George Rupert Palmer – DRG carrier and champion

LIANE TURNER AND STEPHANIE D SHORT

Liane Turner is completing her PhD on 'The emergence and diffusion of DRGs in Australia' in the School of Health Services Management, The University of New South Wales. Stephanie Short is a Senior Lecturer in the School of Health Services Management, The University of New South Wales; and co-author, with George Palmer, of *Health Care and Public Policy*.

Abstract

Prompted by the retirement of the distinguished health economist, researcher and academic, Professor George Rupert Palmer, the purpose of this paper is to reflect upon and acknowledge one of his many contributions to health services research and development. By employing a conceptual framework devised by Kimberly and de Pouvourville (1993) for analysis of the diffusion of innovations, this paper argues that Palmer played a crucial role in the diffusion into and within Australia of a particular casemix method, diagnosis related groups (DRGs). Textual and interview evidence presented in the paper supports the identification of George Rupert Palmer as the principal carrier of DRGs into Australia, and as one of its key champions within Australia.

> *To many, Professor George Palmer is one of the 'founding fathers' of casemix in Australia. A health economist, he has led much of the research underpinning its introduction into the health care system* (Galbraith 1993, p 14).

Background

Throughout his distinguished career, George Rupert Palmer has made significant contributions in the areas of academic research, scholarship and leadership in the fields of health economics, statistics and health services research. He has also acted as an adviser to State and Commonwealth governments, including as a member of the Australian Hospitals and Health Services Commission in the 1970s, where he contributed advice on hospital funding and on establishment of the Research and Development Grants Advisory Committee. Palmer also helped establish the first Women's Health Centre in Australia, in Leichhardt, Sydney, and he has worked as an honorary adviser to numerous non-government organisations, including the New South

Wales Nurses' Association and the Australian Council of Social Service. Lead writers in Australia's prestige newspapers have also called upon Palmer to provide advice on health financing matters. Prompted by the occasion of his retirement from the The University of New South Wales, the purpose of this paper is to reflect upon and acknowledge one of his many achievements – his role in the diffusion of a particular casemix system, diagnosis related groups (DRGs), into and within Australia.

DRGs are 'a classification and weighting system that orders patients' conditions into similar categories with similar costs' (Duckett 1995, p 651). This casemix system emerged in the United States from the conceptual and empirical research commenced in 1967 by Professors Robert Fetter and John Thompson, and colleagues at Yale University. DRGs were the first casemix system to make the transition from research into policy through being operationalised in the early 1980s as a funding mechanism by the Reagan administration to underpin its prospective payment system for hospitals treating Medicare patients (Kimberly 1993), that is, federally insured persons, predominantly those 65 years and over. Subsequent to the emergence of DRGs in the United States, a number of countries such as western European nations, Canada, New Zealand and Australia commenced DRG research projects (Kimberly & de Pouvourville 1993; Owens 1995). In 1988 the Australian Commonwealth Health Department allocated $25 million over five years for a casemix development program that included research on the application of DRGs in Australian health services.

The focus of this study

The purpose of this paper is to trace the actions of one DRG champion, George Rupert Palmer, so as to gain an insight into how the DRG diffusion process occurred in Australia and, more specifically, to identify the roles he played in this process. This paper does not intend to analyse the relative contributions made by Palmer to this diffusion process vis-à-vis other key actors, including other academics and government officials, nor the relative importance of the factors that influenced DRG migration to and spread in Australia – that is the subject of a broader study. Rather, using the Kimberly & de Pouvourville framework devised to analyse DRG diffusion, this paper will argue that Palmer played a crucial role in the DRG diffusion process into and within Australia.

We now outline the conceptual framework and methodology developed for this analysis.

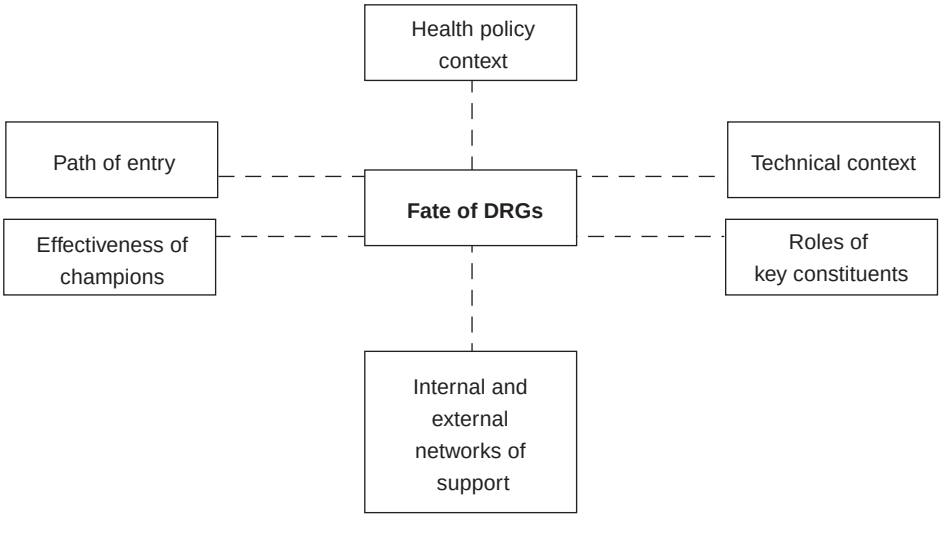
On the diffusion of innovations

Most of the studies on casemix and/or DRG diffusion are contained in one of three compendiums, edited by Fetter (1991), Casas and Wiley (1993) or Kimberly and de Pouvourville (1993), which examine the spread of casemix in the United States or western European nations. To date, the only analytical framework designed specifically to examine DRG diffusion in recipient countries is that devised by Kimberly and de

Pouvourville (1993) to examine the spread of DRGs into nine western European countries.

The Kimberly & de Pouvourville framework is based upon the analytical insights of sociologist Everett Rogers (1962). Rogers constructed a *theory of the diffusion and adoption of innovations* derived from his own research findings and drawing upon theoretical ideas from sociologists Talcott Parsons and Edward Shils, and from the discipline of social psychology. Rogers (1962, p 13) defines an *innovation* as an idea that is perceived as new by an individual, despite whether this idea is novel as objectively measured by the duration of time since it initially was discovered or operationalised. The *diffusion process* is defined as the spread of a new idea from the source from which it emanates or is created, through to its uptake by eventual adopters or users.

DRGs have been conceptualised as a 'managerial innovation' in health care administration (Kimberly & de Pouvourville 1993). This framework examines the roles played by six factors in the diffusion of the innovation: *path of entry, effectiveness of champions*, *health policy context, technical context, roles of key constituents,* and *internal and external networks of support* (see Figure 1).



Source: Kimberly & de Pouvourville 1993, p 15.

Figure 1: Framework for analysis of the DRG diffusion process

There are at least four *paths of entry* – government officials, academic researchers, business people and consultants – who act as 'carriers' spreading this innovation into a recipient country.

An inherent assumption in this framework is that the effectiveness of champions who advocate the implementation of DRGs in health systems will influence their diffusion within a recipient country. Champions are defined as:

> … *those individuals who, for one reason or another, are dogged supporters of an innovation and who are prepared to invest extraordinary amounts of personal time, energy, and reputation to ensure its implementation* (Kimberly & de Pouvourville 1993, pp 13–14).

Champions are defined as those individuals who are seen to have credible standing within the system, have access to senior executives and policy-makers to mobilise resources and support, and are determined to persevere in attempts to have the innovation implemented. Use of this framework requires the identification of the critical roles enacted by champions.

The *health policy context* of a country prior to and during the emergence, implementation or rejection of DRGs is another factor examined in this framework, so as to highlight issues of concern and policy debate that may influence DRG diffusion within a specific country.

The framework also requires analysis of the *technical context* or information infrastructure, especially the types of data sets collected by hospitals, including the patient medical record abstracts that exist at the time DRGs are being trialled in a particular country.

Kimberly and de Pouvourville stress also the need to ascertain the roles played by *key constituents,* who are persons affected directly or indirectly by the pending implementation of an innovation such as DRGs, as their actions will be critical in influencing its fate. Under *key constituents*, Kimberly and de Pouvourville (1993, p 13) noted that: '[T]he categories of actors included in the framework were physicians, hospital administrators, government policy makers and bureaucrats, consultants, academics and entrepreneurs'.

We also need to explore *internal and external networks of support* that DRG advocates either join or establish within their own country or across national borders: '… the extent that supporters are linked both to other supporters within the system and to others in similar roles in other systems [increases] the chances for building momentum' (Kimberly & de Pouvourville 1993, p 14).

In the Australian context there are four significant studies that examine the spread of casemix and DRGs (Barraclough & Smith 1994; Duckett 1994; Owens 1995; Lin & Duckett 1997). Duckett's (1994) study is the most pertinent to our purposes as it employed the Kimberly and de Pouvourville framework. It stressed the importance of the roles played by DRG champions and key constituents, coupled with the presence of Australian-based DRG research, with internal and external networks of support, and a health policy context which was transformed by the election of the Kennett Government. Unlike our study, however, it focused on understanding the diffusion of

this innovation in one State only, Victoria, and through to the implementation of a casemix-based funding system in Victorian hospitals.

Barraclough and Smith's work (1994) explains how casemix funding in Victoria's 1992–93 health services policy was facilitated by key constituents, such as the Kennett Liberal Government and government officials, as well as by budget reduction imperatives, broader public sector reform, and prior research conducted under the previous Labor Government.

Lin and Duckett (1997) reveal that the introduction of casemix-based funding in Victorian hospitals was due in large part to a change of government, a shift in the relative strength of and interplay between key constituents, namely clinicians, government officials and politicians, and the effectiveness of three DRG champions – government officials, Dr John Patterson and Dr Stephen Duckett, and the Minister for Health, Mrs Marie Tehan.

The study by Owens (1995) provides further valuable insights into the political process at both Commonwealth and State levels, by examining the responses of key constituents in the health policy context, including health department officials and health ministers, private and public hospital associations and professional groups and political parties, regarding their stances on the introduction of case payment in Australia. Her study also provides support for the pivotal role played by DRG champions, especially the Victorian Health Minister Tehan, in expediting casemix-based hospital funding in Victoria.

Methods of data collection

Two data-gathering methods were employed in this study. First, *textual analysis* was adopted in order to examine publications, reports, policy documents and other written material produced by key participants in the DRG diffusion process, especially key constituents in the policy development process. Secondly, *in-depth interviews* were conducted with 11 key actors who participated in the DRG diffusion process in Australia, especially DRG champions, government officials and academics. The interview data were collected to augment and validate material collected for the textual analysis.

Palmer's role in the diffusion of DRGs into and within Australia

We now present the data obtained from both texts and interviews that are pertinent to the many activities through which George Palmer championed the diffusion of DRGs and casemix in Australia, starting in 1969.

George Palmer joined the School of Health Administration at The University of New South Wales as a professor in 1969, and from these early days he was interested in providing more information about hospital activity, as hospitals account for the highest proportion of health expenditure. In particular, his perception was that Australia was

very weak in providing information relevant to the analysis of hospital performance. In January 1970, whilst on a Fulbright Senior Fellowship and at the suggestion of John Griffith of the University of Michigan, Palmer met with Robert Fetter, Professor of Operations Research, and John Thompson, Professor of Public Health, at Yale University, as they were researching ways of categorising hospital inpatients (Galbraith 1993; Palmer 1997 interview). Returning to Yale University as a visiting professor for extended periods in 1982 and 1987, Palmer 'collaborated with members of the Health Systems Management Group under the leadership of Professor Robert Fetter on several research projects, including the use of DRGs for comparing hospital bed utilisation between different countries, and the refinement of DRGs using co-morbidity and complications specific classes' (Palmer & Freeman 1987; Palmer et al. 1991; Galbraith 1993; Palmer 1997 interview).

According to Palmer (1997 interview), the introduction of DRG-based case payment in the United States prompted increasing interest in and discussion on this case payment system in Australia. Palmer (cited in Galbraith 1993, p 14) recalls that he 'was fairly active in those sorts of discussions'. His credibility to engage in such discussions was underpinned by his expertise in economics and statistics, as evidenced by his academic qualifications, which included a first-class honours degree in economics from The University of Sydney and a PhD in econometrics from the London School of Economics and Political Science. His credibility contributed also to some close personal connections with a number of senior public servants and key politicians, including Ministers Bill Hayden and Neal Blewett.

In 1981 Palmer received a grant from the Commonwealth Department of Health Research and Development Grants Advisory Committee for two years, which gave the initial experience with analysing large data sets and utilising discharge data for examination of hospital activity. It was a crucial turning point, as Palmer realised that hospital discharge statistics provided a key source of data relevant to understanding the performance of hospitals (Palmer & Jayawardena 1984).

Several significant events in the Australian DRG diffusion process occurred in 1984, including the publication of the first article to discuss the possible application of DRGs in Australia. In the article, 'Diagnosis related groups: Recent developments and their adaptation and application in Australia', Palmer and Wood (1984) maintained that DRGs could be used in the Australian context.

Palmer and Wood (1984, p 79) stated: '[p]reliminary work indicates that the DRG method as introduced in the United States of America is adaptable to the Australian scene'. Additionally, in 1984 Palmer obtained software for allocating cases to DRGs, began experimental studies on grouping New South Wales data (Galbraith 1993; Palmer 1997 interview), and commenced a series of DRG-related studies in collaboration with Beth Reid of the University of Sydney (Palmer 1997 interview; Reid 1997 interview). Early Australian DRG research work entailed mapping exercises to translate Australian hospital discharge data coded in accordance with ICD-9 format into a format compatible with the DRG grouper which was underpinned by ICD-9-CM (Palmer

1997 interview). In 1984 and 1985 Palmer also participated in the DRG conferences organised by the Commonwealth Government.

In his interview, Palmer maintains that the 'critical activity' which facilitated the DRG diffusion process within Australia was the interest demonstrated by the Victorian Health Commission in April 1985, when it commissioned two separate studies on DRGs, one by Palmer regarding the use of United States DRG definitions in relation to Australian discharge data, and the other by Fetter on DRG costing (Galbraith 1993; Palmer 1997 interview). These research projects demonstrated that Australian hospital data could be grouped according to DRGs, and therefore that DRGs could be used in Australia (Palmer 1985, 1986; Palmer et al. 1986; Galbraith 1993; Duckett 1994; Palmer 1997 interview). The subsequent widely cited report for the Victorian Departments of Health and of Management and Budget, entitled *Validity of Diagnosis Related Groups for Use in Victorian Public Hospitals* (Palmer et al. 1986, p 117), provided 'strong evidence that, in general, the existing DRG definitions produce groups of patients in Victoria who closely resemble their counterparts in the United States'. The significance of this report lies in its being the *first* analysis of data using DRGs in the Australian context.

In 1986 Palmer was engaged by the South Australian Health Commission to examine the application of DRGs to seven metropolitan hospitals (Palmer 1986, pp 113–14; Sayers & Scuteri 1988; Palmer 1997 interview). According to Sayers and Scuteri (1988, p 18) '[t]he resulting report *The Use of Diagnosis Related Groups to Measure the Output of South Australian Hospitals* marked the first formal use of DRGs in determining fund allocations to hospitals', 'generated much debate about the strengths and weaknesses of the DRG system' and, in conjunction with a 1986 consultant's report by Ernst & Whinney, was used by the South Australian Health Commission to develop a funding allocation model for major metropolitan hospitals.

Palmer, in conjunction with Reid and Aisbett, employed DRGs to analyse the casemix of Australian Repatriation General Hospitals for the Department of Veterans' Affairs, the report of which was published in 1986 (Aisbett, Reid & Palmer 1986; Cuthbert 1988, p 189). In interview, Reid (1997) recalled that the joint research and publications completed in 1986 by Palmer, Aisbett and herself marked the beginning of their active research team, which was still working well together over a decade later, as each brought specific skills and expertise that complemented the others (Palmer & Reid 1986, 1989; Reid, Palmer & Aisbett 1991, 1997; Reid et al. 1996; Palmer et al. 1997). Also in 1986, Palmer received a grant from the New South Wales Department of Health, which is the first evidence of interest in DRGs by New South Wales Health Department officials. While there was less emphasis on funding in New South Wales, officials were interested in using DRGs in calculating the relative stay index.

In his 1987 study, 'The economics and financing of hospitals in Australia', Palmer (1987, p 1) again demonstrated the pertinence of using DRGs in the Australian context, stating that:

> *[I]n a study of the determinants of the costs of Victorian public hospitals it was found that the complexity of the case-mix as measured by diagnosis related groups (DRGs) was a major determinant of teaching hospital costs.*

Despite considerable differences between Australian and United States health services funding and administrations, Palmer was able to explain the usefulness of DRG application in the Australian context. Australia did not share the cost containment concerns regarding its public hospital system evident in the United States. However, in Australia, '[t]he 1970s and 80s ... witnessed increasing concerns about the efficiency and effectiveness of hospitals as core units of the health care systems (Degeling 1991, p 264). These twin concerns were highlighted in two reports: the Jamison Report (1981), *Commission of Inquiry into the Efficiency and Administration of Hospitals,* and the Sax Report (1983), *Enquiry into Hospital Services in South Australia.* In 1987 Palmer recommended 'DRG-based funding and costing of hospitals ... as a strategy for achieving increased efficiency' (Palmer 1987, p 1).

Following the 1986 International Conference on the Management and Financing of Hospital Services convened in London, Palmer played a crucial role in arranging that the subsequent international conference would be convened in Sydney in 1988, with the aim of inviting a number of well-known European and United States experts (Palmer 1997 interview) to raise awareness of the extent of DRG research being conducted on an international scale (Health Systems Management Group 1988; Galbraith 1993; Palmer 1997 interview). Fetter utilised funds from the Yale Health Systems Management Group, with the support of the Kaiser Family Foundation. Approximately 400 attended the conference, which generated a large amount of local interest in DRGs and casemix. As Palmer was well known to senior government officials and to the Commonwealth Health Minister, Neal Blewett, the Minister accepted Palmer's invitation to open the conference. In his address, Blewett gave considerable support to the desirability of using DRGs for hospital planning and funding purposes (Palmer 1997 interview).

Palmer was invited to become a member of the editorial panel for the *Australian Casemix Bulletin*, from its inception in mid-1989. This bulletin was produced by the Australian Institute of Health, and aimed to promote casemix activities in the Australian context.

In 1988 Palmer, Reid and Aisbett commenced a research study to evaluate the comparative merits of three United States DRG groupers to determine which should underpin the initial Australian national (AN)-DRGs version. The results of this study were presented at the 1990 Consensus Conference held in Canberra (Palmer et al. 1991). During 1990–91 Palmer participated in the Australian DRG refinement project that aimed to devise a set of adapted DRGs definitions developed from Australian hospital discharge data.

Palmer further demonstrated enthusiasm for DRG diffusion within Australia through the publication of two articles. One, titled 'The use of DRGs in the planning and management of hospital services' (Palmer 1991), was the first article to discuss other uses of DRGs beyond funding applications. The other, titled 'Estimates of costs by DRG in Sydney teaching hospitals', reported the initial employment of the Yale cost model on New South Wales data, concluding that this cost method had 'produced credible and potentially useful estimates of DRG costs' (Palmer et al. 1991, p 323). In 1992 Palmer (1992a) completed his report on output-based financing of hospitals in Australia, commissioned by the Commonwealth Department of Health, Housing and Community Services as one of three reports on the application of casemix funding in Australia. Other reports were prepared by Hindle (1988) and Scotton and Owens (1990). In the same year Palmer completed a report commissioned by the then Victorian Accident Commission, evaluating its DRG-based case payment pilot project. He concluded that issues such as the use of United States cost weights and coding errors that were apparent in the pilot were able to be resolved with the availability of the Australian DRG grouper (AN-DRGs) and local cost weights (Palmer 1992b; Owens 1995).

During the 1990s Palmer was involved in studies on the development of service cost weights in conjunction with KPMG and Deloitte Touche Tohmatsu, and participated on both the Commonwealth's Technical Advisory Committee on Casemix and the Casemix Implementation Project Board (Aisbett, Palmer & Balnave 1993; Holland & Tohmatsu 1993; Palmer 1993). In 1999 he was a member of the New South Wales Health Department's Casemix Policy Advisory Committee and its Inpatient Data Users' Advisory Committee. In 1993 Palmer was responsible for organising two Yale Executive Programs on 'Implementing Casemix Management', convened in Australia. Additionally, he chaired the organising committee for the 1995 Australian Casemix Conference. In 1993 the editor of the *Australian Casemix Bulletin* observed:

> *To many, Professor George Palmer is one of the 'founding fathers' of casemix in Australia. A health economist, he has led much of the research underpinning its introduction into the health care system* (Galbraith 1993, p 14).

During 1997 the Centre for Hospital Management and Information Systems Research – of which Palmer is the Director – received a competitive infrastructure grant from the New South Wales Health Department to undertake a range of DRG research projects over the next two years.

In 1999, at the time of his formal retirement from The University of New South Wales, Palmer was engaged in many DRG and casemix research projects pertaining to an evaluation of AN-DRGs, casemix costing, funding, information systems and efficiency measures for public and private hospitals, which were supported with substantial grants from the Commonwealth Department of Health and Aged Care and the New South Wales Department of Health. The key events in this 30-year period of DRG-related activity are summarised in Figure 2.

1970	Palmer meets with Fetter and Thompson at Yale University.
1982	Palmer returns to Yale University and collaborates with the Health Systems Management Group on DRG research.
1984	Palmer acquires DRG grouper from Fetter and begins studies on grouping New South Wales data.
1985	Victorian Health Commission engages Palmer to conduct DRG-related research.
1986	South Australian Health Commission engages Palmer to undertake DRG research.
1987	Palmer undertakes research with the Health Systems Management Group at Yale.
1988	Second International Conference on the Management and Financing of Hospital Services convened in Sydney, and arranged by Fetter and Palmer.
1991	Research on the Australian Refinement Project completed by Palmer, Reid and Aisbett.
1992	Publication of Palmer's (1992a) report on output-based financing by the Commonwealth.
1993	Palmer organises two Yale Executive Programs convened in Australia.
1997	Centre for Hospital Management and Information Systems Research – of which Palmer is the Director – receives a competitive infrastructure grant from the New South Wales Health Department to undertake a range of research projects over the next two years.

Figure 2: Palmer's contribution to the diffusion of DRGs into and within Australia

Analysis of Palmer's role in Australian DRG diffusion

Through reference to the Kimberly and de Pouvourville (1993) framework, we now turn to examine *how* the roles undertaken by Palmer have influenced DRG diffusion in Australia. We commence with consideration of the path of entry of DRGs into Australia.

Both interview and textual evidence indicates that the *path of entry of DRGs* into Australia was academic. Palmer met with Fetter and Thompson in the United States at the time of their early studies on the classification of patients, and returned to Yale University on two subsequent occasions to engage in DRG research projects. Palmer was the 'DRG carrier' who enabled this casemix version to migrate from the United

States to Australia. He was successful in obtaining the DRG grouper from his Yale academic colleagues that enabled the initial DRG studies to be undertaken in Australia on Australian discharge data. He was successful also in 'infecting' others with the notion that DRGs were applicable in Australia, demonstrated by his ability to engage the support of academic colleagues in undertaking collaborative research, and in obtaining government research grants and government consultancies to explore the potential application of DRGs in Australia.

The actions of, and roles undertaken by, Palmer are considered now in relation to the second factor, the *effectiveness of champions*. The textual evidence examined in this study indicates that Palmer meets the criteria stipulated by Kimberly and de Pouvourville for an actor to be considered an *effective champion*.

Firstly, Palmer has credible standing within the system, as for 30 years he has been a professor of health administration/services management at a prestigious university in Australia, responsible for a body of work that is held in high regard by academic and other colleagues both in Australia and internationally.

Palmer also meets the second 'champion' criterion of having *access to senior executives to mobilise resources and support,* as demonstrated by his ability to obtain government hospital discharge data, secure substantial research grants from, and act as a consultant to, the Victorian, South Australian and New South Wales and Commonwealth governments in relation to DRGs and casemix. The respect in which Palmer was held by key policy-makers such as Ministers Bill Hayden and Neal Blewett is relevant also.

Thirdly, that Palmer was a committed supporter of the DRG innovation who was 'prepared to invest extraordinary amounts of personal time, energy, and reputation to ensure its implementation' (Kimberly & de Pouvourville 1993, pp 13–14) is indisputable, given the large number of DRG-related research projects that he has undertaken, both on an individual and collaborative basis, to demonstrate and assert the feasibility and effectiveness of employing DRGs in the Australian health system. Thus Palmer's actions served to generate momentum to effect DRG diffusion through heightening awareness of, and stimulating debate on, the potential and actual applications of DRGs in Australia.

In relation to the third factor in the DRG diffusion process, the *health policy context,* both textual and interview material suggest that, despite the differences between United States and Australian health services funding and administrations, Palmer was able to promote and demonstrate the relevance of DRGs in the Australian context. His securing government consultancies and research grants for DRG projects evidenced this.

In regard to the fourth factor, *the technical context,* both the interview and textual data reveal that Palmer played a vital role in the Australian diffusion of DRGs through undertaking research with his academic colleagues to identify and overcome *technical concerns,* such as the manner in which Australian hospital discharge data were coded, that otherwise may have obstructed the spread of DRGs in this country. Firstly, the 1984 article by Palmer and Wood identified a range of clinical and statistical issues that

needed to be resolved before DRGs could be used in Australia. Secondly, early Australian research undertaken by Palmer and Reid, commencing in 1984, necessitated extensive mapping exercises to translate the Australian hospital data to be compatible with the DRG grouper software program in order to enable DRG analysis. Achievement of this goal enabled Australian research to proceed and be expedited.

Fifth, there is considerable textual evidence that Palmer was well able to enlist the support of several *key constituents*, particularly government officials, to assist in DRG diffusion, as demonstrated by the research he was commissioned to undertake by both State and Commonwealth governments, and the large number of research grants obtained over the years for DRG research.

Finally, both textual and interview data provide evidence that Palmer was adept at establishing and maintaining *internal and external networks of support*. Palmer was a pivotal member of a longstanding Australian research network, dating from the early 1980s, that included Reid and Aisbett. In research collaborations across the years, the group has produced an extensive number of studies that have demonstrated the usefulness of DRGs to the Australian context, and served to enhance and further the applications of DRGs in this country. The teamwork of Reid, Aisbett and Palmer is particularly significant in this regard.

The Australian DRG diffusion process has been facilitated also by Palmer's close and continuing association with the members of the Yale Group, including Fetter and Thompson, and their colleagues, Professors Donna Diers and Jean Freeman. Palmer's involvement in the Yale research network served to generate momentum to spread DRGs in Australia by heightening their visibility on both research and government agendas, through conducting collaborative comparative DRG research studies between Australia and the United States, and arranging for the 1988 Second International Conference on the Management and Financing of Hospital Services and two Yale executive programs to be convened in Australia.

Palmer also played an instrumental role in facilitating DRG diffusion in the Australian health policy context through consultancies to Commonwealth, Victorian, New South Wales and South Australian governments; as well as being a committee member on Commonwealth and New South Wales advisory committees. Palmer's political connections, too, especially with Minister Blewett, were crucial to the success of the diffusion process in Australia.

DRG carrier and champion

The Kimberly and de Pouvourville framework was specifically designed to examine the influence of six factors in the DRG diffusion process in western European countries. The current study has demonstrated that this framework can also be employed effectively to trace the actions of a *single* DRG champion or carrier, so as to enable researchers to describe and examine the particular contribution that one actor has made

to the DRG diffusion process into and within a recipient country. The concepts of *path of entry, DRG carrier, DRG champion, roles of key constituents* and *internal and external networks of support* have been useful in tracing and analysing the actions of, and roles enacted by, a single actor in the diffusion of DRGs into and within the Australian context.

This study has provided significant evidence to demonstrate that Palmer played several crucial roles in the Australian emergence and diffusion of DRGs. First, Palmer was the *DRG carrier* who enabled their migration to Australia through an academic path of entry. Secondly, Palmer played the role of a very *effective champion* by raising awareness of the potential benefits of DRG implementation in health policy via research papers, organising DRG and casemix conferences and workshops, participating on government advisory committees, acting as a government consultant, and obtaining research grants to conduct DRG-related research. Thirdly, Palmer was able to promote the relevance and usefulness of DRGs in the Australian *health policy context* by highlighting their capacity to promote efficiency in health resource utilisation. Additionally, through research and publications, Palmer was able to identify and provide strategies to overcome some *technical context* factors that may otherwise have hindered the initial spread of DRGs in Australia. Clearly, Palmer was adept at engaging support from *key constituents*, such as academic colleagues, government officials and politicians, which in turn enabled him to expedite Australian DRG research. Finally, Palmer's research papers, as well as his terms as visiting professor at Yale University, bear testimony to his ability to establish and maintain DRG *support networks both internal and external* to the Australian context.

Together, these actions contributed to the momentum that facilitated DRG diffusion in Australia. Through his actions as a DRG carrier and champion, Palmer has played a significant role in the transformation of Australian health services policy during the 1980s and 1990s.

This study has found that the path of entry of DRGs into the Australian context was 'academic', and that Palmer was the key DRG carrier. In doing so, this study augments the conclusion brought to light by Duckett (1994) regarding the central role played by government officials in implementing the casemix-based funding reform in Victorian hospitals. In fact, the initial entry into Victoria occurred during a meeting in 1985 between two Health Commission officials (Scotton and Duckett) and two academics (Palmer and Fetter).

With the studies of Duckett (1994), Owens (1995) and Lin and Duckett (1997), the present study finds that the roles played by DRG champions were crucial to the DRG diffusion process in Australia. This study also supports the conclusions of Duckett (1994) and Lin and Duckett (1997) regarding the importance of internal and external networks of support in facilitating Australian DRG diffusion. We agree with Duckett (1994), too, that the completion of DRG research projects, such as that by Palmer et al. (1986), was vital in influencing the diffusion of DRGs within Australia. It is not our intention in this paper to imply that Palmer was the only person who was instrumental

in the diffusion of DRGs within Australia. Teamwork, especially with Reid and Aisbett, was crucial. Hindle, too, especially in his educational role in the 1990s, and in doing the original report for the Commonwealth Department of Health, played a crucial role. It is our contention, however, that Palmer was the carrier of DRGs into Australia, and that his role as a DRG champion was crucial to the diffusion of this innovation in the Australian context.

Finally, this study adds to the existing international body of knowledge on DRG diffusion by identifying the path of entry into Australia as being through academic channels; and by tracing how the actions of one DRG carrier and champion, George Rupert Palmer, facilitated the entry into and spread of this version of casemix in this recipient country.

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