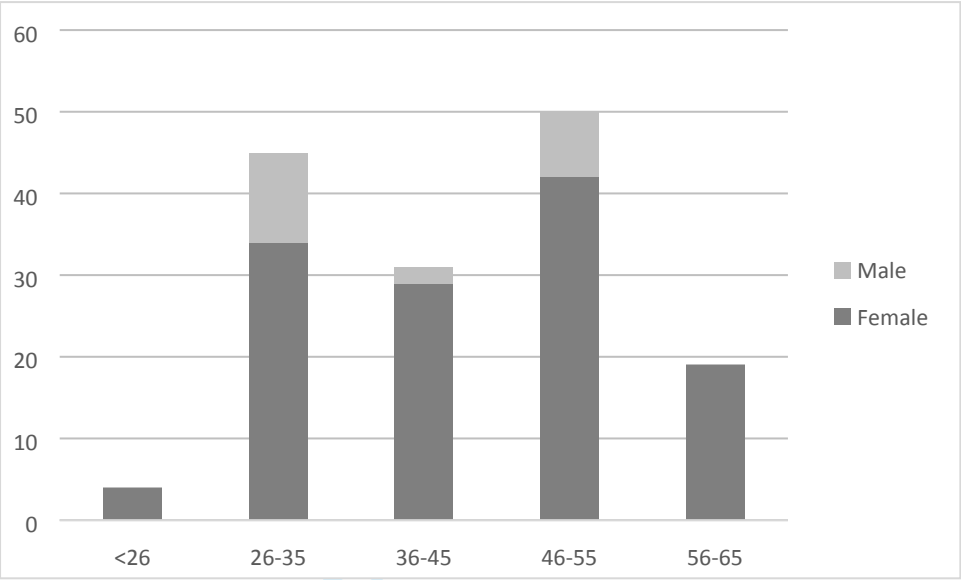

Figure 1 – Age group by gender

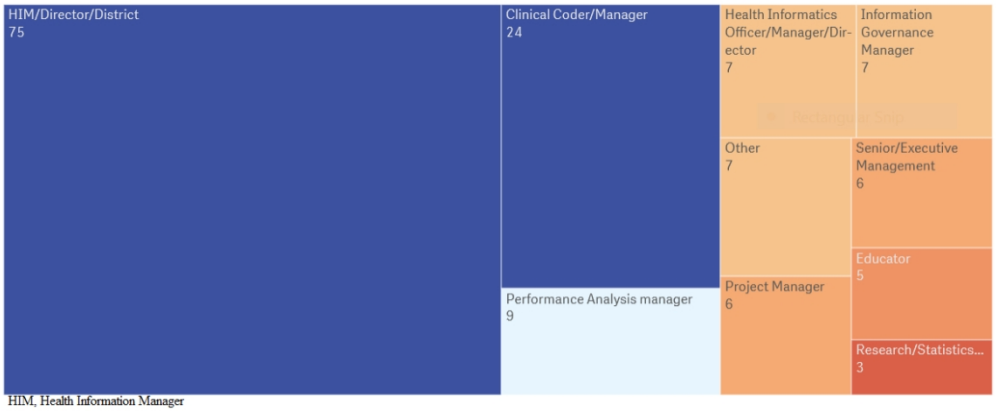

Figure 2 Job themes

Figure 2 - Job themes

Appendix A: Survey

Understanding the perceived barriers and enablers to Health Information Management professionals in the Australian health system undertaking research.

Please answer the following questions.

1. What is your current job the title?
    a. Open ended question

2. What is your highest qualification?
    a. Certificate/Diploma e.g. Certificate III, Certificate IV, Diploma
    b. Bachelor Degree
    c. Postgraduate Degree
    d. Master Degree
    e. Doctorate
    f. Other (please specify)
    g. No formal training

3. What is your gender?
    a. Female
    b. Male
    c. Other

4. What is your age group?
    a. 25 and under
    b. 26-35
    c. 36-45
    d. 46-55
    e. 56-65
    f. 65+

5. How long have you been working in the health information field?
    a. Less than or equal to 5 years
    b. 6-10 years
    c. 11-15 years
    d. 16-20 years
    e. Over 20 years

6. Have you ever conducted research in a health information related role?
    a. Yes
    b. No

7. Is conducting and/or publishing research a part of your current role as a health information professional?
    a. Yes
    b. No

Please indicate your level of agreement with the following statements. (Strongly disagree; Disagree; Unsure; Agree; Strongly agree)

8. I have a high level of interest in conducting research
9. I feel very confident in my ability to conduct research
10. I have a strong knowledgebase about how to conduct research
11. My formal education has provided me with the skills to conduct research
12. My organisation supports staff to undertake research as part of their role.
13. My direct line manager supports me to undertake research as part of my role.

14. Which if the following activities have you undertaken in a health information role? Check list of research activities that they tick off:

    a. Data analysis
    b. Produced a report about project findings
    c. Conducted a project
    d. Presentation about project findings
    e. Literature Review
    f. Written an article
    g. None

15. What do you perceive to be barriers to you conducting research as part of your role?
    a. Open ended question

16. What would enable you to conduct research as part of your role?
    a. Open ended question

Please click SUBMIT to submit your answers and confirm your consent for these answers to be analysed.

SUBMIT