THE BOOKING SYSTEM CONCEPT

JULY 1996

THE BOOKING SYSTEM CONCEPT

1. Preamble

The Minister of Health has indicated clearly that the Government wishes to institute booking systems for situations where currently providers administer waiting lists in medical, surgical and diagnostic services. (Reference RHA Policy Guidelines 96/97, Appendix I). The Waiting Times Fund has been created to accelerate the implementation of Booking Systems by removing the backlog of patients waiting on waiting lists.

Booking systems are to be in place and operational by the end of the 97/98 financial year. (Reference Funding Agreements text re Booking systems Appendix II).

2. The Midland Health Approach

Midland Health has been engaged in this development over the last 3 years, and has indicated this with its Waiting Time Pathway Plan documents. It was agreed that in order to have a booking system in place it was necessary to identify need via a prioritisation system, and to manage the vast majority of patients waiting for attention. It was generally accepted that maximum waiting times of two months to be seen and six months to receive treatment would allow realistic implementation of booking systems. The Midland experience with the secondary service (waiting time) budget holding contract with Venturo supported this thesis. It was also recognised that the creation and use of referral protocols and booking systems were vital for a sustainable service.

Midland Health has moved along this strategic direction with a number of milestones having been achieved:

- All Midland CHE have produced waiting time priority criteria (Priority Access Criteria PAC) by Speciality Service October 1995
- All Midland CHE categorised patients waiting and coming into the system by these waiting time criteria December 1996
- All Midland CHE commenced practice by these criteria January 1996

- All Midland CHE reported waiting situations on a quarterly basis starting December 1995

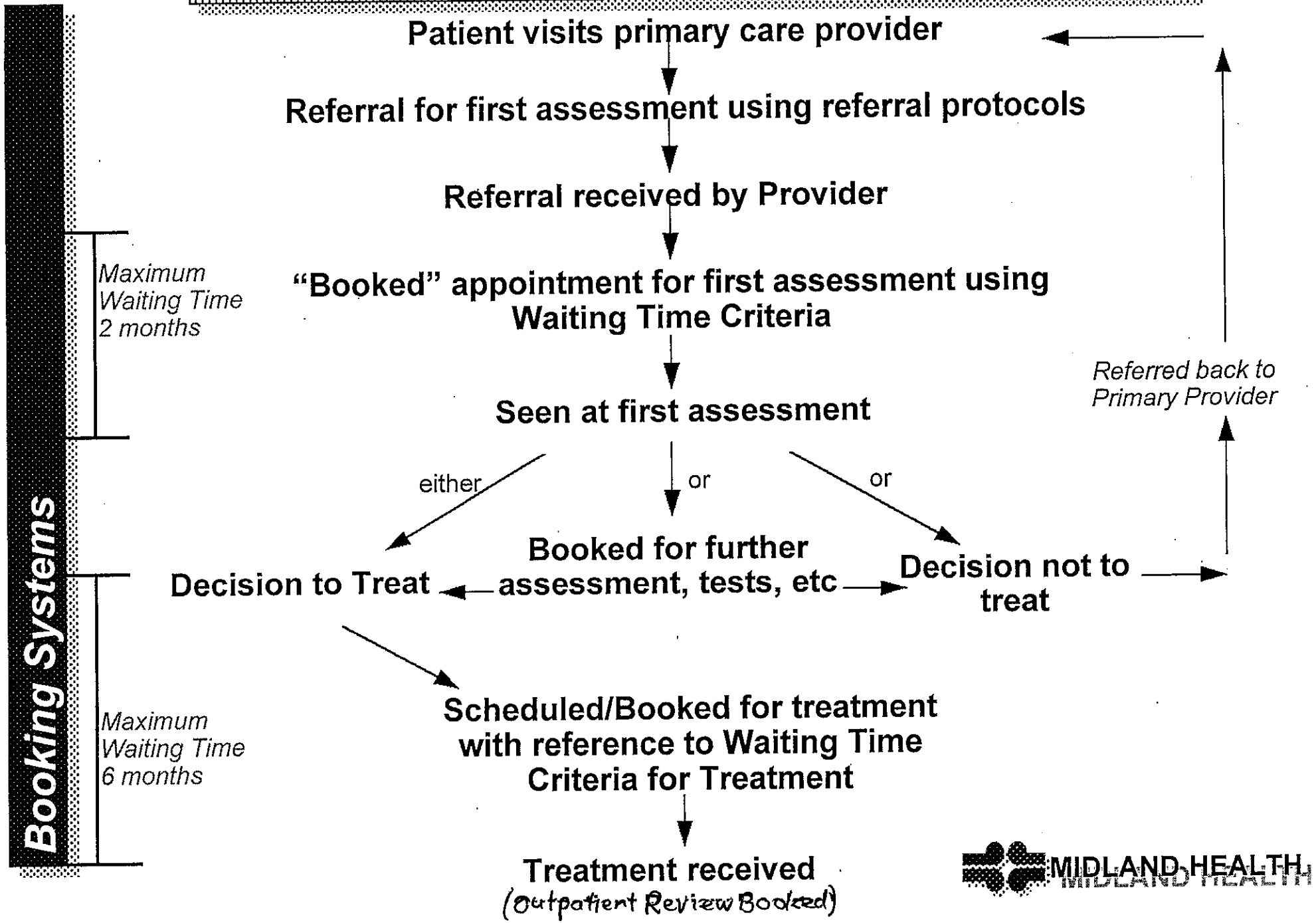
- Generic waiting time criteria developed for the following services:

  - ENT
  - Ophthalmology
  - Orthopaedics
  - Gynaecology
  - Cardiology
  - Dermatology
  - General Surgery
  - Oral-maxillo-facial surgery
  - Plastic and reconstructive surgery
  - Neurology
  - Rheumatology

  and where individual procedural scoring systems have been agreed either Nationally or Regionally they have been added to the priority system.

In situations where waiting lists have been small and the flow of patients has been under control, 3 year contracts have been offered. Midland Health has also offered waiting time (as opposed to volume) contracts for ophthalmology and ENT services. Now that the Waiting Times Fund is giving impetus to Midland's initiative it is realised that explanation and/or definition is required as to a booking system.

Scheduling/Booking System Flow Diagram



~~3. What is a Booking System?~~

8. ~~The~~ Booking dates.

Midland Health's attitude to the concept of a booking system is one of flexibility and practicality. It is expected that in situations of low volume services and short time frames that patients will receive a direct appointment for that service. However, where there is a need for prioritisation, then quite clearly reference will have to be made to established criteria and where possible direct booking appointments made (Refer Appendix I flow chart).

In some circumstances, where "down track" planning is required eg. theatre lists, organisation of complex imaging etc, then some form of scheduling will have to take place in the first instance, again with reference to the ~~waiting time priority criteria (PAC)~~ CPAC category times. The following ~~flow diagram~~/schedule demonstrates this latter concept:

SPECIALITY: ELECTIVE GENERAL SURGERY			
Date of decision to treat/for operation	**Degree of urgency/ categorisation**	**Scheduled for Month of**	**Date appointment given to patient for treatment/ operation to take place in scheduled month**
For Example: 01-08-96	2) URGENT - to receive treatment in 4/52	August	01-08-96
	3) SEMI URGENT treatment in 3/12	October	16-09-96
	4) ROUTINE treatment in 6/12	January	16-12-96
	5) PLANNED for best outcome	Determined by CPAC at reassessment ~~Month for that optimal outcome~~	appointment given 2/52 before ~~scheduled month~~ reassessment

NB: At the time of decision (eg. 01-08-96) the patient would be told the month in which he/she would receive treatment/operation and that a firm date would be provided two weeks before that month. It would also be established at the decision time whether the patient would be willing to be re-scheduled/appointed within the appropriate time frame, if a vacancy became available.

Midland Health does not have a pre-conceived idea as to the best system by which a patient will receive an appointment to be seen or receive treatment provided the appropriate timeframes are met. The paper exercise as described (vide supra) may easily be programmed into a hospital interactive computer system, and over time should relate to other policy strategies of referral protocols, admission policies, discharge planning and best practice guidelines, and link with primary referrers. It

would not be a large step to move from these embryo systems to a totally co-ordinated booking system such as presently exists in the airline industry (Appendix III).

4. Midland Health Milestones to Achieve Booking Systems

- Generic waiting time priority criteria for all medical, surgical and diagnostic services for 1st assessment and treatment agreed with Midland providers by 01-01-97.

- Inclusion of Nationally agreed priority scoring systems/criteria in at least two services by 01-07-97.

- Development of referral protocols for 50% of services by 01-01-97.

- Contract for the implementation of booking systems in at least 3 specialist services across the region by 01-07-97 *cf.* Midland Health's Purchasing Plan (Appendix IV).

- Develop a monitoring system on booking system application by 01-07-97.

5. Conclusion

This short paper is to demonstrate Midland Health's initial thinking on booking systems. In essence the implementation of such a system is the managerial responsibility of the individual provider. However it is important to recognise the parameters in which such a system should operate. It is also expected that a booking system will drive significant gains in patient satisfaction, the timeliness of care and improved outcomes.

Midland Health sees that this entire development will only be achieved through close co-operation with all parties and in particular the health professionals.

Paul Malpass
SENIOR CLINICAL ADVISOR
HOSPITAL & SPECIALIST SERVICES

July 1996

APPENDIX I

5 POLICY DECISIONS AFFECTING RHA PURCHASING IN 1996/97

Key Areas For Service Development

5.2 Management of Waiting Times

5.2.1 The Government's Objectives

Over the next two years, the Government is seeking significant reductions in waiting times for non-urgent surgical, medical and diagnostic procedures and first specialist assessments for non-urgent conditions. Waiting lists will be replaced by the implementation of patient booking systems based on priority access criteria. This is to facilitate priority access to services for people with the greatest clinical need and likely benefit.

Specifically, RHAs are to ensure by the end of the 1997/98 financial year that:

- waiting lists for non-urgent surgical, medical or diagnostic procedures are replaced by booking systems which schedule patients for treatment according to clinical priority. Patients will either be booked for a procedure to occur within six months or be directed back to their primary care practitioner for continuing management
- a process for determining clinical priority is developed at a local level with reference to national criteria where applicable.

It is recognised that local initiatives to develop priority criteria may be achieved more quickly than co-ordinated or national efforts. The aim is to promote local initiatives that are congruent with national criteria.

The long-term goal is national consistency in:

- criteria used to assess level of patient need and likely benefit
- waiting times and priority for services for patients with similar levels of need and likely benefit.

$30 million has been provided for RHAs in 1996/97 in order to manage the existing backlog of waiting list patients, particularly in the areas of ophthalmology, orthopaedics and urology, to add to the additional $10 million allocated for the purchase of elective surgery in 1995/96.

The work programme of the National Advisory Committee on Core Health and Disability Support Services will be expanded to facilitate production of guidelines and community information on the evidence basis for publicly-funded health and disability support services. The Government has approved additional funding for this purpose ($1.125 million in 1996/97 and 1997/98).

5.2.2 Booking Systems

Booking systems will mean that after their initial assessment patients will:

- receive immediate treatment or
- be given a date for treatment no more than six months away or
- if they do not meet the criteria for the procedure, be referred to their primary care provider for treatment, ongoing management and review, as appropriate.

The implementation of booking systems involves:

- regular auditing of current waiting lists by providers to make sure patients on waiting lists still require services
- the development and application of criteria for referral and priority for access to non-urgent surgical, medical and diagnostic procedures. These criteria are to be publicly available. The criteria are necessary to shift from waiting lists to booking systems, where priority for access to services is determined by need and likely benefit. The guidelines developed by the National Advisory Committee on Core Health and Disability Support Services on cataract extraction, hip and knee replacement, coronary artery bypass grafting, angioplasty and renal dialysis should be used as a reference for the development of priority criteria across all specialities and procedures
- the development and use of monitoring mechanisms to ensure that the priority criteria are workable and consistent. These are to be publicly available
- entering all new patients onto the new booking system

first. All current waiting list patients (after priority has been assessed), should be gradually transferred to the booking system or to their primary care provider for ongoing review and re-referral should their condition change

- providers demonstrating sound management practice. For example, utilisation management involving such practices as admission protocols, treatment and discharge planning
- initial priority for implementation being given to services and procedures which are characterised by high volume and high price, then moving progressively to all services.

Booking systems and priority criteria are to be managed and implemented by providers.

5.2.3 Requirements for the Implementation of Booking Systems

In their response to the Policy Guidelines, RHAs are required to provide a plan to achieve the goal of implementation of booking systems for non-urgent surgical, medical and diagnostic procedures by the end of 1997/98. This implementation plan should identify:

- how RHAs will manage the process of implementation of booking systems and the development and use of priority criteria by all providers
- intermediate targets towards the objective. For example, the ratio of people on waiting lists for a service compared with those receiving booked times for that service
- the process for working with CHEs and clinicians to achieve RHA implementation targets
- how RHAs will determine the effectiveness and appropriateness of the systems implemented by providers
- how RHAs will move towards ensuring regional and national consistency in access to services.

5.2.4 First Specialist Assessment

RHAs are to progressively reduce maximum waiting times for non-urgent specialist assessments so that by 1 July 1998, 90 percent of people will be seen within two months of referral and 100 percent of people will be seen within six months of referral.

Priority for reducing waiting times should be given to those services or areas where the maximum waiting time is more than six months. Where the maximum waiting time is already below six months, RHAs are expected to maintain and progressively reduce those waiting times towards the target of two months.

It is expected that progress on reducing waiting times for first specialist assessments will be concurrent with implementation of booking systems.

In their response to the Policy Guidelines, RHAs are required to provide a detailed implementation plan for progressively reducing waiting times for specialist assessment for non-urgent conditions in conjunction with the implementation of the booking system.

The plan should:

- document existing waiting times for specialist assessment for non-urgent conditions including any excessive waiting times. This should include waiting times for patients currently awaiting assessments as well as waiting times for completed assessments
- outline the processes for addressing excessive waiting times, including the process for eliminating waiting times greater than six months. It is expected these processes will involve:
  - the establishment of 'ideal' times for each speciality
  - the use of intermediate quantifiable targets by speciality and geographic area
  - the use of a range of utilisation management techniques
  - the development or promulgation of referral guidelines to assist the referring doctor in considering the patient's need for specialist assessment
- indicate the process of working with CHEs and clinicians to achieve RHA implementation targets.

5.2.5 Reporting and Audit

RHAs are required to report on progress against targets specified in their implementation plans for booking systems and the reduction of waiting times for first specialist assessment. These reports should be included in their second and fourth quarter reports to the Ministry of Health on purchasing performance.

In March 1997, the Ministry of Health will conduct an audit of progress on:

- the Government's objectives for the management of waiting times
- implementation objectives, consistency and the identification of best practice
- reduction of excessive waiting times for first specialist assessment.

5.2.6 Information Exchange Forum

The stock take of waiting lists/waiting times conducted by RHAs recommended a forum be established to enable RHAs, CHEs and other interested parties (for example, health professional groups, the Ministry of Health, the National Advisory Committee on Core Health and Disability Support

Services, and ACC) to share ideas and experiences of implementing booking systems and reducing excessive waiting times.

The forum's purpose is to:

- identify issues
- seek solutions with best practice approaches
- work towards national consistency where appropriate.

By 31 March 1996, RHAs should have in place a joint information and exchange forum, so that duplication of cost and effort is avoided and national consistency is achieved.

APPENDIX II

APPENDIX II

Booking Systems

S6.2.2 The RHA will use its best endeavours during the Funding Period to make significant progress towards the Crown's objective that by 30 June 1998 every provider (a "relevant provider") who provides non-urgent surgical, medical and diagnostic procedures/services ("the identified procedures/Services") -

(a) has fully audited all waiting lists for identified procedures/Services to make sure all persons on those lists require identified procedures/services;

(b) has ceased to operate a waiting list in respect of the identified procedures/services; and

(c) operates a patient booking system for the identified procedures/services in accordance with paragraphs S6.2.6 to S6.2.10.

S6.2.3 The RHA shall determine the specific areas for progress that it to be made during the Funding Period towards meeting the Crown's objective in paragraph S6.2.2. The specific areas for progress should be selected on the basis of the identified procedures/services being priority Services, high-volume Services and/or high price procedures and/or Services.

S6.2.4 The Crown and the RHA acknowledge that the ability of relevant providers to implement booking systems based on clinical priority assessment criteria may be dependent on support from clinicians.

S6.2.5 The RHA will use best endeavours to ensure that its relevant purchase agreements specify the requirement to implement booking systems bases on clinical priority assessment criteria.

Design of Booking Systems

S6.2.6 A booking system under paragraph 6.2.2(c) must ensure that -

(a) if an Eligible Person is referred for an assessment in respect of an identified procedure/service, that Eligible Person's need for that service and likely benefit is assessed according to priority access criteria developed by the relevant provider and agreed by the RHA; and

(b) any Eligible Person referred for an assessment in respect of an identified procedure/service must, in accordance with the clinical priority access criteria either -

(i) receive the identified procedure promptly; or

(ii) be given a date for the identified procedure that is not more than 6 months in advance; or

(iii) have appropriate arrangements made in conjunction with the Eligible Person's primary care provider for appropriate treatment, ongoing management and/or review; and

(c) Eligible People to whom paragraph S6.26(iii) applies must not be given an expectation of being given a publicly funded service unless their condition changes and they become eligible for treatment under the priority access criteria.

S6.2.7 The RHA shall use reasonable endeavours to ensure that relevant providers, in developing a patient booking system for identified procedures/services, use as a reference in developing the clinical priority assessment criteria the guidelines developed by the National Health Committee on cataract extraction, hip and knee replacement, coronary artery bypass grafting, angioplasty.

S6.2.8 The RHA shall use its reasonable endeavours to achieve national consistency in -

(a) the clinical priority assessment criteria used to assess the level of patient need and likely benefit; and

(b) waiting times and priority for identified procedures/services for patients with similar levels of need and likely benefit.

S6.2.9 The RHA shall use its best endeavours to ensure that relevant providers make publicly available all clinical priority assessment criteria developed by them.

S6.2.10 The RHA shall use its best endeavours to ensure that relevant providers, in implementing patient booking systems -

(a) develop and use monitoring mechanisms to ensure that the clinical priority assessment criteria are workable and consistent; and

(b) make those monitoring mechanisms publicly available; and

(c) ensure all Eligible People from waiting lists for identified procedures/services are systematically, and in accordance with the clinical priority assessment criteria, dealt with in accordance with paragraph 6.2.6; and

(d) demonstrate to the RHA sound management practice including admission protocols, treatment and discharge planning.

First Specialist Assessment

S6.2.11 The RHA shall use its best endeavours during the Funding Period to make significant progress towards the Crown's objective for non-urgent (namely, not

required within 7 days) first specialist assessments of Eligible People so that by 30 June 1998 -

(a) 90% of Eligible People requiring a non-urgent first specialist assessment will be assessed within 2 months of referral; and

(b) 100% of Eligible People requiring a non-urgent specialist assessment will be assessed within 6 months of referral.

S6.2.12 The RHA, in giving effect to paragraph 6.2.11 shall give priority to reducing waiting lists for those non-urgent first specialist assessments where the maximum waiting time is more than 6 months.

S6.2.13 For the purposes of paragraph 6.2.11 referrals shall include all new referrals to a specialist, referrals from referring health professionals and referrals from one specialist to another.

Waiting Times Fund

S6.2.14 The Crown acknowledges that the RHA's ability to clear the backlog of people waiting for treatment is, to a large extent, dependent on the RHA receiving funding of the kind referred to in paragraph S6.2.15.

S6.2.15 The Crown will make special funding of up to $130 million available over the period from the Effective Date until 30 June 1999 to enable the RHA (and other regional health authorities) to speed up the process of implementing patient booking systems.

S6.2.16 The RHA must, if it wishes to obtain special funding of the kind referred to in paragraph S6.2.15, submit an application to the Minister in accordance with the guidelines for those applications issued by the Ministry of Health from time to time.

S6.2.17 Any special funding of the kind referred to in paragraph S6.2.15 must -

(a) be approved by the Minister; and

(b) be recorded in a separate agreement specifying the terms and conditions on which it is made available including -

(i) any progress milestones; and

(ii) any monitoring; and

(iii) any auditing.

Definitions

S6.2.18 In this Agreement -

(a) "booking system" means a system operated by a provider that -

(i) schedules a person eligible for treatment for assessment, investigation or treatment; and

(ii) notifies that person and their primary care provider of either a date or an approximate date for this Service for that Service to be provided; and

(iii) ensure that date is not more than 6 months in advance; and

(b) "clinical priority assessment criteria" means the criteria for assessing clinical priority (developed by clinicians and approved by the RHA) by which people eligible for treatment are grouped in order of ranking for access to assessment, investigation or treatment (often on a points for similar basis for determining ranking).

APPENDIX III

Coopers &Lybrand

APPENDIX III

BOOKINGS SYSTEMS FOR THE HEALTH SECTOR

Notes prepared for Tony McKewen, Southern RHA
6 November 1995

1 Introduction

A presentation is to be made to the Ministry of Health on the potential benefits to be gained from developing an alternative model for handling patient appointments within the health sector based on the analogy of airline booking systems.

Coopers & Lybrand has a long and successful association with both sectors gained from a range of consulting projects covering strategic planning to information systems implementation. We were asked to provide some comments on the way in which the reservation process works in the air travel context in order to draw some parallels with the health sector as input to the presentation material which is being developed by Southern RHA. We were also asked to provide a brief summary of our capabilities should this presentation lead to the need for external consulting involvement in a national feasibility study to explore the benefits, risks and costs of establishing some form of standard 'booking system' between GPs and healthcare providers.

2 Air travel reservations environment

At the core of any airline is a reservations system which manages the seat inventory associated with that airline's flight schedule. The inventory of seats for each flight is categorised by booking classes which are associated with the class of travel and a range of fare levels. The availability of booking classes is carefully manipulated in order to maximise passenger 'yield' (i.e. the revenue earned per passenger seat kilometre).

All of the larger airlines have in place sophisticated 'yield management systems' which model and predict customer booking patterns for individual flights based on historical trends and alter the availability of seats within booking classes accordingly. Such systems also model booking profiles which take into account the extent to which customers do not travel as booked (i.e. do not 'show' for flights, 'go show', refund, cancel, re-book on other flights etc). In extreme cases the booking profile results in more passengers arriving to check-in for a flight than there are seats available which requires the airline to compensate those customers who are 'off-loaded' under these circumstances. The overall objective is to maximise the revenue for any particular flight given that a seat is a perishable item of inventory which, if not sold, represents a lost revenue opportunity.

Airlines recognised the benefit of agents having direct access to their reservations systems in order to simplify the booking process and 'lock-in' the agent to referring customers to the airline. The first stage in travel sector automation was to provide terminal based access for agents to a host airline to enable reservations and ticketing without any manual intervention by the airline.

With agency and consumer demand for travel choice, multi-access reservations services were provided to the agents as an extension of the host airline reservations environment. This second stage of automated support then allowed an agent to switch from one reservations system to another without the need to have multiple terminals.

Within recent years, the multi-access terminal environment has been progressively replaced by Global Distribution Systems ('GDSs') such as Sabre and Galileo. These systems allow agents to book air travel, hotels, hire cars and related travel services in one common environment using a common set of commands.

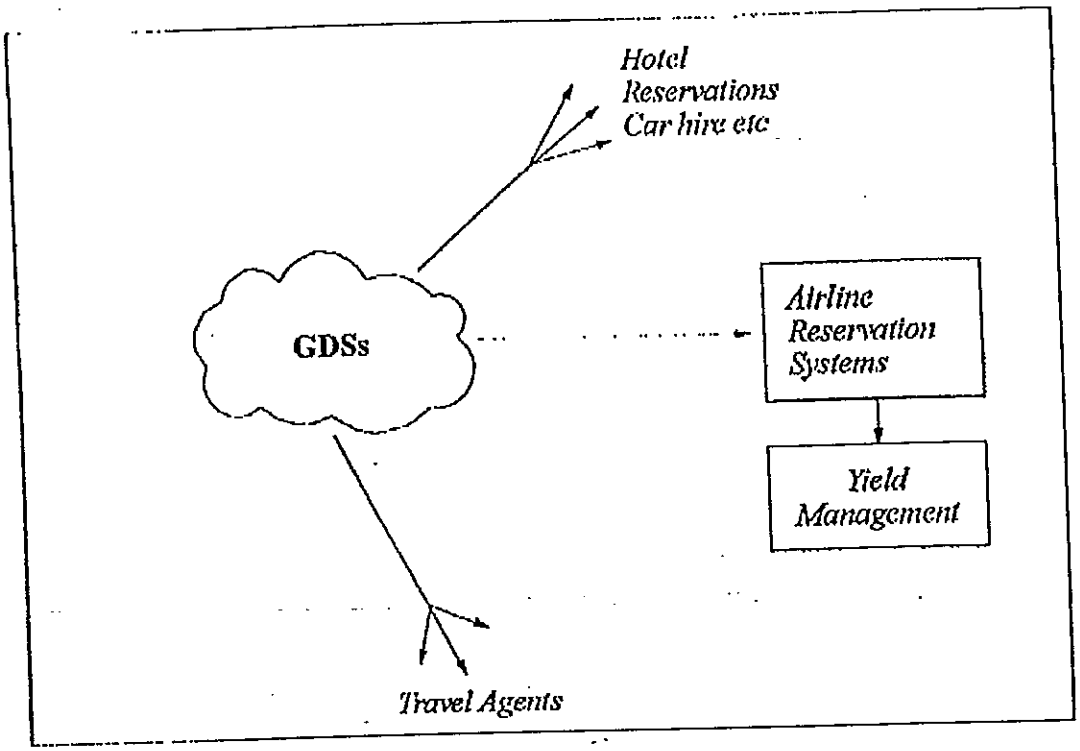
In the GDS environment, airlines and other travel providers establish a real-time link between their own reservation system and the GDS. Seat/fare availability is displayed within the GDS and the agent can reserve and ticket from that availability. The reservation within the GDS causes the airline host reservation systems inventory to be updated to immediately reflect the seats sold.

While the GDS environment provides a wide range of travel reservations services for the agent it has increased the costs of distributing inventory for the airlines. The cost to the airlines of agency bookings is now a significant proportion of their overall cost base.

In summary the current reservations systems environment within the air travel industry consists primarily of:

- travel agents with PC or terminal access to GDS environments
- airline and other travel reservations systems which provide links to the GDS agents as well as allowing direct reservations through airline reservation centres and ticketing offices
- linkages from the airline reservations systems to powerful yield management systems which predict and manipulate booking patterns to maximise yield for given flights

These systems relationships are summarised in the diagram (over).



The GDS and airline reservations systems provide high availability, high reliability services (anytime, anywhere requirement). Given the worldwide nature of the industry airline reservations systems provide a 7 day, 24 hour service and typically exceed 99.98% availability with 3-5 second response time from any location. This is provided via a mainframe infrastructure with the major vendors being Unisys and IBM. Smaller airline start-ups are making use of an emerging group of Unix based reservations systems but this environment has not yet provided the performance characteristics required for the medium to larger airlines.

The airline industry also was the driving force behind the establishment of global communications networks such as that provided by SITA which provides the principal means by which agents, airlines and GDSs communicate.

3 Potential parallels with the health sector

We could view the airline need to develop close linkages with agents as being similar to the type of relationship that CHEs would wish to create with GPs. We could, in this analogy, consider the GP as an 'agent' acting on the needs of their patient and requiring access to a number of 'booking services' (e.g. making an outpatient consultation appointment, checking what the waiting list is for a particular procedure/surgeon or booking an inpatient admission for elective surgery).

Extending the analogy, an outpatient clinic, a hospital bed or even an operating theatre could be considered to have a number of time slots available (similar to an airline's inventory). It is important to the CHE to maximise clinic, bed or theatre utilisation effectively and, to an extent, this has some parallels with yield management in the airline context. Indeed, recent press reports indicate that Sabre, the American Airlines GDS provider is seeking to provide yield management systems to US hospitals to assist in determining the optimal allocation of hospital resources to patients using predictive models of patient demands.(1)

It is possible to uncover other potential similarities between the two environments which may suggest further improvement areas for evaluation and potential application. These include:

AIRLINE CONCEPT	POTENTIAL HEALTHCARE APPLICATION
'No show'	Did not attend (DNA) for hospital appointments can be a large source of problems for some CHEs. Modelling attendance patterns using yield management techniques may allow clinic slots to be better utilised.
Compensation for 'off-loaded' passengers	Offer of alternative dates or some form of compensation for disruption to patients whose planned admissions are cancelled/postponed.
'Standby passengers'	People who are willing and able to attend for surgery at short notice (at least one CHE is working on applying this concept).
GDS	Central booking service or clearing house to facilitate GP to CHE communication.
Schedule availability	In the travel context a customer will be asked to weigh-up time, cost and convenience factors if their travel request cannot be met. It may be possible for a similar dialogue to be created in health (e.g. 'the Auckland waiting list for that elective procedure is x weeks but you could be seen in a week's time in Hamilton' etc).

There are however some important distinctions between the two sectors:

- airlines operate on a fixed schedule determined 6-12 months in advance of timetables being published which contrasts with theatre schedules which need to accommodate emergency surgical cases (outpatient clinics and, to some extent, elective surgery may however provide a closer fit to the travel sector model). Airlines do make allowance in their booking profiles for urgent travel (e.g. travel due to family illness or bereavement) but the specific requirement to accommodate emergency cases in the health sector does however need to be factored carefully into any application of these principles to the health sector

(1) The Economist, November 5, 1995, page 71.

- a customer's journey consists of a predictable series of events (flight, hotel stay, hire car etc), the resource requirements of which are all easily determined in advance - this is less true in the health sector, however a degree of predictability in resource requirements is being introduced with the introduction of clinical pathways/protocols

- all airlines and agents conform to international guidelines and standards for reservations processes (administered via IATA) whereas GPs, CHEs and individual consultants have a great deal of discretion as to how appointment processes are handled and waiting lists prioritised and managed

- airlines and CHEs have clear financial imperatives to maximise yield but in the health sector there is a range of other objectives which impact on how waiting lists and clinic appointments are managed which may weaken any analogy with airline booking systems

- a common travel agency interface is provided to a range of reservations systems via a GDS with only two GDSs dominating the NZ retail travel marketplace whereas GPs and CHEs will have a large variety of manual and automated systems in place which may introduce inter-connectivity complexities

- a complex systems infrastructure on an international basis exists to facilitate travel distribution, the requirements of the health sector within NZ are less demanding therefore offering the prospect for simpler more cost effective options to be considered

- the agent to airline dialogue is straightforward covering schedule, availability and fare; within the health sector there is scope for a richer dialogue to take place covering, say, laboratory results reporting, details of new CHE services being provided, current DRG prices etc

- the requirements for confidentiality in the travel industry (especially in airlines from a security perspective) are arguably no less onerous than those which exist in health.

As well as the airline reservations model, the booking process for hotels and events is also worthy of some consideration. In many cases a request for say hotel accommodation is made by the agent which is then passed via a clearing house arrangement for confirmation within the individual organisation's manual or automated systems. This model may offer some potential in the health sector context as a means of providing a standardised booking process without the accompanying infrastructure costs of an on-line real-time environment. There are further parallels in the hotel booking context given hotel guests who stay for longer/shorter periods than they have booked and inpatients whose lengths of stay (protocols notwithstanding) may not be fully predictable.

The existing automated and manual processes within CHEs and GPs would also require careful analysis. It is questionable as to the extent to which CHEs have examined or implemented international health sector best practice in appointment scheduling and waiting list management applications and associated business processes. Any feasibility study covering the area of GP to CHE communications should take into account what has been achieved within the health sector overseas as well as considering parallels with other sectors.

4 Next steps

To evaluate the costs, benefits, risks and impact of extending the concepts used in travel bookings processes into the health sector would require a range of activities. This could include:

- reviewing existing CHE booking and appointment processes
- investigating the information systems in place to support these processes (including the major GP systems)
- research into the application of yield management techniques (e.g. degree of predictability in emergencies, did not attends etc)
- consideration of the use of clinical protocols to predict resource requirements arising from forecast patient demand
- feasibility of applying 'stand-by' and 'off-loading' concepts and processes to inpatient bookings
- development of core requirements for bookings related services
- formulation of strategic options for meeting these core requirements
- evaluation and justification of preferred option
- planning and implementation

5 Coopers & Lybrand capabilities

Our national consulting practice includes information systems professionals who have undertaken a range of projects within the travel industry. These projects have spanned strategic planning, project feasibility assessments, systems requirements analysis, systems design and implementation project management. Application areas have included reservations environments as well as linkages from retail agents to travel providers.

Coopers & Lybrand

Our IS consulting team has also worked within the health sector at Ministry, RHA, CHE and GP levels on IT strategic planning, systems procurement and delivery projects.

Our specialist health sector consulting group provides strategic planning and operational improvement services to a wide range of organisations spanning all tiers within the sector.

Our combined consulting capability therefore encompasses detailed health sector experience with access to a thorough understanding of the systems and business processes in place within the travel sector from which to analyse and develop potential models for how GP to CHE 'bookings systems' and related communications can be made more effective.

We would be pleased to provide further specific details of our capabilities as required.

APPENDIX IV

APPENDIX IV

Service	Location	Introduction Date
ENT	Taranaki Healthcare Eastbay Health Health Waikato (Thames)	30/6/97 30/6/97 31/12/96
Ophthalmology	Taranaki Healthcare	30/6/97
General Surgery	Taranaki Healthcare Health Waikato (Thames)	30/6/97 31/12/96
Orthopaedics	Taranaki Healthcare	30/6/97
Gynaecology	Taranaki Healthcare Eastbay Health Tairawhiti Healthcare Western Bay Health Health Waikato (Thames)	30/6/97 30/6/97 30/6/97 30/6/97 31/12/96
Paediatric Surgery	Health Waikato	30/6/97
Cardiac Surgery	Health Waikato	31/12/96

RHAs facilitate providers and clinicians to establish for the assessment of people currently on waiting lists and new people who are eligible for treatment so that each group is progressively moved to booking/scheduling systems.