# Universal Design for Learning and Its Application to Clinical Placements in Health Science Courses (Practice Brief)

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**Abstract**

In 2013 Ireland's Association for Higher Education, Access and Disability (AHEAD), in partnership with the School of Nursing University College Dublin (UCD), hosted a summer school for professionals working in the Health Sciences sector who have responsibility for including students with disabilities in the health professions, including clinical placements. The topic of Universal Design for Learning (UDL) was explored and particular emphasis was given to how these principles could translate into practice on clinical placements sites. The summer school used a positive enquiry method to open a detailed dialogue about the inclusion of a diverse range of students in Health Sciences, especially students with disability. The participants comprised 25 academics working across a number of health-related sciences including nursing, medicine, and physiotherapy. While each participant is an expert in their occupational area, they attended the workshop because of an interest in inclusive practice. Using a framework presented by Dr. Joan McGuire from the University of Connecticut, the group explored how Universal Design interacts with the performance standards to be achieved by students in clinical placements. The rich discussion generated a wide variety of examples of the application of UDL. The paper is a summary of the findings of the summer school.

*Keywords: Universal design for learning, health related sciences, diversity*

## Background

Today higher education is a far more diverse place with far greater numbers of students from different backgrounds including students with disabilities; mature students; lesbian, gay, bisexual and transgender (LGBT); and those from a range of cultural backgrounds. This change in the profile of participants in higher education has obvious implications for teaching and learning and for academic and other professional staff who are committed to creating learning environments in which all students can learn on an equal footing.

Students with disabilities have an equal right to take part in all aspects of the course, but the question is: are they getting the opportunity to exercise those rights or are they being excluded? Research into the participation rates of students (Association for Higher Education, Access and Disability [AHEAD], 2013) with disabilities suggests that while the culture and practice within academic courses is changing and there has been an increase in the enrolment of students with disabilities across many health-related science courses, students with disabilities remain very under-represented on many professional courses, in particular health related sciences.

This is not just an Irish problem as students with disabilities meet barriers in accessing higher education across the European Union (EU). According to the Organisation for Economic Co-Operation and Development (OECD), the under-representation of students with disabilities in higher education is largely because "tertiary education fails to make disability a component of their policy or to promote an inclusive ethos that mobilizes the entire community around the success and future of each student" (OECD, 2012, p.100).

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In the past, the inclusion of students with disabilities has been perceived as the job of a disability specialist. This approach is based clearly within the medical model, as the student was expected to be assimilated into the structure of the existing course with additional support added on. This approach is recognised as a retro-fit model that relies on the student making the adjustments without any obligation on staff to change the structure of the course itself. Such a model will only work with small numbers of students and does not have the capacity to deal with the ever-increasing number of students with disabilities who are successfully making the transition to higher education. More recent thinking on inclusion is about taking a Universal Design for Learning (UDL) approach.

UDL designs learning with the learning requirements of all potential learners in mind and recognises that every student is an individual with different ways of learning, motivations, and experiences that need to be considered. Within the UDL model, the inclusion of students with disabilities is no longer seen simply as the job of the disability support service, but "it is the job of all higher education staff to be more responsive to learner differences and to be more open to multiple ways of engaging all of their students, including students with disabilities" (Rose & Meyer, 2014, p. 89). Many Irish Institutions of Higher Education publically state their commitment to UDL principles and there are many examples of excellent practices in this area. However, the development of UDL can still be seen as experimental and requires more critical attention and evaluation as this theory evolves into efficacious practice.

## Universal Design for Learning

So what is UDL? Universal Design is a term borrowed from architecture and, when translated into education, means designing the course for all potential learners. Until now, outside of architecture, the term Universal Design has been perceived as of relevance to people with disabilities only. However, according to O'Leary and Gorden (2009, pg. 22-23), a focus only on the needs of people with disabilities

> .... is, in fact, contrary to the spirit of Universal Design, which demands that designers consider the full extent of user ability. Importantly, Universal Design leads to good design, with several notable examples demonstrating that those designers who consider the limits of human ability produce designs which are substantially more usable for all its users. Consider for example, the incorporation of an elevator into a building. Such a facility may have been incorporated only due to an accessibility guideline, or legal imperative, to assist wheelchair users. However, such a facility is clearly of great use to a large number of non-wheelchair users. Parents with buggies, delivery personnel or people with luggage are all examples of people for whom the design is improved through the incorporation of the elevator.

UDL is the design of learning for a diversity of learners, proactively anticipating the different learning needs of ALL learners. It recognises the uniqueness of individuals and promotes choice in how learning takes place, and how learners may choose to engage with learning tasks in order to meet the learning outcomes. It applies to all aspects of learning including declarative, procedural, affective, and conditional knowledge and how they come together in the acquisition of knowledge and skills. Thus, UDL can support engagement in the academic process as a key component of retention (Thomas, 2013).

Knarlag (2013) describes four levels of Universal Design (see Figure 1):

1. Level one states that learning is designed to include the variability of learners in ordinary learning activities. According to Rose et al. (2014, p. 89), "the needs of all students are considered minimizing the need for retrofitting and subsequent accommodations."
2. Level two recognises that certain groups of students have similar needs and can be addressed by making adaptations for the group, for example getting a site licence to put software on all college computers for students with dyslexia, ensuring all materials are accessible.
3. Level three recognises the need for some students to have an individualised accommodation such as text to speech software for students with visual impairments.
4. Level four applies to individual students who require additional personal support such as a sign interpreter or a mentor or coach.

Universal Design for Learning is consistent with the approach of learner- centred pedagogy outlined by Huba and Freed (2000), which views learning as a cognitive and social act and emphasises the importance of a culture of engagement and the capacity to persist with that engagement. They state that "learning is socially constructed. In learner centred environments, all learners-students are respected and valued" (p. 33).

This UDL model represents a shift from the more traditional teacher-centered approach, in which the teacher is the source of knowledge, to a model in which the student is actively engaged. In managing this cultural change, a coherent approach to staff development is a key factor in moving forward as academic and other staff will require up-skilling in learner-centred strategies and understanding the barriers students may meet .

## The Bologna Agreement and Its Implications for Higher Education

UDL is a framework within which institutions may meet their Access obligations outlined within the Bologna Policy Forum, statement on social Inclusion policy (2009). Clause 9 of the Agreement, the Social Dimension, which places responsibility on institutions to include students with disabilities on a whole college basis states:

> Access into higher education should be widened by fostering the potential of students from under-represented groups and by providing adequate conditions for the completion of their studies. This involves improving the learning environment, removing all barriers to study, and creating the appropriate economic conditions for students to be able to benefit from study opportunities at all levels. (p. 4)

The Bologna Agreement is an important policy directive for inclusion as students with disabilities are a growing population, making up between 3 to 12% of the student population across the EU. In Ireland we know that they are studying across all curriculum areas, including computing, information technology, journalism, languages, medicine, accounting, law, social science, arts, and education, many of which have mandatory study abroad elements (AHEAD Participation Rates 2013-14). Although they meet the same entry requirements, they have different learning requirements to other students and therefore require greater flexibility in how the learning environment is designed. This includes all aspects including clinical placements.

Another implication of the Bologna Agreement in higher education across the EU is the emphasis on employability. This has resulted in interaction with the workplace. Many professional courses, particularly in the health-related sciences, have a mandatory work placement element. An external element of a course can create a number of challenges for colleges as this creates a more complex learning environment within which student learning is dependent upon the skill of staff not employed within the educational institution itself, but within the work or clinical setting. In relation to students with disabilities, it is important that there are no unnecessary or irrelevant barriers in the transition to the work placement or in the learning environment of the work place. Furthermore, students have a right under Equality in Employment Legislation to receive a reasonable accommodation to enable them to carry out their work, so long as it does not create a disproportionate burden on the employer (Irish Statute Book, 2004). Within the health-related sciences, the clinical placement for students with disabilities requires careful management to ensure that students with disabilities and staff are supported so that they can acquire the requisite skills.

## Case Study

Suzanne was studying for a Nursing Degree. She has dyslexia but was given a place on the course on merit. She coped well enough during the first term in college with the academic demands and submitted her assignments on time, but she got into some difficulties when she went out on her first clinical placement in a hospital. While a needs assessment had been carried out regarding Suzanne's academic skills, it had not looked at the demands of the workplace nor at what accommodations would be feasible in a hospital ward. When she arrived and disclosed her dyslexia and requested the use of her LiveScribe Pen to take her notes, she was refused by the ward supervisor. She said she felt that "I have to fight all the time for everything." This was not a good start and while it was resolved in the end by explaining to the supervisor what a LiveScribe Pen is and agreeing on confidentiality issues that may arise, a more coherent approach to the clinical placement would have anticipated and avoided the difficulty, making her feel more welcome.

## Universal Design for Learning Applied to Clinical Placements

This paper proposes that extending the principles of UDL to the clinical learning environment is consistent with maintaining robust standards. However, it is challenging and it means introducing greater flexibility and variability of options for how to achieve the performance standards outlined by the Nursing Board in the Code of Conduct and Ethics for nurses and midwives. Using the UDL approach within the clinical environment will provide a greater range of means to reach the standards. Rose, Meyer, and Gordon (2014) state that "UDL happens both in the design, and in the use of

design to facilitate the appropriate, dynamic interaction between learner and context" (p. 11).

It should be recognised that the clinical placement represents a totally different learning environment to the academic environment and presents a whole new set of challenges. One of the principal challenges is the non-negotiable element of many of the fitness-to-practice standards, which means that a student must demonstrate that they have reached the standard when working with patients. For example, when a student is working with a fitness-to-practice element such as inserting a needle into a patient's body to take blood, the student must be competent. Managing the transition requires planning so that the student is encouraged to make the links between the academic learning environment and the clinical work placement and to consider the fitness to practice elements of a clinical work place.

## Implementing UDL within a Clinical Learning Environment

Many health-related sciences including nursing contain a mandatory clinical placement as part of the course which takes place in the workplace and in which standards of competence must be demonstrated with no room for error in relation to patient care and safety. This is a complex situation as the student with a disability must acquire proficiency in tasks but also has a legal entitlement to be assessed using accommodations that are reasonable, fair, and which do not compromise on the technical standards of the course.

During the summer school workshop, the question posed to the group was: What would UDL look like within a clinical learning environment? The challenge, therefore, is to explore the clinical learning environment through a UDL lens and to consider how to balance flexibility while also maintaining robust technical practice standards. The Universal Model (Figure 1) illustrates how flexibility and variability can be embedded into the normal learning environment. This model provides a framework for the implementation of UDL in education for a diversity of students. In brief, the summer school focus group used the nine Principles of Universal Design for Instruction (Scott, Shaw, & McGuire, 2003) as the basis for discussion (see Appendix).

## Summary of the Discussion Outcomes

Participants took each of these principles and in small groups explored what they would look like in a clinical setting and what the implementation challenges would be, if any. In addition to summary comments in Appendix 1, the following two examples will provide a sense of how these discussions ensued.

**Example Summary 1**

Principle 1: Equitable Use. The first of these principles states that all the students can access the learning experience equally in real time. On a clinical placement this means ensuring that the students would be able to disclose their impairment in a safe environment so that they would be supported appropriately. To identify the support and accommodations needed on a clinical placement, it is important to ensure that a needs assessment for the placement is conducted. In order to identify any accommodations in the needs assessment it is important to consider what the demands of the placement are. Both the learning objectives and job specification of the placement must be clearly identified to the student prior to the placement. Then the student should be involved in the discussion about how these objectives interact.

The idea of a pre-placement orientation was seen as very helpful as it would enable the student to suggest different ways of doing tasks which could then be discussed with the clinical supervisor (e.g., using technology to take patient notes). The pre-placement visit and involvement of the student and supervisor in the discussion about the variability of how the objectives could be reached was seen as key to getting agreement on accommodations that would work. The discussion on learning objectives also had to explore the variability of assessment methods available to all students. For example, some objectives/tasks may be amenable to a choice of assessment instruments, such as writing a reflective report based on an evaluation of local practice or writing an assessment practice report (McNulty, 2011).

**Example Summary 2**

Principle 5: Tolerance for Error. The principle of tolerance for error created the most concerns and differences of opinion within the group. The words "tolerance for error" could be seen to imply tolerating low standards of performance. On a clinical placement there can be no room for low standards of performance. However it should be recognised that getting it wrong is a part of learning and of eventually getting it right. This principle refers to the creation of a positive culture of reflective learning and constructive feedback that actively supports learning.

There was the unanimous view that within the clinical environment, patient safety and care were the priority and there was no room for error in the execution of many non-negotiable tasks. The discussion

highlighted the need for mentoring and support for the student and the role of consistent, constructive feedback in the acquisition of skills and competencies. The requirement for staff training was raised as a priority for all mentors/supervisors. Such training should equip staff with an understanding of the impact of the impairment and knowledge about accommodations and alternative ways of doing things that compensate for the student's impairment. One example to emerge from the discussion was the use of electronic devices to record notes instead of writing by hand. In managing a clinical situation in which competence to do the job is balanced with the need to provide accommodations, it was felt that greater clarity around the job specification and actual tasks where competence is non-negotiable (e.g., taking blood) is required. There should be a distinction made between the non-negotiable and the negotiable tasks, thus allowing greater flexibility in learning how to do them proficiently. The group clearly felt that students with disabilities who do not reach the standard, with or without accommodations, should not be allowed to pass.

Affective and motivational learning is an integral aspect of the psychology of learning. Therefore, creating a sensitive and supportive learning environment on clinical placements is essential. Mentoring was identified as a model capable of structuring the engagement and motivation of students and of helping them to develop their confidence learning function. According to Thompson (2009) the role of the expert tutor is instrumental in engaging and motivating the student:

> The expert tutor and the less expert work together to achieve the student's goal…unless the relationship between the tutor and the student is highly interactive, learning is not likely to occur, even though active participation is not by itself sufficient for learning. In other words tutors balance between encouraging student responsibility and ownership and guaranteeing successful student performance. (p. 419)

This balance of instruction and challenge is the essence of the supportive relationship on a clinical placement.

## Conclusions

This account of the conference discussions highlights the relevance and application of the UDL approach to clinical placements on health-related science courses with a particular focus on students with disabilities. As a framework, UDL and UDI provided the participating clinicians, academics, and disability officers with key principles of Universal Design to evaluate against the practical day-to-day realities of the clinical environment. The process of applying the nine principles of UDI to clinical placements has led to a greater understanding of UD and has generated new information as examples of good practice based on these principles. Possible actions were shared and discussed by members of the summer school group. This summer school created an environment for in-depth discussion and analysis of the many issues involved in striking a balance between maintaining technical nursing standards, fitness-to-practice requirements, and introducing greater flexibility and tolerance for error. Members of the group openly explored their successes, reservations, and mistakes in relation to the complex issues that could arise. Collectively the group considered theories of UD in practice and discussed what it meant, from their own experience, when applied to the experiences of students with disabilities on clinical placements. As a result of this dialogue and analysis, many ideas and examples of innovative practises on clinical placements were identified and disseminated, thus generating new knowledge.

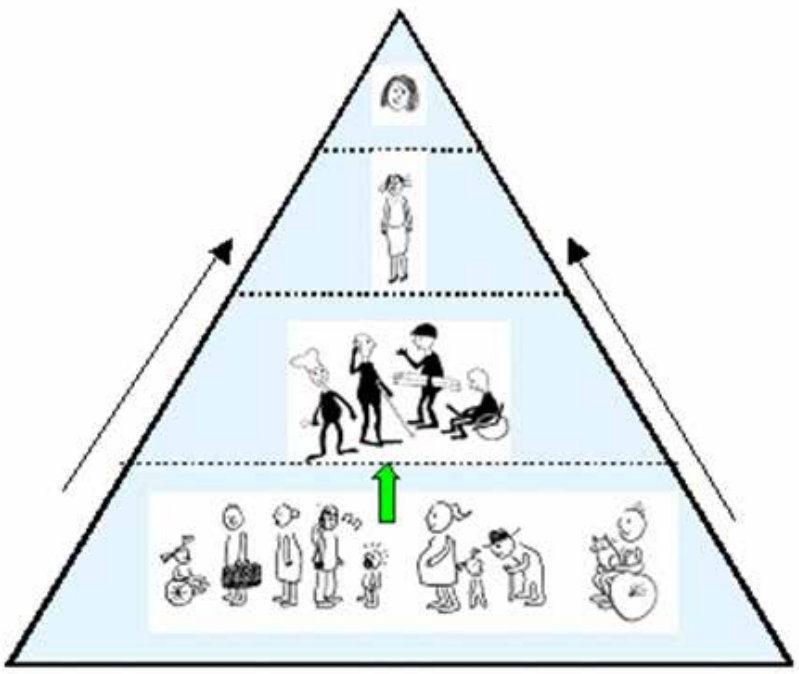

*Figure 1.* Four levels of inclusion within the UDL Model. Knarlag (AHEAD Conference, Dublin, 2013).

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Ann Heelan received her B.A. degree in English and French and a Higher Diploma in Teaching from University College Dublin and a Masters in Education from Sheffield University. Her experience includes working as a teacher in further education and adult education, and a manager of Disability Services for young people with learning difficulties for many years. Currently CEO of AHEAD, the Association for Higher Education, Access and Disability in Ireland, she works with a team of committed Board members and staff to improve the experiences of students with disabilities in both education and work.

Phil Halligan received her B.N.S. degree in Nursing from University College Dublin, Ireland and a Ph.D. from Smurfit Graduate Business School, University College Dublin. Her experience includes working as a critical care nurse for over fifteen years and as an academic in the past fifteen years in many countries worldwide. She is currently a lecturer in the Department of Nursing, Midwifery and Health systems in University College Dublin. She has a strong interest in supporting students with a disability in the teaching and learning support provided for students with disability on work placements. Her research interests include: disability support in clinical practice,reasonable accommodations, leadership and professional practice environments. She can be reached by email at: phil.halligan@ucd.ie.

Mary Quirke received her registered nursing qualification from the Mercy Hospital in Cork, Ireland and her registered Midwife Qualification from the Cork School of Midwifery. Mary qualified as a career guidance counsellor from University College in Cork and her MA.in Adult & Community from Maynooth University. Mary Quirke is currently Assistant Director with AHEAD. While very involved in the work of AHEAD, Mary manages a European network - LINK - which shares learning and practices on Universal Design of Learning, and also manages the projects focusing on transitions including the WAM project (a work placement programme that engages with employers to create opportunity for graduates with disabilities) and GET AHEAD (this focuses more on building the capacity of graduates with disabilities and enabling them to make positive transitions to work).

She has worked in the area of disability, education and guidance for over 20 years now and past roles have included working with the HSE, the National Learning Network, FETAC and the Institute of Guidance Counsellors. Mary has a keen interest in mentoring and empowering people seeking to attain their personal goals; and she has presented at conferences nationally and internationally on the subject and also contributed to publications on the topic. Mary can be reached at mary.quirke@ahead.ie

## Appendix

### Guidelines on the Application of Principles of Universal Design in a Clinical Placement

| Principle | What is it? | Example in practice on clinical sites |
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| Principle 1: Equitable | Clinical placements are designed to be accessible to all the learners and to provide students with equivalence of use.<br>All students learn equally.<br>On the job teaching is made accessible to all the students including those with different learning abilities. All students should have the same means of learning | The tasks to be carried out by the student are clearly identified and in some cases can be viewed on a pre-placement visit.<br>The tasks are broken down into a structured and logical format for example, simple to more complex.<br>Information on the work placement is provided to the student in advance of the commencement of the placement and an assessment of accommodation needs takes place prior to the placement. |
| Principle 2: Flexibility | On the job teaching is sufficiently varied to incorporate a range/choice of acceptable ways of carrying out tasks and demonstrating the learning outcomes are reached in a safe manner. | Placement supervisors/ staff/preceptors have an understanding of the impact of the students' disability and have given consideration to "the different ways of doing things" that could be used by the student, for example with dyslexia.<br>Allow the use of tape recorders and LiveScribe pens to record notes, all of which are subject to confidentiality agreements etc.<br>Learning outcomes for the placement can be prioritised into non-negotiable skills and optional ones, where possible tasks and schedules are adapted to enable the student to reach the learning outcome. For example, a schedule of night time shifts can be amended for a student with fatigue. |

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| Principle 3: Simple and Intuitive | On the job teaching is straightforward and predictable without unnecessary complexity.<br><br>The work placement tasks and performance outcomes are clearly outlined and transparent so the student understands the performance competencies to be assessed. | The practice standards/competencies to be acquired on the placement are clearly communicated to the student and they understand the performance standards to be reached. Self-assessment checklists can provide very effective strategies to support procedural learning and to encourage engagement with the learning task, thus improve learning on the job.<br>Information is provided to the student in advance of the placement to include<br>• maps of the site<br>• advance copies of timetables<br>• glossaries of terms<br>Induction for the placement site is organised in advance of the commencement of the placement.<br>Concept maps of the course are provided to ensure there is an overview clearly identifying where the placement fits with the achievement of course outcomes.<br>Develop a clear procedure for accessing a reasonable accommodation where a student requires additional support. |
| Principle 4: Perceptible Information | On-the-job information is communicated in a range of ways so it is accessible to the student in real time. | A range of modelling templates are provided to learn how to carry out placement tasks (for example, changing a dressing on a patient). These may be available in podcasts and videos for reinforcement of learning. Templates for reporting handovers are available with checklists available. Some examples would include a template time planner including hourly time slots to be completed by the student.<br>Reference materials are available in electronic formats to facilitate independent learning.<br>Information on specific placement procedures such as shift patterns are made available to students in a range of methods.<br>One hospital developed a handover hourly planner to help the student prioritise their day and this helped with care plans for patients.<br>Instructions given to students are clear and provided in a number of formats (e.g., oral and written, electronic, storyboarding).<br>The use of assistive technology such as reading and writing software will enable students to complete tasks and access information in real time |

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| Principle 5:<br>Tolerance of Error | On-the-job teaching anticipates that practice makes perfect. The student is given the opportunity to use the formative learning environment to meet the performance criteria. | Getting things wrong is part of learning to getting them right. Supervision is critical here to provide the student with constructive and non-judgemental feedback on performance throughout their clinical placement.<br>Students have the opportunity to practice the critical skills off the job in simulations to ensure adequate performance of tasks where patient safety is an issue and where there is no room for error.<br>There is transparency of practice standards available to students and students are encouraged to self-assess and rate their own performance against the standards for the tasks. Ensure that the students are engaged with monitoring their own performance and understand the standards to be achieved and can become a self-aware learner.<br>Students with different learning needs are supported, for example, by on-the-job mentors to acquire the habits of mind of the profession, for example reading out notes in front of others can be helped by practice and feedback. |
| Principle 6:<br>Low Physical Effort | On-the-job teaching is designed to minimise non-essential physical effort, unless physical effort is a core aspect of the job. | Tasks are described so they focus on what is to be done and not how, unless the how is a core skill. For example the student will ensure the safe lifting of the patient rather than the student will lift the patient.<br>Templates for the completion of written reports such as handover reports will direct the student and provide them with a structured pathway to independent learning.<br>Consideration is given to duration of placements (the impact of some disabilities will rule out placements with long night shifts), so that the student can reach the learning outcomes |
| Principle 7:<br>Size and Space for Approach and Use | On-the-job teaching is designed with regard for the appropriate use of space and manipulation. | Consideration can be given to the number and location of placements required by the student in order to reach the learning outcomes; to what extent does size matter?<br>An environmental assessment is conducted of the specific workplace to include the physical environment (e.g., lighting, use of equipment such as phones) to identify any potential barriers for the student and to ensure ease of work. |

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| Principle 8: Community of Learners | The environment is created that encourages shared learning and the interaction of learners and staff on clinical placement. | A collective and shared learning environment can be created by the use of orientations and ice-breakers so students get to know each other and staff. Buddy systems and peer learning highlight that learning has an interactive nature rather than being a competition. It is important for clinical staff to have a human approach and to emphasise that the placement is a learning environment. Staff training is an essential aspect of creating a culture of acceptance and respect for diversity; understanding is key. |
| Principle 9: Instructional Climate | Teaching is designed to welcome and include all students. Staff training is essential to ensure that staff are prepared and have some confidence in disability management. | A welcoming environment is created which values diversity and deliberately highlights the benefits of different thinking and approaches within a team. Ensure that all clinical staff have received training on disability awareness so that they have an understanding of the impact of conditions such as dyslexia for example. |