

Impact Assessment for the NES Virtual Patient training tool July 2011

1. What is the purpose of the NES Virtual Patient Project?

This work will develop a range of 3D virtual patient (VPs) avatars and environments to deliver information and assess the health inequalities knowledge of healthcare professionals. VPs being developed will be both interactive and responsive and will depict a wide range of physical appearances including skin colour, hair, clothing, reflecting a variety of socio-economic backgrounds. The VPs will present non-verbal cues to the student as well as a lack of co-operation or understanding relating to a clinical context. VPs will be interactive and adaptable to offer challenging training scenarios over a variety of skill levels. The virtual patient scenarios will examine health inequalities in the following ways:

- From the patient perspective and circumstances
- Access to healthcare provision (from an average patient)
- Access to healthcare provision (from an at risk patient)

The project will use innovative, novel technology to provide access to new inclusive learning methods.

2. Who does the function benefit and what is the relevance of the function to these groups?

All NHS staff in Scotland will be able to access and subsequently benefit from world class training to assist with tackling health inequality where it appears in Scotland, and in the process embrace diversity.

2.1 How will they be affected or how will they benefit from it (whether directly or indirectly)?

Patients will benefit indirectly by having access to healthcare professionals who will be able to recognise health inequalities when presented, and have an improved knowledge, competence and confidence to be able to tackle such inequalities.

3. How does the function fit in with wider objectives (NES, NHS or Government objectives)?

3.1 Links to NES objectives

This project aligns with the work of NES's Remote and Rural Healthcare Education Alliance (RRHEAL). RRHEAL has been designed to meet the specific educational needs of NHS staff who are dedicated to providing health care services in remote and rural areas in Scotland. The virtual patient project will provide training which can be undertaken in either a specialist 3D immersion facility as well as on a standard PC (via a broadband connection). Specialist 3D immersion facilities are now available in Glasgow, Inverness and Stornoway.

3.2 Links to Ministerial Objectives

3.2.1 Better Health Better Care (and a Force for Improvement)

In 2007, the Scottish Government (SG) published “*Better Health Better Care*”. This document has three main focus areas to improve health which are a mutual NHS, helping people to sustain and improve their health, (esp. disadvantaged communities); and ensuring better, local and faster access to health care. This details the commitment of the SG to embrace diversity and reduce health inequalities, especially in deprived communities to improve health outcomes within the whole Scottish population. SG wants to ensure that every citizen in Scotland gets the “*best possible start*” and hence have detailed a number of aims that focus on children and young adults. To provide support for practitioners to be able to tackle health inequalities effectively, SG published (in 2009) the NHS workforce guide, “*A Force for Improvement*”. This document details how the SG expects NHS Scotland staff to work towards addressing health inequalities with patients, their families and carers. More specifically Ffl provides clear actions for NES, stating:

“NHSScotland, in partnership with other key players in service delivery such as....NES....will actively contribute to ensuring that all workers are health inequalities-aware and literate and have the capability and capacity required to tackle health inequalities”.

3.2.2 EquallyWell

The Ministerial Task Force report, “*EquallyWell*¹” (2008), noted that NHSScotland staff can and should have a positive health impact on people living in Scotland; especially where individuals may be at risk of lower health outcomes as a consequence of inequality. EquallyWell makes a number of recommendations for the NHS Scotland workforce which were adapted for Ffl and include the following:

“a joint education/training framework to support practice which is sensitive to inequalities”; and

“a wider concept of the key worker role and the competencies and skills required to carry it out”.

3.2.3 Work of the SGHD

This work will support the introduction of routine enquiry on gender based violence into NHS maternity services, under CEL_41 (2008). This is a three year work programme to identify and manage of gender-based violence across NHS Scotland. The SG recognises training is needed to ensure that staff have skills, knowledge and confidence to support at risk patients safely and effectively.

3.2.4 Quality strategy for NHS Scotland

The need for high quality healthcare has never been greater. The SG has indicated it had an ambitious goal in the Quality Strategy

“to deliver the highest quality healthcare services to people in Scotland and through this to ensure that NHSScotland is recognised by the people of Scotland as amongst the best in the world” (2010).

¹ “Equally Well”– a Ministerial Task Force report on Health Inequalities (2008)

The Scottish Government has suggested that it considers there are three key drivers of change (and one associated driver) for quality improvement in NHSScotland which includes 'person-centred' as a priority.

4. What is the role for NES in developing and delivering the function?

NES have commissioned this work and are funding this project. Access will be made available to all healthcare professionals in training in Scotland to the 3D virtual patients.

4.1 Who are the partners in developing and delivering the function and what are their roles?

Project sponsor: NHS Education for Scotland

Project technical partners: The Digital Design Studio (Glasgow)

4.2 Consider the current status of the function

Is this an existing function?

The creation and delivery of 3D Virtual Patients for Inequalities training is a new focus area for NES.

4.3 Is this a review of an existing impact assessment?

This is a new impact assessment.

4.4 If it is a new function, what is the timeframe for development?

All of the 3D Virtual Patient Project materials will be completed and available from 1st January 2012.

5. Consider the relevance of the function for different groups and possible impact

Considering the six equality strands (gender, disability, race, sexual orientation, age and religion or belief) as well as other relevant factors, like socioeconomic status, geographic disadvantage, literacy, care-giving responsibilities, etc. the following groups have been identified who might be likely to be affected.

Group	What are the potential impacts (negative or positive) for this group?	Why have you identified this impact? What evidence suggests this impact is possible?
Professionals who have limited IT / Technical skills	May not be able to participate or may need additional help and may be disadvantaged	There may be healthcare professionals who have limited IT skills. These individuals may lack confidence, preventing full participation.
It is possible that those with low (or no) IT / Technical skills may feel disadvantaged. However the interface for this training resource uses a standard PC mouse and keyboard. Students will also be able to participate in training sessions which are facilitated by a teacher (in 3D immersion suites), where no IT skills are needed.		
Individuals who have issues with written communication	May not be able to participate as they may not clearly understand instructions and may be disadvantaged	Individuals may find this training package difficult to use, since it uses text.
The 3D Virtual Patients will contain text for decision making and dialogue. However all dialogue will be accompanied with synchronized audio, which should help minimise the risk for participants who find reading difficult.		
Individuals with visual disabilities	<ul style="list-style-type: none"> May need additional help 	Delivery mode is learning in 3D to recreate cadaveric dissection.
It is possible that accessing this training may be difficult for some individuals with various visual disabilities. Visual impairments with colour were considered at the outset of the development of this training package, however ultimately healthcare staff will have to treat patients and need to be able to recognise abnormalities in human skin tone when presented in a clinical setting. Hence contrasting colours were not included. It is known that approximately 2% of population (Ref. NHS Choices) have severe eye conditions such as amblyopia (Lazy eye), or strabismus which makes viewing in 3D difficult or impossible. However as this package will allow students to manipulate the head in 3D, but have the images projects in 2D, it is expected that this will not be problematic. Project 'user-testing' during the QA process will ensure the tool is fit for purpose.		
Individuals who have hearing difficulties	May find it difficult to participate via oral instructions as well as background noise and may feel disadvantaged	This package uses audio for dialogue and to replicate background sounds.
The 3D Virtual Patients will contain audio, not only for instructions but also for creating / supporting the background to the scenario. All dialogue will also displayed be displayed in text across the screen, which should help minimise the risk for some participants. In may be however that background sound is not observed, which may cause complications with subsequent assessment of learning.		

Group	What are the potential impacts (negative or positive) for this group?	Why have you identified this impact? What evidence suggests this impact is possible?
Individuals with Photo Sensitive Epilepsy (PSE)	May not be able to participate due to a visual condition and may feel disadvantaged	Previous research indicates virtual reality training may trigger PSE in some individuals.
<p>There is a risk that this training may not be accessible to individuals who have PSE (or related conditions), which can be caused by flickering or flashing light, sometimes used in virtual reality. Where ever possible development will use the latest information to minimise the risk to those with PSE, however it may not be possible to remove this risk altogether. Presently it is estimated that there would only be an extremely small number of potential participants (<1%) who may be affected in a limited way. In this situation NES would make alternative educational provision.</p>		
Single-handed healthcare teams or individuals in remote and rural locations	May not have the resources to be able to participate. The time constraints placed upon some single handed practitioners may mean they do not have time to attend training at a bespoke (immersion) facility.	Previous studies show individuals working alone or in rural locations find it more difficult to access training. This may present a new training opportunity.
<p>There is a risk that single-handed practitioners or individuals working in remote and rural locations have individual training needs (Scottish Government Health Department), however the virtual patient training is also available online.</p>		

6. Assess the evidence available to support impact assessment

6.1 What evidence is available?

- Photosensitive epilepsy
<http://www.epilepsy.org.uk/info/photosensitive-epilepsy>
- The Open University also produce information to guide making information more accessible. For example “Making Online Learning Accessible”
- NHS Choices (Lazy eye)
<http://www.nhs.uk/conditions/Lazy-eye/Pages/Introduction.aspx>
- The National Framework for Service Change in NHS Scotland Rural Access Action Team Final report
<http://www.sehd.scot.nhs.uk/nationalframework/documents/remoterural/final%20draft170505.pdf>
- Special Educational Needs and Disability Act 2001 (SENDA)
http://www.opsi.gov.uk/acts/acts2001/ukpga_20010010_en_1
- Disability Rights Commission’s Code of Practice for providers of Post 16 education and related services - DDA 1995: Part 4 (Scotland)
<http://83.137.212.42/sitearchive/DRC/pdf/COPSCHADDSCOT06-06.pdf>
- BECTA factsheets on ‘Using ICT to support visual impairment’
http://foi.becta.org.uk/content_files/corporate/resources/foi/archived_publication/cap_visual_impairment.pdf
- Good practice guides for staff in Higher Education published by Skill
<http://www.skill.org.uk/page.aspx?c=187&p=301>
- The Disability Discrimination Act Part 4 Learning and Teaching Good Practice Guide
http://skillcms.ds2620.dedicated.turbodns.co.uk/uploads/media/learning_and_teaching.doc

6.2 How old is the data?

Variable (within last 5 years)

6.3 Are there any known quality issues with the data?

No

7. Identify equality & diversity related risks associated with the function

Identify possible risks of:

7.1 Direct discrimination

There is no direct discrimination.

7.2 Indirect discrimination

There may be limited indirect discrimination to groups listed above, and some may be unavoidable. However NES will wherever possible work towards ensuring that all reasonable adjustments are made to prevent discrimination.

8. Negative impact or outcome

None

8.1 Unintended consequences

NES will work to ensure any materials of this nature are provided to the widest possible audience, by making the resource available in multiple formats such as:

- Via an immersive facility able to project in 3D
- Via a standard computer screen, showing 3D, but projecting and providing human interface in 2D (which will be via a standard PC screen, mouse and mouse. This is the same image as shown above, but is in 2D)

This 3D training resource will supplement and enhance traditional reference materials. It is possible that as this is a communication tool (rather than a specific clinical tool), that there will be generic components or scenarios which could be used by other healthcare professionals, individuals from the social care sector or indeed educational organizations, both in Scotland and elsewhere.

8.2 Is further Equality and Diversity Impact Assessment required? Why or why not?

It is advised that further Impact Assessment work is not required at this time. Very minimal negative impacts have been highlighted, however, it is suggested that a further review is carried out once the package is developed fully and user testing has taken place.

8.3 What general actions will be taken as a result of this Impact Assessment?

The main objective of this project is to provide healthcare staff in Scotland access to communication training via the virtual patient model. A team of educational experts, public healthcare staff and technical staff will ensure that recommendations of this impact assessment are implemented.

9. What specific actions will be taken as a result of this Impact Assessment?

Issue	Action	By whom?	By when?	Additional resources required?	Expected outcome?
Individuals with limited IT skills	Ensure 'Industry standards' are being deployed and used.	DDS	With pilot groups during development, to allow changes to be implemented.	No	Standards can be implemented which can prevent discrimination.
Individuals with visual disabilities	Ensure all current standards for web based delivery of educational resources are being adhered to.	DDS	With pilot groups with visual impairments during the development and QA process,	RNIB	Ensure colours used in the 3D model do not discriminate against people with visual impairments.

10. How will the results of this Impact Assessment be communicated?

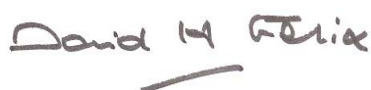
The IA will be available to all stakeholders and communicated via the Project Management Board. It will also be published on the NES website.

11. What else is needed as a result of this study/specific risks?

None

12. Positive impact or outcome

It is well known to NES that patients have a diverse range of needs, and have certain characteristics which if ignored by healthcare staff can lead to widening inequality. This training will provide information, highlighting to a range of healthcare professionals some of the challenges faced by specific patient groups which can lead to inequality in health. Increased knowledge within healthcare staff can raise awareness and foster a culture of change to ensure practitioners are not only complying with the Law but also acting in a way which is inclusive and embracing of all peoples.




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