

AN INTEGRATED DELIVERY SYSTEM (IDS) FOR THE MANAGEMENT OF AUDIOLOGICAL SERVICES IN MALAYSIA

Zaleha A. S.* & Cila U. #

ABSTRAK

Sistem perkhidmatan penjagaan kesihatan berintegrasi (IDS) merupakan rangkaian perkhidmatan kesihatan yang mengambilkira penggunaan sistem maklumat komprehensif tentang kesihatan pesakit, saluran perkhidmatan kesihatan dan keseluruhan sistem pengurusan dan operasi sesebuah organisasi. Kertas kerja ini mencadangkan kerjasama antara sektor kerajaan dan swasta dalam melaksanakan konsep IDS untuk pengurusan perkhidmatan audiologi di Malaysia. Matlamat utama penggunaan konsep IDS ialah untuk memberikan pengurusan yang lebih baik terhadap mereka yang mengalami masalah pendengaran di Malaysia, terutama golongan kanak-kanak. Dengan menggunakan model IDS, adalah diharapkan masalah pendengaran dapat dikesan seawal mungkin, seterusnya program intervensi untuk mereka dapat dimulakan seawal mungkin.

ABSTRACT

Healthcare integrated delivery system (IDS) is a network of health care services that take into consideration of having a comprehensive information system about patients' health, health delivery channels and the overall managerial and operational system of the organization. This paper proposed collaboration between the government and private sectors in implementing the concept of IDS to manage audiological services in Malaysia. The primary goal of using this concept is to provide a better management for the hearing-impaired people in Malaysia, especially in children. By using the IDS model, it is hoped that hearing problems will be detected as early as possible, thus resulting in early intervention programs for the hearing-impaired.

INTRODUCTION

Healthcare integrated delivery system (IDS) is a network of health care services that take into consideration of having a comprehensive information system about patients' health, health delivery channels and the overall managerial and operational system of one (large) organization (Evans, 1998). It is an organization with multiple levels and

* Accounting Department, Faculty of Business Management, Universiti Kebangsaan Malaysia

Department of Audiology & Speech Sciences, Faculty of Allied Health Science, Universiti Kebangsaan Malaysia.

horizontal channels of health care delivery system, frequently composed of insurers, hospitals and primary care centers, and other professional or non-professional entities that provide medical care whether to a defined or overall population (Barnsley et al, 1998; Young, 1997). Figure 1 shows an example of the IDS framework as one large organization comprising all the relevant entities providing comprehensive audiological services.

IDS is also viewed as critical organizational forms for delivering higher-quality, community-based health care while pooling resources and sharing risks in a changing and uncertain environment (Charns, 1997). Within this scenario, patients will pay their bills to one billing center for all the services they receive from the whole IDS setup. Most important in the concept of the IDS is where patients' information obtained at primary care centers will automatically be transferred to wherever needed within the IDS setup without patients having to dictate again and again. This is where information technology (IT) plays a very important function (Evans, 1998). The concept of IDS in healthcare has long been used in the United States, sometime before the 1970's (Charns, 1997). However, during that period, integration was at its lowest level. During the current decade, IDS in healthcare has reached a level where almost all entities within the IDS are fully integrated with each other offering a continuum of care for patients.

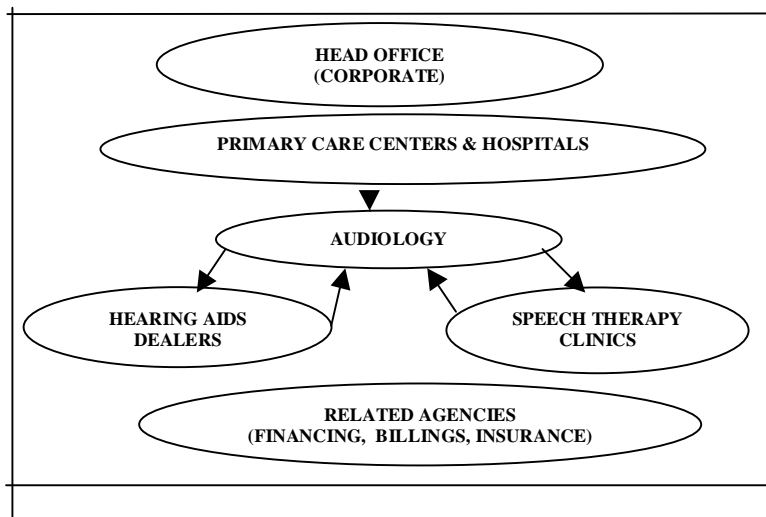


Figure 1: IDS framework as one (large) organization for audiological service.

- All entities within the framework are 'joint' together in terms of (1) comprehensive information using IT and (2) corporate governance by the Head Office.

- The current setup available in Malaysia do not have any Head Office since each entity within the conceptual framework have their own corporate management.

*Intervention Centers.

PURPOSE AND IMPLEMENTATION OF IDS

In general, an IDS should be able to connect users to valuable information in a short amount of time, that is to improve the quality of care (Anonymous, 1999). In this paper, we hope that with the use of IDS within the audiological framework in Malaysia, it can provide a better management for the hearing-impaired people, especially in children. By implementing the concept of IDS, patients will be guided through the right track starting from the first time they see a physician at the primary care centers, public or private, until finally they receive the intervention. At the same time, collaboration between the government and private sectors, involving health care is very important to ensure the goal of providing a community-based integrated health system (Ross, 1998).

CURRENT SITUATION

In the context of the current situation concerning audiological services in Malaysia, there are three major circumstances that we wish to highlight. First, primary care centers as well as the outpatient department in hospitals, either public or private, are still lacking information and understanding on the audiological services available in the country, causing a critical delay for hearing-impaired patients to receive the much needed and required audiological management.

Secondly, is the lack of information on speech therapy services. Once patients have been diagnosed as having hearing loss, and have been fitted with amplification devices, they should be channeled for intervention at speech therapy clinics. Patients must go for their regular and continuous auditory and speech training at speech therapy as well as audiology clinics. Without training and guidance on effective usage of hearing aids (HAs), patients will not gain much benefit in the use of their HAs which will cause poor performance on their auditory and speech ability. The use of HAs alone, without any intervention will not help patients, especially children to develop their speech. What happen currently is that when patients are not being seen by audiologist first for HAs prescription and advice, after patients have bought their HAs from the dealers, patients were not advised for any further management (intervention) of their hearing problems.

In a general survey sent to Ear, Nose and Throat (ENT) departments of several private and public hospitals and clinics all over Malaysia, it was found that many medical practioners in these facilities still lack understanding on the importance of a complete cycle of audiological services for hearing impaired patients. Many still refer patients straight away to hearing aid dealers for hearing aid advice and fitting without

any consultation from audiologists pre- and post-fitting. Thus, patients receive no further management thereafter.

The critical need for an early intervention can be illustrated from the following example. A child had been diagnosed as having a bilateral severe sensorineural hearing loss at 1 ½ years of age which is considered as quite early identification. Her parents bought a pair of hearing aids when the child was 2 years old from a dealer and defaulted follow-ups at the audiology clinic after buying the aids. Therefore, when finally the child came for intensive auditory and speech training at about 5 years of age, the outcome of the intervention program was not as good as expected if the child had started the training and follow-ups straight away after HA fitting at 2 years old. This is where we hope that by using the concept of IDS, patients will receive better management for their hearing problems because having access and understanding on audiological information by primary care centers will speed up identification of problem and the required intervention process.

The third circumstances we want to highlight is that, currently, when poor patients applying funding from the Welfare Department to purchase HAs, they have to wait for at least 6 months before their applications can be approved. Some of them even did not hear anything about their applications after 2 or 3 years. This situation has caused the same critical delay in the process of getting HAs and subsequently, late intervention for the patients' hearing problems and eventually poor performance on intervention activities.

Due to the segmented current situation, we would like to propose the concept of IDS to be used for the management of audiological services in Malaysia. For a start, we will look at the major players involved in the present audiological framework in Malaysia to incorporate them into the proposed IDS.

Framework of IDS in Audiological Services

We have identified six major group of entities representing the conceptual cycle that patients need to go through in their quest for a comprehensive audiological services in Malaysia. Please refer back to Figure 1 as our model except now that we have excluded the head office entity. This is because we propose the collaboration between the government and private sectors to implement the IDS concept and there is no one entity that is so called the head office.

The first entity is the primary care centers, private or public, on its own or as part of a hospital set-up. These centers must play a big role towards the IDS within the audiological framework. Primary care centers are usually the first place patients will go to for medical advice concerning their hearing problems (Anderson, 1998). We hope that from this stage, using the concept of IDS, all primary care physicians will refer patients with suspected hearing loss directly to audiology clinics (in which information should be available with them by then). Hearing loss is a hidden handicap that will impair speech and language development. Patients' hearing will be assessed and appropriate management of their hearing losses will be attended to at audiology clinics. Delaying the process will jeopardize patients' chances of getting better outcome from intervention programs.

The second entity within our proposed IDS is the hospitals, private or public alike. With the involvement of the Ministry of Health, we hope hospitals and all maternity clinics are encouraged to implement the newborn hearing screening program in order to identify the problem as early as possible. Those who fail the test need to be referred directly to audiology clinics. With this program, the majority or possibly all Malaysians will get the chance to comprehensive audiological services at such a very young age.

Our third entity within the IDS is the audiology clinics. Audiologists at these clinics, be it on its own or part of a hospital set-up, will do all hearing assessment and appropriate management on patients suspected with hearing loss. Audiologists will suggest suitable HAs for patients who have confirmed diagnosis and provide information on HA dealers available for patients to go and purchase the suggested aids.

Patients will buy HAs from our fourth entity, the HA dealers based on prescriptions given by audiologists. Patients may also purchase assistive listening devices from HA dealers. After buying the aids, patients should be back to audiology clinics for HA fitting and evaluation.

Auditory training and speech therapy sessions should start immediately following hearing aid fitting. For this purpose, audiologists will refer patients to our fifth player, the speech therapy clinics. Patients will also need to come for audiology follow-ups for continuous HAs management and evaluation at audiology clinics. Audiologists and speech therapists work very closely together in terms of providing feedback to each other for patients maximum benefit with regards to their speech and hearing ability.

Audiological services cycle ends (but does not stop) at intervention programs. In between the above five major players within the IDS framework of audiological services, there is one group of entity that performs important functions together with other entities. Include in this group are, among others:

- a. The Welfare Department with regards to funding for buying HAs;
- b. The Ministry of Education concerning school placement for schooling age patients that have undergone speech training by verbal or oral communication approach; and
- c. Medical insurance companies as well as financial institutions for patients applying private financial assistance.

Cooperation of this back-up group towards the IDS conceptual framework is as important as all the other entities. Without their cooperation, patients will face with the same delay and late intervention with regards to their hearing problems. For example, putting financial situation aside, we came across many parents who were reluctant to send their children to currently available deaf schools teaching using mainly sign language approach. Many parents believed that their children, who had been fitted with HAs and had undergone auditory and oral speech training since their early age, should go to a special school with verbal and oral communication approach. Without continuous practice using verbal and oral communication in

school and at home, the benefit of wearing HAs in children can once again jeopardized. This will result in poor performance of intervention programs. The Ministry of Education might need to review and revise their schooling placement policy and management in this matter.

LIMITATIONS OF IDS

We have talked about a near perfect scenario of audiological services using the concept of IDS framework. However in reality, it is not easy to implement. There will always be limitations, and a few that we expect to come across in the early part of implementing the IDS include the following:

1. Transferring information from one organization to another will need all the entities involved to have compatible managerial and operational system. This is quite impossible because different organizations have different cultural based, with regards to the current situation in Malaysia. Integration of information between a private firm (e.g. a HAs dealer) and a government agency (e.g. the Welfare department) cannot be done simply through computerization system alone.
2. The limit of professional ethical code which forbid patients information to be 'transferred' to other parties unprofessionally (Stiles, 1997). A perfect IDS can only be implemented in one organization alone, but having all the required components for comprehensive audiological services.
3. Information technology has its own unique limitations that can affect the process of the IDS, such as being corrupted, infected by virus, etc. Even if information can be transferred through the internet, it will involved a high cost such as for information storage (Evans, 1998).
4. Our government, as in all other governmental entity, has a lot of protocols to go through before things happen, such as in the process of applying for HAs funding from the Welfare Department. These policies cannot be easily changed because accountability in the government sector goes way up to the top level and hence IDS in audiology with the involvement of government agencies will need major managerial changes.
5. With the current situation, we foresee that for the time being, maybe it is quite impossible to integrate all entities involved within one 'large' IDS, either in the private or the public sectors. Therefore the degree of integration between all entities involved in the proposed IDS setup of audiological services will be limited to a certain extend.

SUGGESTIONS AND CONCLUSION

Having a system of healthcare as practical as the IDS will definitely promote enhancement in the chances of getting a continuum of care in all aspects of patients' health. However, to make comprehensive audiological services a reality in life needs a lot of effort from all parties involved. We list down here a few suggestions that we

believe are relevant and important to ensure the success of using conceptual IDS for a comprehensive management of audiological services in Malaysia and reduce the limitations discussed above.

1. We hope the government will provide more funding for health services management to cater for comprehensive audiological services, apart from all the other health services. Even though it might be a bit expensive in the early days of IDS implementation, but the end result will definitely help the nation to produce healthier and better Malaysians.
2. With the existence of multimedia super corridor (MSC), we believe the concept of using IDS for the management of audiological services in Malaysia is possible, by expanding the multimedia concept to more areas in Malaysia, especially the healthcare industry. MSC can be a platform to implement high technology IT that is much needed in IDS.
3. As the government is moving towards an electronic system in Malaysia, we believe the concept of IDS looks promising to enhance the quality of health services, including audiological services, by incorporating all relevant government entities within the audiological framework. Mousin *et al* (1999) suggested that the concept of a perfect IDS means that all entities must be fully integrated using IT.
4. In order for the success of audiological IDS in Malaysia, we believe a high degree of understanding, collaboration and cooperation between all professionals involved must exist (Anderson, 1998; Krieger, 1998). These include all physicians, audiologists, speech therapists, and management groups of entities. Management groups include all financial experts and corporate individuals that prepare policies and manage the corporation as a whole. Without these professionals' cooperation and collaboration, audiological services cannot reach out many patients who are in need.
5. Together with the cooperation among professionals, we also acknowledge the major contribution needed from non-professionals working within the healthcare industry. Non-professionals involvement is as important as everyone else within the 'large' IDS organization in order to continuously improve and ensure quality of services provided (DeSimone, 1998; Brannan, 1998).
6. Notwithstanding the need for a high degree of cooperation among all entities and individuals involved within the audiological services, it must be noted that rules and regulations required from professional bodies and the government must never be ignored. A system of checks and balances can help to ensure adherence of such requirements (Berkey, 1999).
7. Finally, we believe there must also exist a high degree of collaboration, cooperation and understanding between all private and government agencies involved in the proposed framework. The media, for example, can help by reminding the public through all types of media channels about the importance of preserving their hearing and where can they get professional help, if there is any suspicion of hearing impairment.

With the integration of the back-up group of entities within the audiological IDS, we expect patients will receive more comprehensive audiological services all from within one 'large' organization. Patients' healthcare, financial assistance and consequently a brighter future can be expected as long as all entities within the conceptual IDS framework of audiological services can work with each other.

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