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## Exploring the Implementations of Hidden Disability Assistance Program in Australian Airports

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The World Health Organization (2021) reported that many service providers, including airports, have limited knowledge of the unique needs of people with disabilities. In 2022, the International Air Transport Association (2022) developed the IATA Passenger Accessibility Operation Manual (IPAOM) and reported an urgent need to ensure airline and airport personnel receive appropriate training and awareness to support passengers with disabilities. It is not surprising that many service staff at airport lack training to interact with passengers with disabilities (Chang et al., 2012; Poria et al., 2009). In 2018, the Civil Aviation Authority UK directed all airport ground staff and airlines to undertake training to recognize passengers with a hidden disability (HD) and offer them support across their journey. This may be due to a perceived lack of staff training to communicate effectively and offer them appropriate assistance. Consequently, airports in the UK have collaborated with disability organizations such as Training2care.co.uk to develop disability awareness training for staff of airports such as London Gatwick, London City, and London Heathrow (Civil Aviation Authority [CAA], 2018; Skillicorn, 2003).

Similarly, in 2015, the U.S. department of transport (DOT) mandated that all air carriers flying to the US ensure that they develop and implement a training package to educate airport service personnel in order to assist passengers with disabilities. In Australia, from 2019 to date, the six busiest airports have implemented a HD support program; the vital part of the program is provision of training for front-line airport and airline staff to be more aware of the needs of passengers with a HD.

Several researchers have discussed shortcomings in developing training programs for staff who interface with clients (Parsons et al., 1993; Reid et al., 2001; Smith, 2001) Previous scholars have evaluated the training delivered to front-line staff on interacting with people with disabilities, including Schepis and Reid (1994). It recognized that staff training is essential in supporting airport operations (Quilty et al., 2003), including airline operations (Shrestha, 2019). The investigation of issues regarding the training experiences of airport staff that aid passengers with a HD are critical to researchers (Quilty et al., 2003). Rouse (2011) emphasized that a review of training offered to staff in any organization is needed. Johnson et al. (2005) stressed the importance of evaluating educational programs to direct staff interactions with people with autism spectrum disorder (ASD).

A recent study confirms the importance of staff training in interacting with an individual with invisible disabilities (Railly, 2020). Practical airport staff training may enhance the trainees' capacity to support travellers appropriately. Previous researchers have highlighted the importance of evaluating the training effectiveness of any program newly implemented (Yusouff et al., 2016). The lack of research on training procedures and what future requirements may emerge from the current training offered by the airports is a significant problem. Therefore,

airport management and training coordinators should consider strategies to uncover issues and determine the future requirements of their training programs.

Surprisingly, based on the literature reviews, there is limited research focused on the procedures by which HD training was developed and delivered to airport staff and stakeholders in Australia and the rest of the world. As such, research is needed to examine the procedures, contents, and evaluation of the existing HDAP implemented by Australian airports to enhance the future training of personnel working within the HD program (Davies et al., 2018). More importantly, it may also guide prospective airports to design training as part of their implementations of hidden disability assistance program (HDAP) in their respective airports. Despite the lack of research documentation on HDAP implementation issues, there are still concerns about which kinds of staff training are appropriate for airport personnel. Consequently, the stated problems are issues of concern to Australian airport operators and researchers in the airport HDAP context. Therefore, this paper explores the Australian airports' implementation of HDAPs and explores which training procedures may require improvement.

### **Airport Hidden Disability Assistance Programs**

The world's first formal HDAP was introduced by London Gatwick Airport in 2016. The rationale for introducing the program was to improve travel experiences of passengers with an HD in the busy surroundings of airports (Calitz, 2020). The program provides unique lanyards (adorned with a sunflower emblem) to passengers who request the service. The lanyard signals the passenger's HD status, making it easier for airport staff to provide them with appropriate assistance.

### **Figure 1**

*Hidden Disability Sunflower Lanyard*



*Note.* Figure 1 shows an example of the sunflower lanyard designed to identify passengers at all journey stages (Brewer, 2019).

Following the introduction of this program by London Gatwick, other airports in the United Kingdom adopted the programs. These airports include London Heathrow, London Luton, London Stansted, Newcastle, Manchester, and Norwich (CAA, 2018). Although Cardiff Airport adopted the same program, they used a bracelet as a means for identifying their passengers. In 2019, six major Australian international airports also implemented an HDAP: Melbourne, Sydney, Adelaide, Gold Coast, Brisbane, and Perth.

### **Conceptual Framework**

This study's theoretical background was based on the Servicescape's environmental and social interactions (Bitner & Bitner, 1992). The Servicescape concept describes the impact of physical conditions surrounding a service company on its customers (Reimer et al., 2005) and social interaction between customers and employees (Moon et al., 2015). It is one of the most influential theories for understanding issues affecting customers in the physical environment (Fodness et al., 2007). For this reason, the authors applied this concept to understand its effect on the implementation of HDAPs by Australian airports.

### **Literature Review**

This section reviewed the training methods received by airport and airline staff to assist passengers with HDs across the US, UK, and Australia. The Chicago Department of Aviation (CDA), one of the air transport regulators in the United States, developed a training program named Enhanced Awareness Initiative program aimed at increasing understanding of ASD (Chicago Department of Aviation, 2013). They conducted the training through video demonstrations on how to deal with potential travellers with disabilities (Skillicorn, 2013). Through the Federal Aviation Administration (FAA), the U.S. Government has directed all U.S. airports to develop a program for assisting their travellers in achieving a smooth air journey (Skillicorn, 2013). However, this paper notes that such training should include the opinions of disability stakeholders such as people with dementia, low vision, and individuals with hearing impairments. In the findings of a recent study, the need for the inclusion of stakeholders in developing a training program was highlighted (Railly, 2019). Similarly, Pelicano et al. (2014) mentioned the importance of collaboration with disability organizations or their members when developing training to assist people with disabilities. Consequently, some airports have partnered with stakeholders to train their staff members.

According to Skillicorn (2013), the Wings for Independence is a non-profit organization based in the US. In 2012, they designed a training program in partnership with the Sacramento International Airport. JetBlue Airlines sponsored the program. The aim was to ensure that travellers with ASD achieve seamless air travel through staff training. According to Wings for Independence (2012), they used flight simulations to deliver the training. Participants who attended this training included Sacramento Airport managers and JetBlue airline managers who

financed the training. This training also captured the live scenarios of aircraft cabin activities, such as announcements of travel instructions and other flight instructions, such as fastening seat belts during take-off and landing. The trainer used flight crew staff from JetBlue to participate in this process.

In the UK, the nature of staff training in interacting with passengers with disabilities and their families is similar to those procedures applied in the US. In 2016, the CAA set out regulations in the document CAP 1411DEC16 (2016) which emphasized the importance of airport personnel training for the provision of support to people with invisible disabilities. These directives are similar to those issued to airport and airline operators by the U.S. DOT. Following the regulations, airport authorities must ensure that personnel, including customer service staff and service provider agents interacting with passengers with HD, are trained to handle supporting such passengers. This regulation element may aid in addressing issues travelers and their families face whilst transiting through airports.

The Glasgow International Airport partnered with training2care organization and conducted autism awareness training (CAA, 2018). The training exercise aimed to provide better understanding to staff about the types of sensory processing difficulties experienced by children and adults with ASD. This training was limited in that it failed to consider other disorders outside the scope of ASD. The aim of this training was similar to training which focused on parents of children with ASD (Dempsey et al., 2021). The training2care organization in UK and WFI in the US shared similarities in training and assisting passengers with ASD through staff training. In Australia, several airports have implemented airport HDAP support programs. However, there is limited information regarding their staff training, possibly due to the limited research on the implementation of HDAPs worldwide. The table below summarizes US, UK, and Australian airports' training practices.

**Table 1**  
*Comparing Australian Hidden Disability Training*

	Training Methods		
	U.S	U. K	Australia
<b>Airports</b>	Chicago Sacramento airport Philadelphia Logan Boston Massachusetts	Glasgow Liverpool Luton Birmingham Heathrow London city London Gatwick	Adelaide Brisbane Gold Coast Melbourne Perth Sydney
<b>Aim</b>	Increase understanding of autism Assist individuals with ASD Assist passengers with disabilities	Understand sensory difficulties Enhance security roles Increase awareness of challenges faced by those with ASD	Not stated
<b>Trainers</b>	Wings for Independence Airport Autism Inclusion Wings for Autism Airport Autism Program Airport Accessibility Kits	Training2care Limited Stomawise Autism West Midlands Disability Rights UK Business Disability Forum	Autism Australia Aspect
<b>Trainees</b>	Airport personnel Airlines	Airport personnel Passengers	Airport personnel
<b>Delivery</b>	Lived scenarios of aircraft cabin Simulations	Not stated	Not stated

Table 1 summarizes the HD training methods offered to airport staff across three aviation regions. In this paper, authors reviewed the US and UK training information from a previous study (Skillicorn, 2013), while the data for Australian airports can be found publicly available on their websites. As seen from the table, the three regions share similarities regarding training providers, which shows that airports do not independently organize and deliver training to their staff. All the trainers are from disability organizations established to support their members. Surprisingly, the trainers from the three regions focused broadly on training airport staff to assist people with ASD and their families at airports, which means these programs do not include other hidden disabilities such as dementia, hearing impairment, or vision impairment. This decision could be due to the prevalence of autism, as 1 in 100 children has ASD worldwide (WHO, 2022).

The table also presents similarities regarding the trainees. The WFI in the US delivers training using flight simulations and live scenarios of flight activities involving airline flight crew members, while the training procedures in the UK and Australia excluded airline crew members. This research discovered that the US and

the UK shared similarities in training objectives, while the Australian airports did not state their aim. However, authors assumed that the purpose of the staff training is to cater for the needs of passengers with ASD navigating airports, as is the case in the US and UK. Authors also found that disability organizations did not provide information on the methodology used in most training, thus creating a wide gap in the literature. Organizations can deliver training in various formats, such as online, live simulation, and in-class training methods (Morley et al., 2005). In addition, there is limited information regarding the qualification of the trainers, which is an important requirement of the aviation regulatory bodies. Instructors should undertake train-the-trainer courses before delivering training to airport staff on HDs (CAA, 2018).

## **Methodology**

### **Data Collection Procedures**

The data was collected between January and February 2022, in this paper, the authors scheduled the interviews based on participants' convenience as stated in the consent form and information statement. Before completing the interviews, they followed the recommendations of Creswell (2007) and carried out a pilot study with one participant currently working in the aviation industry; the rationale for the pilot interview was to ensure the suitability of the questions for answering the main and sub-research questions. The pilot study showed the need to modify some questions to emphasize a deep investigation of the current training contents delivered to the trainees. Consequently, they met and discussed revising the interview questions to match the intent of the research. In addition, the authors also realized that each participant's interview might take approximately 30 minutes. Consequently, they modified the observation before the actual discussions commenced. Interviews with participants occurred individually by one of the authors and online using Microsoft Team (MS-Team). This is consistent with recent studies such as Walsh et al. (2019), who designed open-ended questions and used purposeful sampling to investigate the impact of positive behavior support training on the lives of service providers. Their results showed that trainees enjoyed the training and found it useful in enhancing their capacity in supporting people with HDs. In this paper, the main questions were comprised of, "Have you introduced the Hidden Disability Assistance Program in your airport?" and "How have you trained your staff regarding Hidden Disability Support?" Other questions included "Describe to me the impact of the training on your staff and passengers" and "What information would you include to make the training the better in the future?"

This paper used thematic text analysis (TTA) to facilitate data analysis. This is a useful approach in determining which themes are more important and appear more frequently as described in the participants' experiences. The authors in this study, used TTA because it allows flexibility in interpretation of data, and it has

been widely applied in different contexts by scholars such as Smedley et al. (2017), Samplaski et al. (2018), and O'Halloran et al. (2019).

### Results and Discussion

This section describes the results of the interviews with 10 participants from six Australian airports. These interviews aimed to understand issues arising from their implementations of an HDAP and training procedures. The results and discussion were based on participants' perspectives and recommendations of prior studies. This paper found seven thematic categories addressing three research questions. This is followed by discussing each theme's challenges and future requirements. The analysis is supported by previous literature relevant to the research phenomenon.

**Table 2**

*Description of Dimensions that Emerged from the Findings*

Main themes	Sub-themes	Problems	Future requirements
Lack of resources	Financial	Limited funding for the program	Support airports with better funding
	Material (practical tools)	Limited practical tools for all disabilities	Focus on infrastructure provision
	Human	Too much reliance on the autism association	Partner with other organizations in future
Lack of awareness of the HDP among airports stakeholders	Internal	How to roll out HD awareness to airport communities	Increase staff awareness. Airport staff should wear sunflower badges to make passengers aware of the program.
	External	How to extend HD awareness to passengers	
Laws and regulations	-	Lack of focus on security and border control during the rollout of the HD program. Limited control of security laws. Airports apply aviation regulations to passengers with an HD.	To educate passengers on aviation laws in airports.
Terminal design	-	Design of the airport. Airport sensory overload features affecting passengers with HD such as smell, noise, beeping, lights, etc.	Develop design guidelines. Develop building brand guidelines. Consider dimming the lights. Style of building material. Seek input from passengers with an HD into the design and features of terminal and airport development.
	Training Services	Lack of standardization across airports.	Adopt the same level of service across airports.



Support consistency across the air transport industry	Facilities	Lack of consistent support across airlines. Lack of consistent support across service providers. Lack of consistent, practical tools.	Airport collaboration. Consistency across Australia. Global consistency.
Limited scope		Too much focus on ASD.  Targeted children with ASD and their families	Inclusive terminals facilities Inclusive information. Inclusive services. Inclusive accessibility.
Staff training	Training needs	Limited training needs assessment	Conduct pre-training workshops
	Learning objectives	Focus on ASD	Expand the objectives to include all disabilities
	Modules	Lack of regard for other disabilities	Develop specific contents to reflect all disabilities.
	Method of delivery	Limited trainers/trainees	Deliver the training by people who experience HD. Organize bespoke training.
	Duration	1 Hour video presentation	Introduce refresher training.
	Evaluation	Short quiz	Measuring the effectiveness of staff performance

Table 2 revealed a lack of resources, lack of awareness, issues with aviation regulations regarding supporting passengers, lack of consistency of support across passenger travel, issues with terminal design, and limited scope and staff training. **Current Design of Airports is Suboptimal for Passengers with Hidden Disabilities**

This paper provides an understanding of the existing design of the airport and its effect on HDAP implementation. The environmental dimensions proposed by Bitner (1992), Kotler (1983), Moon et al. (2016), and Hasanzade et al. (2021) were found to significantly pose challenges to airport operators in implementing a HDAP. Participants consistently demonstrated concerns about the effect of interior design of airport terminal features causing stress to their passengers, including (1) a lack of accessibility space, (2) inadequate sensory rooms, (3) lights that were too bright, (4) noise, (5) crowds, (6) smells, (7) boarding gate distance, (8) lack of security lanes for passenger with an HD, and (9) climbing stairs. Many participants were aware that the current design may not allow most passengers to use the airport in a less stressful manner. In this paper, participants provided diverse guidelines for improvement of the airport design in the future: (1) retailers should consider dimming their lights to allow passengers with sensory issues to smoothly navigate the airport, (2) consider specific decoration of the airport to match the specific

needs of passengers with all HDs, and (3) consider visually designing the airport building to ensure reduced chances of sensory overload occurring for passengers with sensory impairments. Smith et al. (2016) investigated the perspectives of people with dementia accessing buildings such as airports and found that the current design of a physical surrounding of a building is not suitable to people with dementia due to the confined space. To address the design issue, Smith et al. (2016) noted the importance of consulting dementia-friendly groups in the future design of accessible buildings. In view of the findings by Smith et al. (2016), airports could engage with various group of passengers with HDs, allowing these passengers to suggest features which would allow them to navigate through airports with greater ease.

The findings of participants in the present paper agreed with the findings of Cerdan (2021) that the current design of airports makes travel more difficult to passengers with an HD due to unpredictable noise, queues, and crowds. Similarly, Spence (2021) described that airports are multi-sensory environments where smells often affect passengers with sensory impairments and recommended the need for rebranding airports with pleasant scents in future design processes. Donnelley (2021) suggested that airport operators should include appropriate signage in airport design to allow passengers to move around the terminal building without experiencing stress. Participants noted that a lack of end-to-end accommodation was one of the issues affecting passengers with an HD.

#### ***Need for Awareness of the Existence of Support Services for Passengers with Hidden Disabilities***

Airport HDAPs are designed to provide facilities and services to allow for the smooth movement of passengers around the airport. However, it appears that there is currently limited external awareness of the existence of such facilities by passengers with an HD. In addition, a lack of HDAP external awareness could lead to underutilization of service support and facilities at airports. To address this issue, Philipson et al. (2018) emphasized that the direct involvement of people with HDs in raising awareness to access a wide variety of activities was essential. This paper stresses the need for airport operators to ensure awareness is extended to passengers who may require the use of facilities and support services through their disability organizations. Otherwise, the goal of implementing a HDAP will not be achieved. Airport operators may use several channels to extend awareness of the existence of facilities and support services to passengers:

- 1) Providing signposts along terminal corridors and around check-in counters may extend awareness that there are services available to passengers with an HD who require additional assistance.
- 2) While making a boarding announcement, at the same time, airlines may mention the existence of support services to extend awareness to passengers.

- 3) While airport operators make a safety and security announcement, at the same time, there is an opportunity to mention the existence of an HDAP.
- 4) Providing appropriate signage to indicate the location of available facilities such as sensory rooms, quiet areas, and sensory maps could be an important step to inform passengers about an HDAP at an airport.
- 5) Airports may organize an open house event and invite disability organizations to demonstrate the available support services and facilities for their members.

Lack of understanding of available supports for passengers at airports appeared in a study by Chang et al (2012). It is possible that communicating with passengers through airlines and travel agents about the benefit of available support services at airports could also address the awareness issue.

#### ***Need for Awareness of the Existence of Hidden Disability Assistance Programs Among Airport Service providers***

This paper shows that there are inconsistent levels of awareness of the existence and/or intent of existing HDAPs among airport service providers. Airport service providers are sub-contractors of the airports who provide services to facilitate passengers' necessary activities, such as passenger check-in, documentation, and security screening. According to comments by participants of the current study, it appears that most airport service providers are not aware of the existence of a HDAP within the airport. This can create inconsistencies in the services provided to passengers who require HDAP facilities and services. Specifically, the issue of unawareness of support services can lead to negative experiences for some passengers. Similarly, prior studies identified that service providers within the air transport industry have limited awareness regarding access to and provision of support services and facilities to passengers with disabilities including HDs (McKercher et al., 2003; Miller & Kirk, 2002).

Aboagye (2020) defined internal communication strategies as a tool for disseminating critical information regarding organizational goals and objectives. Aboagye (2020) investigated the impact of sharing the mission and vision of airport management to police officers working at an international airport and found that the internal communication strategy was an effective tool which airport operators used to share knowledge and information among employees. Given the fact that participants of the present study identified issues with the roll-out of an HDAP, it is essential that airport stakeholders are not only made aware that the airport has implemented a HDAP, but become fully involved and supportive in enhancing the experiences of passengers with an HD and their families. One way awareness of an HDAP implementation may be extended to airport service providers is through organizing an educational and awareness program by incorporating the training into their safety and security routine awareness programs. Alternatively, as airports use loudspeaker alerts to communicate information to passengers and airport workers,

it is possible that the existence of an HDAP could be added to the airport's routine loudspeaker safety announcements.

### ***Need for Staff Training Standardization Across Airports***

Training procedures for airport personnel vary considerably across Australian international airports, leading to varying levels of skill, knowledge, and attitudes among staff members, and consequently varying levels of service quality in HDAP implementation. Drawing from the findings of the current study, participants did not provide ideas on how to address the issue of training standardization across Australian airports. Even among other international airports in the UK and US, the literature review shows that these airports followed individual methods and procedures to develop, design, and deliver training to their staff (Skillicorn, 2013). However, from the airlines' perspective, Witz et al. (2008) stressed the importance of training consistency to deliver quality service and at the same time raised concerns for how airline operators should maintain service consistency to passengers. This paper noted that most international airports collaborated with disability organizations to facilitate their training. In fact, the contents of such training are inconsistent across global airports. This issue is inextricable from the lack of international standards in designing and developing staff training for the provision of support to passengers with an HD. This calls for urgent harmonization of the training for airport service providers, regardless of whether they interact with passengers with an HD at the airport. This paper noted that IATA developed an IPAOM in 2022 directing all service personnel in the airport industry to undertake appropriate training to effectively support passengers with all categories of disability; however, they failed to note the importance of standardizing the training procedures. Therefore, it is crucial to for IATA to design a training manual specifically for unique support for passengers with an HD and incorporate such training.

### **Conclusion**

Despite the improvements made since the first introduction of an HDAP by London Gatwick airport in 2016, air passengers with an HD continuously face difficulties navigating airport's physical surroundings (Budd & Ison, 2020; Cerdan, 2021; Peterson et al., 2022; Sadlon et al., 2021; Turner, 2022). This paper has found that few airports worldwide have introduced HDAPs which cater to the needs of passengers with an HD. Three major airport navigational challenges were identified from study 1, which include (1) interaction with airport personnel, (2) inadequate services and facilities, and (3) Terminal design. In addition, this research identified positive and negative experiences of passengers with an HD which allowed the authors to propose a conceptual preliminary model for understanding the airport experiences of passengers with an HD.

This paper has also identified seven thematic categories from the six Australian airports that had implemented a HDAP. Research participants raised

concerns on (1) the suboptimal nature of the airport's current design, (2) focus on a limited subset of the HD spectrum, (3) unawareness of the available airport services and facilities for passengers with an HD and their families, (4) inconsistent support among airport service providers, and (5) inconsistent training procedures and varying level of services in HDAP implementations. This information was mainly undocumented until the completion of this research.

This paper provided better insights into areas where airports can improve on the design of airport terminals by consulting disability organizations on their preferences regarding terminal features and facilities (Donneley, 2021; Smith et al., 2016). The issue of unawareness of the existing support, services, and facilities to passengers may be addressed through direct involvement of passengers with disabilities in raising awareness (Philipson et al., 2018). Regarding the consistent training/delivery of services among airports, it is possible the aviation regulatory bodies should propose an international standard for HDAPs which contains the same type of services, facilities, and training procedures and makes the program compulsory for all passenger airports, as in the case of the IPAOM developed by IATA in 2022.

Specifically, the current paper also suggests the importance of a collaborative approach in development, designing, and implementation of the staff training by IATA and representative of HD organizations, which supports the previous findings of Grady and Ohlin (2009).

The findings of the present study provide more in-depth awareness of HDAP implementation, and therefore can be used to guide airports in preparing to effectively implement an HDAP. Authors in the present study concluded that currently, HDAPs have not been implemented in all airports; in fact, they are only available in a handful of airports worldwide. To achieve the desired goal of seamless travel experiences for passengers with HDs, a training model should be standardized, validated, and implemented in airports around the globe.

Finally, findings of this paper add valuable information to the literature on HD awareness, the positive and negative airport travel experiences face by passengers, as well as improving an interaction between passengers with an HD and airport service personnel, which could be address through the proposed training procedures identified in this paper.

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