

BEYOND THE RHETORIC: WHAT DO WE MEAN BY A 'MODEL OF CARE'?

*Associate Professor Patricia Davidson RN BA MEd, PhD,
School of Nursing, College of Health and Science, University of
Western Sydney and Nursing Research Unit, New South Wales,
Sydney West Area Health Service, New South Wales, Australia*

patricia_davidson@wsahs.nsw.gov.au

*Elizabeth Halcomb RN BN (Hons) PhD Candidate, Senior
Research Fellow School of Nursing, College of Health &
Science University of Western Sydney, New South Wales and
Centre for Applied Nursing Research Sydney South West Area
Health Service, New South Wales, Australia*

*Hickman L RN BN MPH PhD Candidate, Associate Lecturer
School of Nursing, College of Health & Science University of
Western Sydney, New South Wales, Australia*

*Phillips J RN B App Sci (Nurs) Grad Dip Health Promotion PhD
Candidate, Project Officer, Mid North Coast Division of General
Practice, Coffs Harbour, NSW. Associate Lecturer School of
Nursing, College of Health & Science, University of Western
Sydney, New South Wales, Australia*

*Graham, B RN RM MMGMT (Pub Health) Prof Doctoral
Candidate, Clinical Redesign Coordinator Sydney South West
Sydney Area Health Service, New South Wales, Australia and
University of Technology Sydney, New South Wales*

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ABSTRACT

Background:

Contemporary health care systems are constantly challenged to revise traditional methods of health care delivery. These challenges are multifaceted and stem from: (1) novel pharmacological and non-pharmacological treatments; (2) changes in consumer demands and expectations; (3) fiscal and resource constraints; (4) changes in societal demographics in particular the ageing of society; (5) an increasing burden of chronic disease; (6) documentation of limitations in traditional health care delivery; (7) increased emphasis on transparency, accountability, evidence-based practice (EBP) and clinical governance structures; and (8) the increasing cultural diversity of the community. These challenges provoke discussion of potential alternative models of care, with scant reference to defining what constitutes a model of care.

Aim:

This paper aims to define what is meant by the term 'model of care' and document the pragmatic

systems and processes necessary to develop, plan, implement and evaluate novel models of care delivery.

Methods:

Searches of electronic databases, the reference lists of published materials, policy documents and the Internet were conducted using key words including 'model*', 'framework*', 'models, theoretical' and 'nursing models, theoretical'. The collated material was then analysed and synthesised into this review.

Results:

This review determined that in addition to key conceptual and theoretical perspectives, quality improvement theory (eg. collaborative methodology), project management methods and change management theory inform both pragmatic and conceptual elements of a model of care. Crucial elements in changing health care delivery through the development of innovative models of care include the planning, development, implementation, evaluation and assessment of the sustainability of the new model.

Conclusion:

Regardless of whether change in health care delivery is attempted on a micro basis (eg. ward level) or macro basis (eg. national or state system) in order to achieve sustainable, effective and efficient changes a well-planned, systematic process is essential.

BACKGROUND

Contemporary health care systems are challenged to provide quality care as a consequence of fiscal constraints (Duffield, Donoghue, and Pelletier 1996); the changing expectations of consumers and health professionals (Edwards, Courtney, and Spencer 2003); a greater emphasis on quality and transparency changes in treatment patterns (Blendon et al 2002); the ageing of the population and the increasing burden of chronic disease (Williams and Botti 2002). Existing models of care are often historically based and subsequently not responsive to the changing needs of contemporary health systems.

In response to perceived inadequacies in contemporary health care delivery, health professionals have been prompted to develop novel models of care. For example, the increasing burden of heart failure has inspired research informing innovative models of care, including nurse-led post-discharge programs and rehabilitation incorporating lifestyle interventions. This research has largely evaluated the effectiveness of modifications of care based on acute, episodic care to better meet the needs of those with chronic disease (Grady et al 2000; McAlister et al 2001; McAlister et al 2004; Tsai, Sally, and Keeler). Unfortunately, many of these valuable lessons are broadly available to Australians (Clarke et al 2004).

Optimally, model of care development should be multifaceted and multidisciplinary, incorporating the best available evidence from patient-centered research with the needs and preferences of individuals, communities, health professionals, policy makers, funding agencies, professional organisations and underpinned by sound theoretical and conceptual principles (Sackett et al 2000; Wagner et al 2001; Cretin, Shortell, and Keeler 2004). Regardless of theoretical perspectives informing models of care development (Kikuchi 2004), it must be emphasised that the delivery of nursing care occurs in complex and dynamic settings which are responsive to social, political, economic and clinical factors (Davidson et al 2003).

Significantly, the development of models of care is often an iterative process and consequently does not have finite commencement and completion dates. Whilst such flexibility is an advantage of this approach, it creates challenges for the utilisation of traditional evaluation techniques such as randomised controlled trials. Methods of evaluation such as pre-test – post-test design and case study designs lend themselves more readily to the measurement of outcomes to assess the effectiveness of

changing models of care (Ovretveit and Gustafson 2002). The substantial improvements in individual patient and organisational outcomes, which can be attained by adapting models of care, fuels the development of this methodology in contemporary health care in spite of the methodological challenges inherent in its evaluation (Ovretveit and Gustafson 2002).

Often model of care development involves the intersection of research and implementation of findings in a usual care environment. Establishment of new models of care often involves the development of skills, systems, processes and resources to close the gap between research evidence and clinical practice (Bero et al 1998). An example of this is the New South Wales (NSW) Chronic Care Program through which 60 Priority Health Care Programs have been established (New South Wales Health 2003). These programs focus primarily upon the priority target areas of respiratory disease, cardiovascular disease and cancer. The programs have been establishing a range of innovative programs, informed by the best available evidence to achieve a more integrated, coordinated and patient-focused approach for people with chronic illness in New South Wales (New South Wales Health 2003, 2001).

Agendas of health reform have increased the dialogue and debate concerning model of care development and evaluation. The following comments of Wimpenny (2002) caution us to avoid a rhetorical perspective of the term ‘models’ and to systematically define what we mean when we use this term.

‘Since the mid 1970s considerable writing and discussion has occurred about models of nursing. In the 21st century the impact and relevance of nursing models to the practicing nurse is characterized by divergent and often ambivalent views. The almost evangelical adoption of a model of nursing in the 1970s to 1990s has changed and made way for a more critical and skeptical view of their purpose and value. Many nurses in clinical practice, education and research may view this as wholly appropriate as the uncritical acceptance of these ‘early’ years resulted in decisions and usage of models, which have had a lasting legacy’ (Wimpenny 2002, p 346).

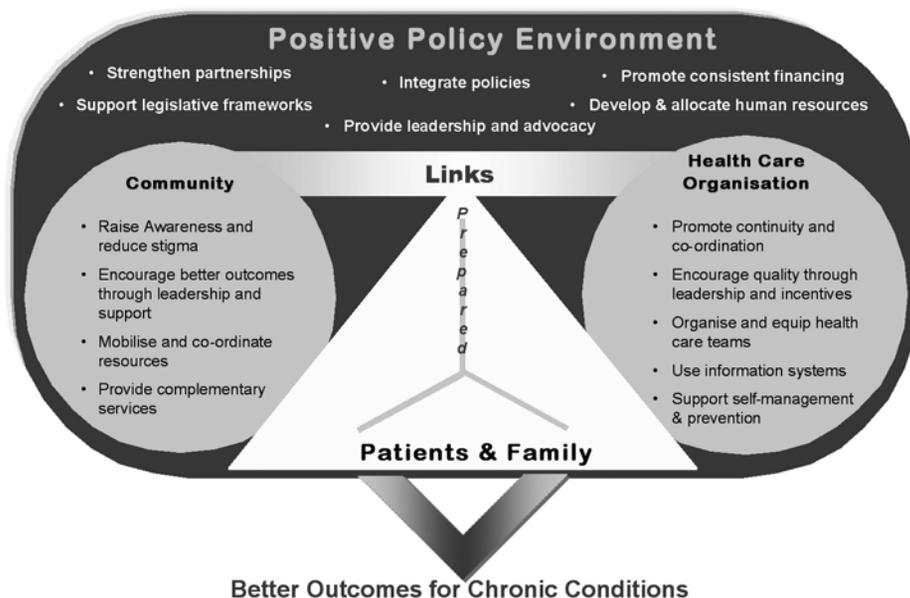
What do we mean by a model of care?

Ambiguity exists in the literature, with the terms model of care, nursing model, philosophy, paradigm, framework and theory often used interchangeably, despite referring to diverse, yet parallel concepts (Tierney 1998). In their recent review of the literature, the Queensland Government (Australia) reported that they found no consistent definition of ‘model of care’ (Queensland Health 2000). They concluded that a model of care is a multi-dimensional concept that defines the way in which health care services are delivered (Queensland Health 2000).

More specifically, Davidson and Elliott (2001) described a model of care as a conceptual tool that is ‘a standard or example for imitation or comparison, combining concepts, belief and intent that are related in

Figure 1. World Health Organisation Chronic Care Framework

Innovative care for chronic conditions frame



Building Blocks for Action Innovative Care for Chronic Conditions: Global Report. World Health Organisation 2002.

some way' (p. 121). They consider it to be critical that models of care should:

- be evidence based and/or grounded in theoretical propositions;
- be based upon assessment of patient and health provider needs;
- incorporate evaluation of health-related and intervention outcomes;
- be inclusive of consultation with key stakeholders;
- be considerate of the safety and wellbeing of nurses;
- involve a multidisciplinary approach where applicable;
- consider the optimal and equitable utilisation of health care resources;
- optimise equity of access for all members of society; and
- include interventions that are culturally sensitive and appropriate (Davidson and Elliott 2001, p. 123).

In order to decrease ambiguity it is useful to not only define what we mean by a 'model' but also to distinguish between a 'nursing model', a 'model of care', and a 'framework'. A model has been defined as, 'a descriptive picture of practice which adequately represents the real thing' (Pearson and Vaughan 1986, p.2). That is, an idea that can be explained by using symbolic and physical visualisation. It can also be used to facilitate thinking

about abstract concepts and the relationships between them (Marriner 1986).

A 'nursing model' pertains solely to the practice domain of nursing, whereas a 'model of care' describes the delivery of health care within the broader context of the health system. In relation to this understanding of a model of care, the framework shapes and guides the implementation and evaluation phases of the models' development'. Using a building analogy, the 'framework' is the brace and girders that support the model.

With these concepts in mind, a model of care is an overarching design for the provision of a particular type of health care service that is shaped by a theoretical basis, EBP and defined standards. It consists of defined core elements and principles and has a framework that provides the structure for the implementation and subsequent evaluation of care. Having a clearly defined and articulated model of care will help to ensure that all health professionals are all actually 'viewing the same picture', working toward a common set of goals and, most importantly, are able to evaluate performance on an agreed basis.

As illustrated in Figure 1, the World Health Organisation (WHO) Chronic Care Framework (World Health Organisation 2002) positive policy environments and links between the community and health care organisations are critical factors to support chronic care delivery models.

National Health Service Framework, United Kingdom

The rolling program of National Service Frameworks (NSFs) in the UK commenced in April 1998 (UK Department of Health 2003). The aims of these frameworks are to: establish national standards and identify key interventions for defined services or care groups; apply strategies to support implementation of models of care; establish mechanisms to ensure advancement toward agreed aims within a pre-specified time-scale; and form one of a range of strategies to improve quality and decrease variations in service provision (UK Department of Health 2003). To date, NHS frameworks cover: cancer (September 2000); pediatric intensive care; mental health (September 1999); coronary heart disease (March 2000); older people (March 2001); diabetes (Standards December 2001, Delivery Strategy January 2003); and the first part of the Children's NSF (April 2003)(UK Department of Health 2003). Each NSF is developed in conjunction with an external reference group which brings together key stakeholders, including health professionals, consumers and carers, health service managers, partner agencies, and other advocates (UK Department of Health 2003).

Clinical Service Frameworks, New South Wales (NSW) Australia

The NSW Clinical Service Frameworks have emerged from the Chronic Care Program to optimise health care delivery. This program was established under the NSW Government's Action Plan for Health in order to address the challenges presented by the increasing prevalence of chronic and complex diseases. The three health areas of respiratory disease, cancer and cardiovascular disease (and its associated risk factors, including diabetes) were identified as being of priority. These frameworks are designed to foster implementation of best practice within a structure of clinical governance (New South Wales Health 2003).

National Palliative Care Framework, Australia

The National Palliative Care Strategy provides a guide for the development and implementation of palliative care policies, strategies and services to improve the quality, range and coverage of palliative care services in Australia (Commonwealth Department of Health and Aged Care 2000). This has informed the NSW Palliative Care Framework which provides a basis for the planning of local service delivery that will promote access, continuity of care and standard levels of care regardless of the location in which the service is provided (NSW Health Department 2001).

AIM

Informed by the conceptual principles above, which define what is meant by the term model of care, the purpose of this discussion paper is to identify and discuss

the key processes necessary to develop models of care to achieve desired outcomes.

METHOD

CINAHL, PubMed and MEDLINE electronic databases were searched to identify relevant literature published in the English language. Keywords used in this search included: 'model*', 'framework*', 'models, theoretical' and 'nursing models, theoretical'. Reference lists of retrieved articles were searched for additional literature. Relevant journals held locally were hand searched for pertinent articles and the Internet was searched using the Google search engine for related organisations or electronic documents using the keywords listed previously. These searches were not confined to health related literature, as many paradigms were found to describe key elements of model development pertinent to this enquiry.

The eclectic and heterogenous material for this review precluded the use of a formal systematic review methodology. Further, the aim of this article is not to undertake a discourse of nursing theories, but moreover, articulate pragmatic and achievable principles to undertake a reflective and iterative review of nursing practice and determine appropriate strategies to implement innovative and appropriate care, once a philosophical or conceptual path is identified (Morse 1995; Harvey et al 2002).

RESULTS

The literature revealed several key perspectives informing pragmatic elements of model of care development. These are: (1) EBP movement (Foxcroft and Cole 2003); (2) quality improvement and collaborative methodology (Berwick, James, and Coye 2003); (3) change management theory (Carney 2002, 2000); (4) project management methodology (Loo 2003; O'Kelly and Maxwell 2001); (5) disease management literature (Glasgow et al 2002); (6) theoretical perspectives that dictate critical elements of model of care development such as the health promotion model and self-care theories (Jaarsma et al 1998; Jaarsma et al 2000); and, (7) consumer participation and identification of needs, which is increasingly recognised as a critical factor (Edwards, Courtney, and Spencer 2003; Johnson, Leeder and Lewis 2001; Wellard et al 2003). These key elements are briefly discussed below.

Evidence-based practice

Evidence-based practice (EBP) is based upon demonstration of improvement in patient outcomes when the best available evidence is used to guide clinical practice (Leape, Berwick, and Bates 2002; French 2000). The EBP movement is motivated by a desire to ensure individuals receive those treatments proven through systematic enquiry to be most effective, after

consideration of their unique values and beliefs and the expert clinical assessment of clinicians (Sackett et al. 2000). Research evidence about clinical problems is evaluated according to rigid 'levels of evidence'. Within such appraisal significantly more weight is afforded to evaluation methods such as randomised control trials, with less value placed upon qualitative evaluation or case-study approaches (National Health and Medical Research Council 1999).

Following systematic identification and assessment of the quality of available evidence, synthesis of findings can be undertaken and guidelines formulated to guide clinicians in their decision-making. The principles of EBP are generic and can be utilised to improve the standards in all aspects of health care. There is some contention, however, as to how much of nursing science and scholarship is valued within traditional positivistic domains (Rycroft-Malone et al 2004).

Quality improvement

Model of care development and evaluation is entrenched in a desire to improve patient and organisational outcomes. Thus, it can be seen to be informed by quality improvement (QI) principles. Ovreteit and Gustafson (2002) describe quality programs as planned activities performed by an organisation or health system to improve the quality of health care.

Health professionals are continually evaluating models of care in their search for more efficient service delivery and improved patient outcomes (Stutts 2001). Ovreteit and Gustafson (2002), suggest there is some doubt about the impact of QI programs, as there is little independent and systematic research about the effectiveness or the conditions required for effective QI programs. However, they believe this could be improved by: assessing the level of the intervention; validating measures of assessing implementation; considering wider outcome assessment; conducting longitudinal studies; consideration of economic implications; and utilising a theory or model that explains how the intervention caused the outcomes (Ovreteit and Gustafson 2002). The QI principles when applied to model development assist in shaping the model to achieve desired outcomes and assist with an iterative process of evaluation.

Health promotion model

The health promotion model certainly lends itself appropriately to health care systems wishing to create consumer engagement and participation and the promotion of healthy communities. Health promotion is the process of enabling people to increase control over the determinants of health and thereby improve their health and wellbeing. As such, the health promotion model has informed many population-based approaches of model of care development.

To reach a state of complete physical, mental and social wellbeing an individual or group must be able to

identify and realise aspirations, to satisfy needs and to change or cope with their environment (Nutbeam 1986). Health promotion involves the entire population in the context of their daily lives, rather than focusing on individuals at risk for specific diseases, and is directed toward taking action on either the determinants or causes of health (Nutbeam 1986). Achieving this requires an optimal mix of responsibility from all involved: individuals; families; communities; a wide variety of professionals (teachers, urban planners, health professionals); and government and non-government sectors. As health promotion draws from a range of disciplines, including: epidemiology; social, behavioural and educational sciences; and management, the use of a model provides direction and focus, as the concepts and theories from these disciplines are synthesised to produce strategies to improve health outcomes (Green and Kreuter 1991).

Some of the core elements of health promotion models concern: accessibility to health care; evaluation of health care; perceptions of symptoms; threat of disease; social network characteristics; knowledge about disease; demographic characteristics; and behaviour change (Egger, Spark, and Lawson 1990). Health promotion has much to offer clinicians seeking to develop models of care that have behaviour change and self management as underlying tenets, as these are core elements of many health promotion models (Lorig et al 1999; Lorig 2002).

Disease management

Disease management is an evolving concept that proposes to improve health outcomes by using a systematic approach to provide patient-centred, comprehensive and integrated care across the health system (Jordan 1999). The development of this model of health care delivery has stemmed from the well-recognised combination of an ageing population, increasing numbers of the chronically ill and finite health resources (Wagner 2001). Whilst several common diseases have been reported as being amenable to disease management strategies (eg. asthma, heart failure, diabetes, depression, hypertension), there are several generic program components.

Jordan (1999) describes the four basic components as: (1) identification of evidence-based practice for the specific disease; (2) development of a clear plan to drive clinical decision making; (3) delivery of best practice across multiple care providers and sites of care; and (4) measurement of quality indicators to measure clinical and economic outcomes. Riegel and LePetri (2001) explain that disease management programs are 'comprehensive, integrated, and aimed at improving the quality of care provided to populations of patients rather than individuals' (p. 267).

Project management

Project management approaches, albeit not a theoretical perspective, provide useful tools for nurses to

Table 1: Key stages in model of care development

Stage	Key task
Planning (The set-up phase involving the identification of key issues, literature review and stakeholder identification)	<ul style="list-style-type: none"> • Scoping the problems and issues • Establishing baseline data and summarise the current model of care • Examine what has worked well in other settings • Improvement begins with setting aims because an organization will not improve without a defined path • Identify factors to optimise sustainability eg. using funding mechanisms, key stakeholder involvement, promote and develop clinical leaders etc • Start to define the new model, including goals and objectives
Development (Progression of the pre-specified plan in the clinical setting)	<ul style="list-style-type: none"> • Streamlining and standardising the process • Development of data management systems • Development of key performance indicators • Measures need to be identified to indicate whether a change that is made actually leads to an improvement • Skill development • Pilot testing of model
Implementation (Execution of the intervention plan)	<ul style="list-style-type: none"> • Support of clinical staff • Communication strategy • Leadership • Negotiation • Re-orientation of health care services and/or providers
Evaluation (Assessing the efficiency and effectiveness of the intervention plan)	<ul style="list-style-type: none"> • Measuring performance against pre-specified indicators • Evaluation of serendipitous findings • Evaluation of the impact of change processes on individuals and systems

appraise the feasibility and implement novel care models. The term project management emerged in the 1950s-60s and is defined as the application of knowledge, skills, tools and techniques to a broad range of activities in order to meet the requirements of the particular project (Project Management Institute 2004).

Project management is comprised of five processes: initiating, planning, executing, controlling and closing, as well as having nine knowledge areas (Project Management Institute 2004). These nine areas centre on project management expertise in integration, scope, time, cost, quality, human resources, communications, risk management and procurement management (Project Management Institute 2004). These processes relate to health by offering systematic approaches which allow the project management model to be used to assist managers and staff to accomplish projects successfully, deal efficiently with work load stress, improve learning, and expand essential management skills that will assist employees during their professional life. Organisational benefits accumulate with projects and other activities being completed within budgets, time limits, and expected quality standards (Loo 2003).

Change management theory and collaborative methodology

In the United States of America, the Institute for Healthcare Improvement has developed a series of projects based on a collaborative model informed by change management theory to achieve improvement in health care service delivery and outcomes (Flamm, Berwick, and Kabacennell 1998). Key elements of this collaborative model involve the cyclical process of setting aims, establishing measures, developing informed changes to practice, and evaluating the impact of these changes. The testing of changes requires a team to plan, do, study, and act (the 'PDSA cycle'). Repeated PDSA cycles inform insight into clinical systems to facilitate clinical improvement (Lynn et al 2002).

Key stages in model of care development

Crucial elements in changing models of health care delivery are planning, development, implementation, evaluation and sustaining the change (Table 1). Consideration of the evaluation process is critical in ensuring that initial goals have been met and due to the iterative nature of model of care development is critical in determining evolution of the model and in particular issues related to sustainability.

Table 2: Model of care evaluability assessment tool adapted from: (Hawe, Degeling, and Hall 1990)

Steps	Questions	Prompts
1	Is there a clearly defined model of care?	<ul style="list-style-type: none"> • Are interventions and strategies informed by baseline data and evidence of need for practice change? • Can the model of care can be readily described?
2	Are there specific goals and expected outcomes attributed to the model of care?	<ul style="list-style-type: none"> • Are interventions accessible for the target group and aspects of diversity and marginalisation considered? • Are the interventions based upon best available patient-centered research findings? • Is the welfare of all team members considered including health care professionals and patients? • Has there been an attempt to implement strategies such as promotion of clinical leadership and change management strategies to enhance sustainability?
3	Have the primary users of the information derived from the evaluation, and their needs, been clearly identified?	<ul style="list-style-type: none"> • Is the model designed to produce outcomes that reflect accountability to consumers and governance structures? • Does the evaluation framework meet the needs of funding bodies, consumers and health care professionals?
4	Are the casual assumptions/theories in the model of care plausible?	<ul style="list-style-type: none"> • Is the model grounded in theoretical propositions? • Are the philosophical aims and conceptual frameworks reflected in interventions and care plans (eg. patient-centred philosophy is reconciled with interventions and outcome measurements)?
5	Is there agreement on measurable and testable key performance indicators?	<ul style="list-style-type: none"> • Are the performance indicators and criteria clear and transparent? • Do the performance indicators reflect process and outcome measures?
6	Is there agreement on what data items are necessary in the evaluation plan?	<ul style="list-style-type: none"> • Do data elements in the evaluation (quantitative and qualitative) reflect the data items in the evaluation plan? • Do the data items describe measurable concepts?
7	Is the model of care implemented as planned?	<ul style="list-style-type: none"> • Is clinical practice improvement and model development fuelled by reflective practice and outcome measurement? • Has a governance structure been adopted to monitor the implementation plan?

Models of care are often developed to bridge service delivery gaps rather than as a planned strategic response to an identified local need (Eaton 2000). These models of care are often being implemented by health care providers with limited resources in the interests of enhancing care. As has been previously mentioned the application of traditional research methods to measure the outcome of models of care may not always be feasible.

The use of an 'evaluability' assessment process has been promoted in health promotion as a way of ensuring that the critical preconditions for evaluation are actually in place before evaluation occurs (Hawe, Degeling, and Hall 1990). Modification of this 'evaluability' assessment process has been used to guide the development of a format to assist clinicians to ensure that a specific model of care is amenable to evaluation, as detailed in Table 2.

CONCLUSIONS AND KEY RECOMMENDATIONS

The increased focus on the provision of seamless, coordinated care – particularly for the frail and those with

chronic and complex needs – and emphasis for safe, efficient and quality care (Heath 2002; Leveille et al 1998; Wagner et al 2001; Wagner 1998) will likely continue to fuel the model of care development agenda. It is important that as far as possible the development of models of care be considered and undertaken systematically rather than being reactionary and rhetorical. This considered and systematised process should not only optimise health related outcomes but also facilitate the potential to sustain improved health outcomes by novel models of care development.

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