

Health and care:

Data Protection Impact Assessment (DPIA)

January 2023	5.0	Claire Robinson	Create formalised Data Protection Impact Assessment.
June 2024	6.0	Claire Robinson	Review Data Protection Impact Assessment to follow NHS guidance.

Introduction

This document details the data protection impact assessment (DPIA) carried out by Beacon Medical Systems Ltd with regard to the use of Pando as a mobile and/or web application at any given NHS trust, hospital, community care setting, GP surgery or other organisation.

Purpose:

The purpose of a data protection impact assessment is to identify any new collection or uses of potentially sensitive data, to assess the possible risks associated with these and to allow organisations to make an informed decision about the technologies they employ with regards to data collection, use, or sharing.

Scope

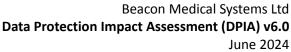
This data protection impact assessment relates to the use of Pando as a mobile and/ or web application within a clinical /healthcare/community setting. It refers to the current data protection laws as they stand, although it will continue to be reviewed regularly to take into consideration ongoing regulatory change. Forward Clinical Ltd reserves the right to update this data protection impact assessment as necessary, particularly with regard to the changing landscape of data protection law.

Background

A <u>data protection impact assessment (DPIA)</u> will help you to identify and mitigate potential data protection risks to an acceptable level before using or sharing (processing) data that identifies individuals (personal data).

A DPIA will also help you meet a number of data protection legal requirements including:

- <u>Data protection by design</u> privacy and data protection issues must be considered at the start, or in the design phase, of a new system, product or process, then continuously while it exists
- <u>Accountability</u> your organisation is responsible for showing how it complies with data protection laws.
- <u>Transparency</u> personal data must be used and shared in a transparent way.





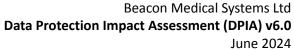
• <u>Security</u> - adequate measures need to be in place to protect data. This can range from policies and procedures to technical security measures such as encryption of data.

DPIAs are mandatory when there is a high risk to individuals, such as when using the health and care data of a large number of people. However, health and care organisations are strongly advised to complete a DPIA when using and sharing personal data in a new or substantially changed way.

A DPIA involves a risk assessment. If a high-level risk remains after applying mitigations, then you must consult with the Information Commissioner's Office (ICO) for further advice before starting to collect, use or share the data.

This DPIA is a live document – we will update it if there are any changes to:

- the purpose why we are proposing to use or share personal data
- the manner how we will use or share the data
- who is involved the organisations using and sharing personal data





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1 Screening questions

1.1 Do you need to do a DPIA?

In summary, Pando is a smartphone application and communication tool for clinical teams. Below are the key features/uses of Pando.

- Secure, compliant instant messaging, including sharing of photos and files
- Live task management and workflow tracking
- Sharable patient profiles & patient lists
- Hospital directory function
- Forums feature.
- Video consultations for some clients (see separate DPIA).

We have considered whether we need a DPIA and as the personal data used on the application securely transfers and stores private health records and is likely to raise privacy concerns, we have identified a need to create and update a DPIA for the Pando application.

1.2 Summary of how data will be used and shared

Pando do not have a direct relationship with the data subject and the data subjects have as much control over their data when their clinician uses Pando as they do in any other situation where their Article 9 data is handled by their healthcare provider. The stipulated and expected use is instant messaging not as the core patient record.

Pando operates a Client-Server model – sharing data, including personal patient data, over SSL encrypted links (256-bit) using Internet connections provided by Trust (or other appropriate Wi-Fi when clinicians are roaming on-site) or 3G/4G/5G. Data is securely transmitted, processed and stored on the Pando infrastructure. Retention is governed by the appropriate retention schedules.

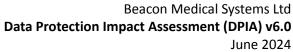
1.3 Description of the data

\boxtimes	Personal data [individuals can be identified]
	Pseudonymised data [identifiers, for example name or NHS number, are
	replaced with a unique number or code (a pseudonym)]
\boxtimes	Anonymous data [not identifiable, for example trends or statistics]

2 Why do you need the data?

2.1 What are the purposes and benefits for using or sharing the data?

Pando is a smartphone application and communication tool for clinical teams. Pando has been purpose-built for medical staff and is designed to support high-quality, secure and compliant instant





messaging for individuals or groups. Available for both iOS and Android, the app has a few simple key features:

- Secure, compliant instant messaging, including sharing of photos and files
- Live task management and workflow tracking
- Sharable patient profiles & patient lists
- Hospital directory function
- Forums feature.
- Video consultations for some clients (see separate DPIA).

Modern clinical and community care is fast-paced, and increasingly complex as clinical teams deal with a higher volume and turnover of patients whose care typically involves multiple tests and interventions. As a result, teams must collaborate ever more closely to deliver high quality care. This is currently difficult to achieve since hospital communication systems rely on technology from the 1970s such as pagers, telephone switchboard and printed lists of patients; our belief as clinicians ourselves, and from survey data collected from over 120 doctors, is that these tools are not fit for purpose in the modern NHS. Busy NHS clinicians (and their associated supporting colleagues) are rarely desk-bound with immediate access to a desktop PC or laptop whilst delivering, managing, or planning patient care.

Messaging systems such as WhatsApp are suboptimal because of the IG and data protection challenges that they pose. It is difficult to ensure that their use complies NHS DSP Toolkit Guidelines, and the Data Protection Act 2018. Meta who owns WhatsApp have been subject to many privacy issues and fined by the regulatory authorities for violations.

Pando additionally provides high-levels of technical data security assurance such as high levels of encryption in transit and at rest (minimum AES 256-bit standard for data encryption in-transit and at-rest). In transit data is encrypted and transferred via HTTPS (TLS v 1.2 min) protocol. When transmitting messages devices use an SSL handshake with 2048-bit RSA keys to encrypt the socket connection to Pando servers. The infrastructure supports the sync of RSA public keys. To further enhance security OWASP certificate pinning has been implemented and access to Pando servers is only possible via SSH keys.

3 What data do you want to use or share?

3.1 Can you use anonymous data for your purposes? If not, explain why.

	Yes
\boxtimes	No
	Unsure

No, anonymous data wouldn't be suitable for the purposes of Pando. Pando is designed to assist healthcare professionals in their clinical workplace, which involves handling sensitive healthcare data. While anonymous data might be useful in some contexts, it wouldn't serve our intended purpose, which is to facilitate communication and collaboration among healthcare professionals regarding patient care.



The data handled by Pando is directly related to patient care and contains sensitive information about individuals' health conditions and treatments. This data is necessary for healthcare professionals to provide effective care to their patients.

Pando remains the data processor for the patient's personal or identifiable data, and it is encrypted when stored by us.

3.2 Which types of personal data do you need to use and why?

\boxtimes	Forename	\boxtimes	Physical description, for example height	\boxtimes	Photograph / picture / of people
	Surname		Phone number		Location data e.g. IP address (aggregated) Other
\boxtimes	Address	\boxtimes	Email address		Audio recordings
\boxtimes	Postcode full	\boxtimes	GP details	\boxtimes	Video recordings
\boxtimes	Postcode partial	\boxtimes	Legal representative name (personal representative)	\boxtimes	Other Free form notes that may include other personal data.
\boxtimes	Date of birth	\boxtimes	NHS number		None
\boxtimes	Age	\boxtimes	National insurance number		
\boxtimes	Gender	\boxtimes	Other numerical identifier		

3.3 Data protection laws mean that some data is considered particularly sensitive. This is called special category data. Data that relates to criminal offences is also considered particularly sensitive. Which types of sensitive data do you need to use or share?

Тур	e of data	Reason why this is needed (leave blank if not applicable)			
	Information relating to an individual's physical or mental health or condition, for example information from health and care records	Pando is designed to be used by trained healthcare professionals in their clinical workplace. Patients would expect their data to be processed as part of their ongoing care and Pando is a tool that assists healthcare professionals.			
	Biometric information in order to uniquely identify an				



	individual, for example facial	
	recognition	
	Genetic data, for example details about a DNA sample taken as part of a genetic clinical service	This data is not needed however may be processed when necessary to provide individual care.
	Information relating to an individual's sexual life or sexual orientation	This data is not needed however may be processed when necessary to provide individual care.
\boxtimes	Racial or ethnic origin	This data is not needed however may be processed when necessary to provide individual care.
	Political opinions	
	Religious or philosophical beliefs	
	Trade union membership	
	Information relating to criminal or suspected criminal offences	

3.4 Who are the individuals that can be identified from the data?

\boxtimes	Patients or service users
\boxtimes	Carers
\boxtimes	Staff
	Wider workforce
	Visitors
	Members of the public
	Other

3.5 Where will your data come from?

The data for Pando primarily comes from healthcare professionals using the platform in clinical settings. The data includes personal patient data, which is transmitted, processed, and stored on the Pando infrastructure.

The data originates from interactions between healthcare professionals, such as messages, notes, and discussions related to patient care. This can include sensitive information about patients' health conditions, treatments, medications, test results, and other relevant clinical data.



3.6 Will you be linking any data together?

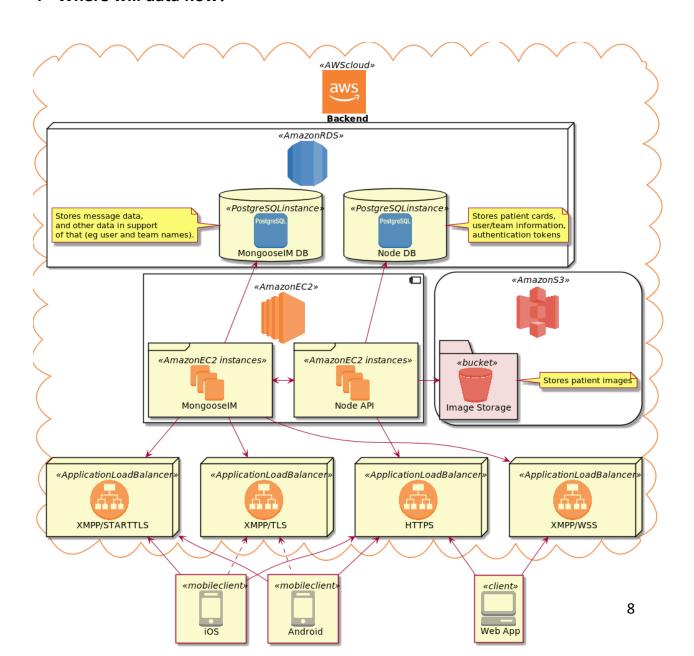
\boxtimes	Yes
	No
	Unsure

3.7 Will it become possible, as a result of linking data, to be able to identify individuals who were not already identifiable from the original dataset?

	Yes
\boxtimes	No
	Unsure

Data is linked in order to validate an NHS user using their email address.

4 Where will data flow?





Tabular Data Flows and Security

Flow Ref	Flow Name	From	То	Method	Security Controls	Storage
1	Image Access	Node API	Apps	System Access (HTTPS)	TLS / ABAC	On-device cache
2	Image Send	Apps	Node API	System Transfer (HTTPS)	TLS / ABAC	AWS S3 Encrypted Storage
3	Message Transmit	Apps	MongooselM	System Transfer (XMPP)	TLS / ABAC	AWS RDS Encrypted Database
4	Message Receive	MongooselM	Apps	System Transfer (XMPP)	TLS / ABAC	On-device cache
5	Metadata Access	Node API	Apps	System Access	TLS / ABAC	On-device cache
6	Metadata Store	Apps	Node API	System Transfer	TLS / ABAC	AWS RDS Encrypted Database
7	Patient Data Access	Node API	Apps	System Access	TLS / ABAC	On-device cache
8	Patient Data Store	Apps	Node API	System Transfer	TLS / ABAC	AWS RDS Encrypted Database

General Notes:

- Pando uses TLS to provide Confidentiality, Integrity, and System-level Authentication for all connections both internally and externally.
- User-level Authentication operates by limited-lifetime access tokens which are proven via OAuth or by an authentication token code sent via email.
- Pando uses fine-grained access controls based on Identity, Network and Team membership,
 Patient assignment, and previous sharing actions such as Image messages, forming an
 Attribute-Based Access Control system with a bespoke policy driven by code.
- The on-device cache may be encrypted or in-memory only, depending on platform (see notes).

Beacon Medical Systems Ltd Data Protection Impact Assessment (DPIA) v6.0 June 2024



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BEACON MEDICAL SYSTEMS LIMITED Company number **14638585** 5 New Street Square, London, United Kingdom, EC4A 3TW

- 1. Image Access The mobile and web applications access images in messages by reference, requesting them from our API. Such access is communicated over TLS, and access-controls are in place within the API. Images are stored encrypted on the AWS S3 system, and after access may be held in a short-lived on-device cache.
- 2. Image Send Pando Apps upload images either directly from the camera subsystem or via the Image Gallery. The sender sets access-control requirements in terms of Team or Identity. Images uploaded to Patient cards have access controls implicitly based on access to the Patient. Images held within the Image Gallery are held on the device within the application filesystem area.
- 3. Message Transmit Pando Apps send messages via XMPP. Message destinations are checked under RBAC rules. Messages are archived under long-term retention policy on an AWS RDS encrypted database and may be held in a short-lived on-device cache.
- 4. Message Receive Pando Apps receive messages via XMPP. Message destinations are checked under RBAC rules. Messages are archived under long-term retention policy on an AWS RDS encrypted database and may be held in a short-lived on-device cache.
- 5. Metadata Access Metadata about images, group membership, etc is accessed via the Node API by Pando Apps. The metadata includes the information used for access control decisions. The information may be held in a short-lived on-device cache.
- 6. Metadata Store When storing changes to metadata, Apps send this information to the Node API where (subject to access controls) it is stored in an AWS RDS encrypted database.
- 7. Patient Data Access Data about Patients, etc is accessed in the same way as the metadata. The information may be held in a short-lived on-device cache.
- 8. Patient Data Store When storing patient data, Apps send this information to the Node API where (subject to access controls) it is stored in an AWS RDS encrypted database.

4.1 Confirm that your organisation's information asset register (IAR), record of processing
activities (ROPA) or your combined information assets and flows register (IAFR) has
been updated with the flows described above.

	165		
	No		
	Unsure		
4.2 \	4.2 Will any data be shared outside of the UK?		
	Yes		
\boxtimes	No		
	Unsure		
	☐ Yes ☐ No		



5 Is the intended use of the data lawful?

5.1 Under Article 6 of the UK General	Data Protection Regu	ılation (UK GDPF	≀) what is you।
lawful basis for processing person	nal data?		

	(a) We have consent	
	(b) We have a contractual obligation	
	(c) We have a legal obligation	
\boxtimes	(e) We need it to perform a public task	
	6(1)(e) "necessary for the performance of a task carried out in the public interest or in the exercise of official authority". 9(2)(h) 'medical diagnosis, the provision of health or social care or treatment or the management of health or social care systems"	
	(f) We have a legitimate interest	

5.2 If you have indicated in question 3.3 that you are using special category data, what is your lawful basis under Article 9 of the UK GDPR?

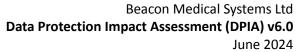
	(b) We need it to comply with our legal obligations for employment	
	(f) We need it for legal claims, to seek legal advice or judicial acts	
	(g) We need to comply with our legal obligations to provide information where there	
	is a <u>substantial public interest</u> , as set out in <u>this list</u>	
\boxtimes	(h) We need it to comply with our legal obligations to provide or manage health or	
	social care services	
	(i) We need it to comply with our legal obligations for public health	
	(j) We need it for archiving, research and statistics where this is in the public interest	

5.3 What is your legal basis for using and sharing this health and care data under the common law duty of confidentiality?

\boxtimes	<u>Implied consent</u>
	<u>Explicit consent</u>
	Section 251 support
	Legal requirement
	Overriding public interest

5.3.1 Please provide further information or evidence.

Not applicable





6 How are you keeping the data secure?

6.1 Are you collecting information?	

\boxtimes	Yes
	No

6.2 How is the data being collected?

The data for Pando comes from healthcare professionals using the platform in clinical settings.

Pando operates a Client-Server model – sharing data, including personal patient data, over SSL encrypted links (256-bit) using Internet connections provided by Trust (or other appropriate Wi-Fi when clinicians are roaming on-site) or 3G/4G/5G.

6.3 Are you storing information?

\boxtimes	Yes
	No

6.3.1 How will information be stored?

Storage location		
	Physical storage, for example filing cabinets, archive rooms etc	
	Local organisation servers	
\boxtimes	Cloud storage	

6.4 Are you transferring information?

\boxtimes	Yes
	No

6.5 How will information be transferred?

In transit data is encrypted and transferred via HTTPS (TLS 1.2 min) protocol. When transmitting messages devices use an SSL handshake with 2048-bit RSA keys to encrypt the socket connection to servers. Also supports the sync of RSA public keys, ensuring high levels of encryption. To further enhance security - OWASP certificate pinning implemented and access to Pando servers is only possible via SSH keys.



6.6 How will you ensure that information is safe and secure?

Security measure		Details (leave blank if not applicable)
\boxtimes	Encryption	The data is encrypted in transit and at rest (following
		best practice as defined in ISO27001 ISMS).
\boxtimes	Password protection	Password protection (including BCrypt hashing) and multi
		factor authentication.
\boxtimes	Role based access	Access to patient identifiable data will be strictly limited.
	controls (RBAC)	
\boxtimes	Restricted physical access	Access to data centres is strictly limited.
\boxtimes	Business continuity plans	Business Continuity and Disaster Recovery policies,
		procedures and testing as part of ISO 27001 preparation
		and alignment
\boxtimes	Security policies	Detailed in ISO27001 aligned ISMS.
\boxtimes	Other	DSP Toolkit to Standards Exceeded, Cyber Essentials Plus.

6.7 How will you ensure the information will not be used for any other purposes beyond those set out in question 2.1?

Specify the measures below which will be used to limit the purposes the data is used for.

[Put an \boxtimes next to all that apply and provide details.]

Security measure		Details (leave blank if not applicable)
\boxtimes	Contract	For example, a call off contract from GCloud etc.
\boxtimes	Data processing agreement	This sets out the arrangements between a controller and processor and is legally binding.
\boxtimes	Data sharing agreement	This sets out the arrangements for sharing data between the organisations involved – it may or may not be legally binding depending on the context.
\boxtimes	Data sharing and processing agreement (DSPA)	Where appropriately completed, this is a legally binding agreement that sets out the arrangements for processing and/or sharing data, and/or joint controller arrangements.
\boxtimes	Staff training	Users complete mandatory DSP training.
	Other	[please state]

7 How long are you keeping the data and what will happen to it after that time?



7.1 How long are you planning to use the data for?

All data will be stored in accordance with the Records Management Code of Practice for Health and Social Care 2021. However, we would delete the data earlier than suggested by this code if they were informed that the condition of Schedule 9(3) GDPR and s. 11(1) Data Protection Act 2018 no longer applies.

7.2 How long do you intend to keep the data?

Adult health records need to be kept for a minimum of 8 years from the time they were last used. The Records Management Code of Practice sets out the retention period for health and care records.

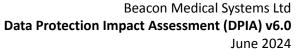
7.3 What will happen to the data at the end of this period?

Act	ion	Details (leave blank if not applicable)
	Secure destruction (for example by shredding paper records or wiping	
	hard drives with evidence of a certificate of destruction)	
	Permanent preservation by transferring the data to a Place of	
	Deposit run by the National Archives	
	Transfer to another organisation	
	Extension to retention period	
	It will be anonymised and kept	
	The controller(s) will manage as it is held by them	
\boxtimes	Other	Review in conjunction with the data controller.

8 How are people's rights and choices being met?

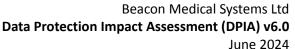
8.1 How will you comply with the following individual rights (where they apply)?

Individual right	How you will comply (or state <i>not applicable</i> if the right does not apply)	
The right to be informed The right to be informed about the collection and use of personal data.	We have assessed how we should inform individuals about the use of data in relation to the Pando application. We consider the communications methods below meet this obligation.	





		Privacy notice(s) for all relevant organisations
		Information leaflets
		Posters
		Letters
		Emails
		Texts
		Social media campaign
	\boxtimes	DPIA published
		Other
		Not applicable
The right of access The right to access details of data use and receive a copy of their personal information - this is commonly referred to as a subject access request.		do will assist the controller in the event of a data subject uiring access.
The right to rectification The right to have inaccurate personal data rectified or completed if it is incomplete.	1	do will assist the controller in the event of a data subject uiring rectification.
The right to erasure The right to have personal data erased, if applicable.	if d	applicable in direct care. Pando will assist the controller ata is entered into the app in error and needs to be eted.
The right to restrict processing The right to limit how their data is used, if applicable.	Pando will act on the instructions of the controller.	
The right to data portability The right to obtain and re-use their personal data, if applicable.	Not	applicable.





The right to object	Unlikely to be applicable in individual care. Pando will take
The right to object to the use and sharing of personal data, if applicable.	instruction from the data controller.

8.2 Will the national data opt-out need to be applied?

	Yes
\boxtimes	No

8.3 Will any decisions be made in a purely automated way without any human involvement (automated decision making)?

	Yes
\boxtimes	No
	Unsure

8.4 Detail any stakeholder consultation that has taken place (if applicable).

Various consultations with health care professionals over the last decade.

9 Which organisations are involved?

9.1 List the organisation(s) that will decide why and how the data is being used and shared (controllers).

It is important to note that Pando is not the data controller – the data controller is the employer of the user (e.g. clinic, GP surgery, hospital, care home etc.). Our users (clinicians, healthcare, care workers using the service with patients)

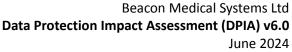
NHS England has advised healthcare organisations to process patient data for the delivery or administration of care under the following legal bases:

6(1)(e) "...necessary for the performance of a task carried out in the public interest or in the exercise of official authority...".

9(2)(h) '...medical diagnosis, the provision of health or social care or treatment or the management of health or social care systems..."

For the purposes of processing patient data Pando is acting under the instructions of the user's organisation and it is the organisation (data controller) that determines the lawful basis for processing. in most cases the organisation is using Article 6 (1) (e) (processing in the exercise of official authority vested in the controller). available here.

9.2 List the organisation(s) that are being instructed to use or share the data (processors).





Pando acts under instruction from those listed in question 9.1, for example they are likely to be told:

- what data to collect
- who to collect data from
- how the collection is legal
- the purpose for the collection
- who to share the data with
- how long to keep the data

9.3 List any organisations that have been subcontracted by your processor to handle data

Pando is hosted on London Cluster's secure ISO27001 certified AWS servers. Other organisations that act as subprocessors for the support and development of the Pando product are listed on our website.

9.4 Explain the relationship between the organisations set out in questions 28, 29 and 30 and what activities they do

AWS host the data. For other details please see 9.3 and 3.6.

9.5 What due diligence measures and checks have been carried out on any processors used?

Due	e diligence measures	Details (leave blank if not applicable)	
\boxtimes	Data Security and Protection	To standards exceeded.	
	Toolkit (DSPT) compliance		
\boxtimes	Registered with the Information		
	Commissioner's Office (ICO)		
\boxtimes	Digital Technology Assessment		
	Criteria (DTAC) assessment		



10 What data protections are there and what mitigations will you put in place?

10.1 Complete the risk assessment table. Use the risk scoring table to decide on the risk score.

Risk assessment table

Risk ref no.	Description	Risk score* (L x I)	Mitigations	Risk score* with mitigation s applied
01	Staff mobile devices lost or stolen – subset of PID digital records no longer secured	or stolen – subset of PID (2) PIN code lock-down of all mobile devices at 15		4
			user. (3) Remote Wipe function is included in common Exchange/ActiveSync environments, free on iOS/Android and EMM (Enterprise Mobile Management) systems are also available.	
	PID digital records intercepted over internet connections	9	(1) Server-Side Encryption (SSE), using 256-bit Advanced Encryption Standard (256-bit AES) in transit and at rest.	
02			(2) In transit data is encrypted and transferred via HTTPS (TLS 1.2 min) protocol. When transmitting messages devices use an SSL handshake with 2048-bit RSA keys to encrypt the socket connection to servers. Also supports the sync of RSA public keys. To further enhance security - OWASP certificate pinning implemented and access to Pando servers is only possible via SSH keys.	4
			(3) Strong Password policy enforced.	
03	PID digital records stolen from server platform	6	(1) Insider-hacking threat eliminated; no readable PID by any system admin or developer ('data privacy by default' methodology) if an unauthorised database extraction occurs.	2
			(2) Internet-based hacking threat significantly reduced by SPI and application-based firewall (layer-7), automated account lockouts (security policy) after three failed attempts, strong password	



enforcement (security policy) and AES-256 server data encryption.	
(3) Regular penetration testing carried out for both servers and smartphone application.	

*Risk scoring table

		Impact (I)				
		Negligible (1)	Low (2)	Moderate (3)	Significant (4)	Catastrophic (5)
	Rare (1)	1	2	3	4	5
Likelihood	Unlikely (2)	2	4	6	8	10
(L)	Possible (3)	3	6	9	12	15
	Likely (4)	4	8	12	16	20
	Almost certain (5)	5	10	15	20	25

11 Review and sign-off

Reviewer sign-off	Reviewer sign-off			
Reviewer name:	Claire Robinson			
Reviewer job title:	le: Data Protection Officer			
Reviewer contact details:	dpo@helloPando.com			
Date of review:	April 2024			
Comments: Update 26 th April 2024 to follow NHS guidance. Update 8 to alter DPIA into new NHS IG template.				
Date for next review:	June 2025 or when a significant change is made to the Pando App.			