The Pistoia Alliance ‘User Experience for Life Sciences’ (UXLS) Project and Community

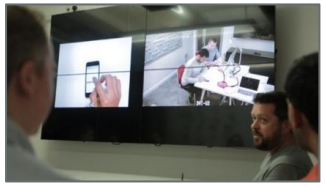
Rob Graham, Global Head of UX, AstraZeneca
UXLS Steering Group Member

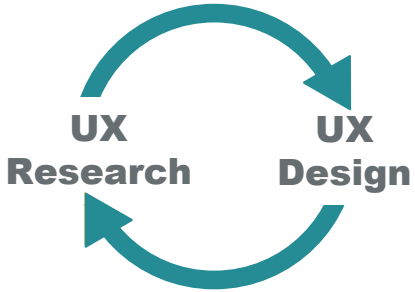
Image credit: Robert Slowley Photography

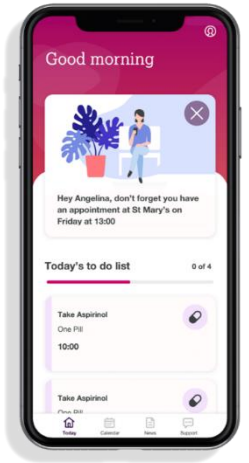
What is User Experience (UX)?

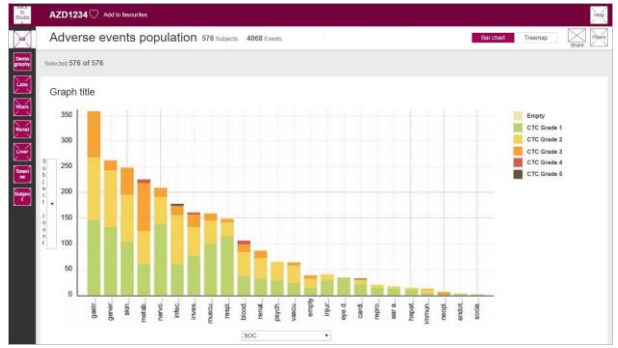
** Users can include Scientists, other Colleagues, Patients, HCPs, etc.*

UX describes the iterative process of applying User* insights (from interviews, usability testing, etc.) to design digital products (i.e., apps, websites, connected devices, etc.) which are easy and delightful to use









A specialist scientific discipline, with a rich history, UX methodology can also be applied to non-digital/ multi-channel services and other business problems – a.k.a. 'Design Thinking'

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What is UXLS?

A Pistoia Project, sponsored by 8 steering group members, made up of a community of >120 UX specialists from big pharma, academia, and other vendors/ technology organisations.

We aim to increase the adoption of good UX practices in the Life Sciences domain.

See https://www.pistoiaalliance.org/community/user-experience-for-life-sciences/ for further details

Steering committee

NOVARTIS

MERCK

AstraZeneca

BAYER

GSK

white space

RockStep
SOLUTIONS POWERING RESEARCH

LEXITECH

Other project members include:

BenchSci

EMBL-EBI

wellcome sanger institute

CCDC

Bristol-Myers Squibb

Pfizer

ChemAxon

Linguamatics

Roche

SIB
Swiss Institute of Bioinformatics

Biogen

ELSEVIER

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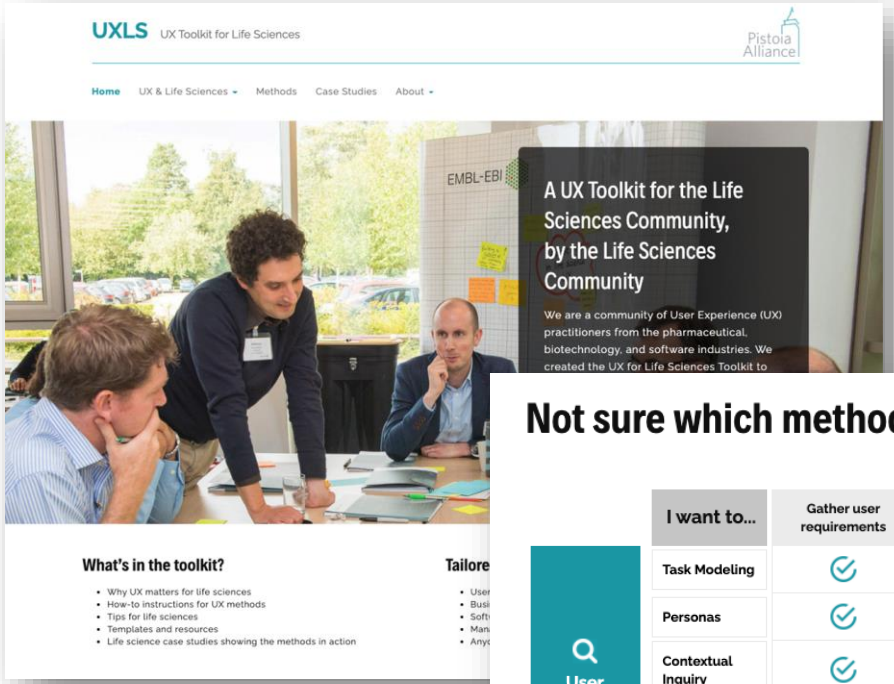
The UXLS Toolkit



Not sure which method to use?

	I want to...	Gather user requirements	Decide what to focus on	Generate ideas and designs	Evaluate a design or product	Measure UX	Compare different designs or products
User Research	Task Modeling	✓	✓				
	Personas	✓	✓				✓
	Contextual Inquiry	✓	✓				
	User Interviews	✓	✓		✓	✓	✓
	JTBD	✓					
UI Design	Card Sorting	✓		✓			
	Prototyping			✓	✓		
Evaluation	SUS				✓	✓	✓
	HEART				✓	✓	
	Usability Testing				✓	✓	✓

Case Studies

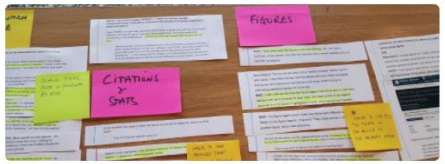
See the UX methods in action with real life sciences examples from our Pistoia Alliance members.

Using the HEART framework to define quantitative metrics for the Open Targets Platform

Open Targets | Jan 2018

Find out how Open Targets used the HEART framework to define quantitative metrics collaboratively and supplement qualitative user feedback.

HEART

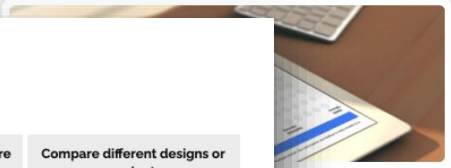


Europe PMC personas and scenarios

Europe PMC | Jan 2018

Learn how Europe PMC used personas to learn more about scientists' literature search behaviour, and understand how to build trust in key user communities.

PERSONAS



port Feedback

017

metrics to gain usability
ncrease engagement with

Clinical Trials Analysis Tool Redesign

AstraZeneca | Jun 2017

Learn how AstraZeneca used prototyping and usability testing to get real user feedback and redesign a key tool to be more intuitive

See https://uxls.org

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UXLS Maturity Model

PISTOIA ALLIANCE
USER EXPERIENCE
FOR LIFE SCIENCES

	1 What UX?	2 Isolated UX Projects	3 Intentional UX investment	4 Embedding UX into teams	5 Transformational UX and services
Impact What Impact is UX having on the organisation.	Incidental improvements. No UX and improvements are incidental rather than designed. For example, improved search experience on an interface because you copied a product like Google.	Reactive UX. Enhancing or tinkering with existing systems rather than being involved with new developments. For example, improving the usability of say an existing search results interface because users are complaining about it.	Improvement by Design. UX is involved and integrated into new developments or off-the-shelf software from the beginning. For example, the deployment and design of a new off-the-shelf LMS system.	New concept and proactive UX. A project is starting with UX being a primary driver or UX specialists are able to initiate value-propositions for the business. For example, user research has identified insights and opportunities that will drive a new value proposition.	Strategic design leadership means that UX is integral to strategic forward mapping. For example, a truly patient centric product line.
UX Metrics and Analytics How are metrics collected and used.	None	Metrics are collected but not necessarily used and reported. For example, it maybe word of mouth or web analytics. You conduct a usability review and no actions are taken.	Collecting data (maybe only one type of data) and using it improve the quality of a product. For example, using SUS to track improvements on a specific feature.	UX metrics are formalised within a framework and form an integral measurement of ongoing business value. For example, establishing a Google HEART framework where metrics are tracked and shared with key leaders.	Organisational expectation that everything has UX metrics and a formalised framework. UX metrics feed into an organisational wide framework for senior leaders. For example, strategic objectives are defined in terms of UX metrics.
Process Culture of embedding of UX techniques	None	Limited (one-time) or project-specific (exploring UX techniques). For example, mocking up UI's or task flows to get stakeholder alignment.	Defined, repeatable UX techniques but not always integrated into product lifecycle. Have a set of UX techniques that you can reuse because you have defined the process of using them. For example, maintain a set of standard templates for user consent and usability testing that teams can re-use.	Continuously improve UX techniques and processes. For example, after a UX engagement you might review predicted engagement time, techniques and their effectiveness.	UX techniques are integrated consistently into the project delivery process. For example, in any product development they are embedded into the development cycle such as UAT's.

Version 1
Released on 23 September 2020

See https://www.pistoiaalliance.org/blog/measuring-ux-maturity-with-a-uxls-maturity-model/

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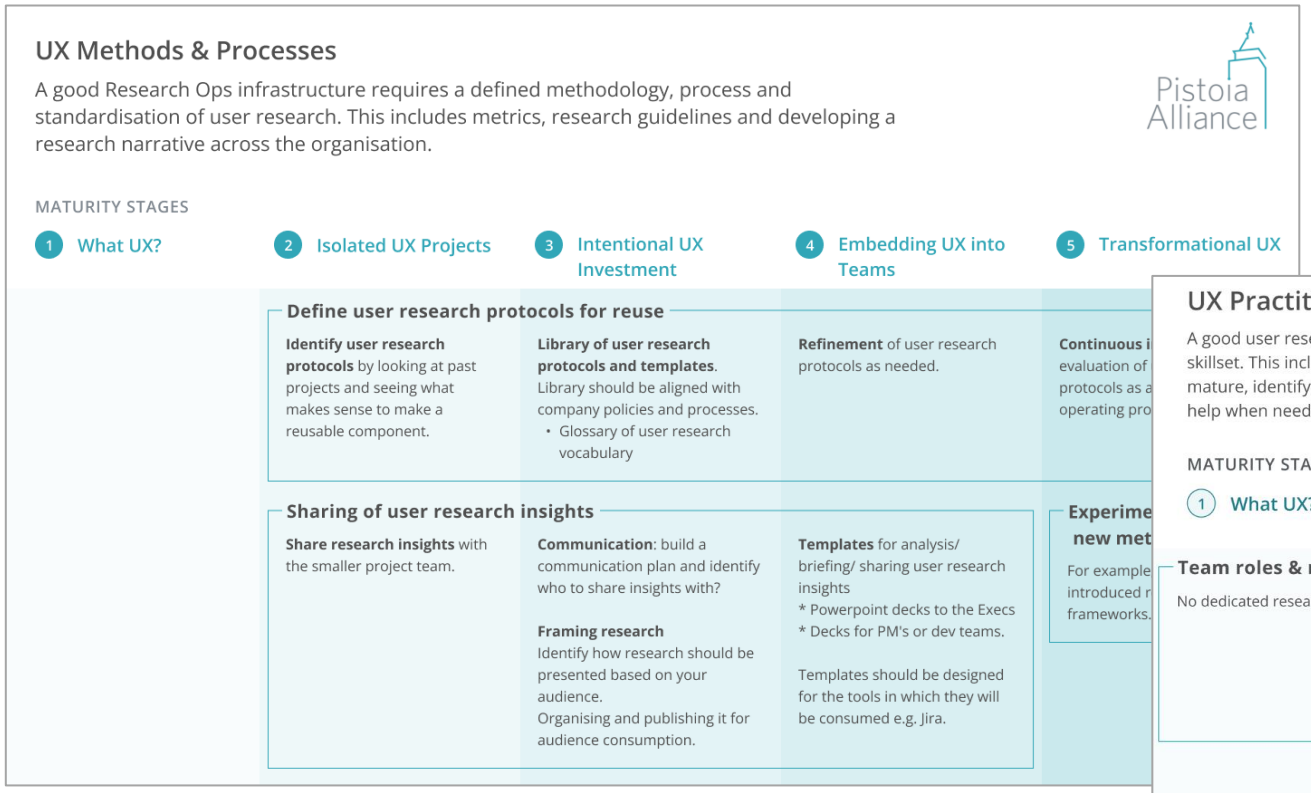
User Research Ops Framework



UX Methods & Processes

A good Research Ops infrastructure requires a defined methodology, process and standardisation of user research. This includes metrics, research guidelines and developing a research narrative across the organisation.

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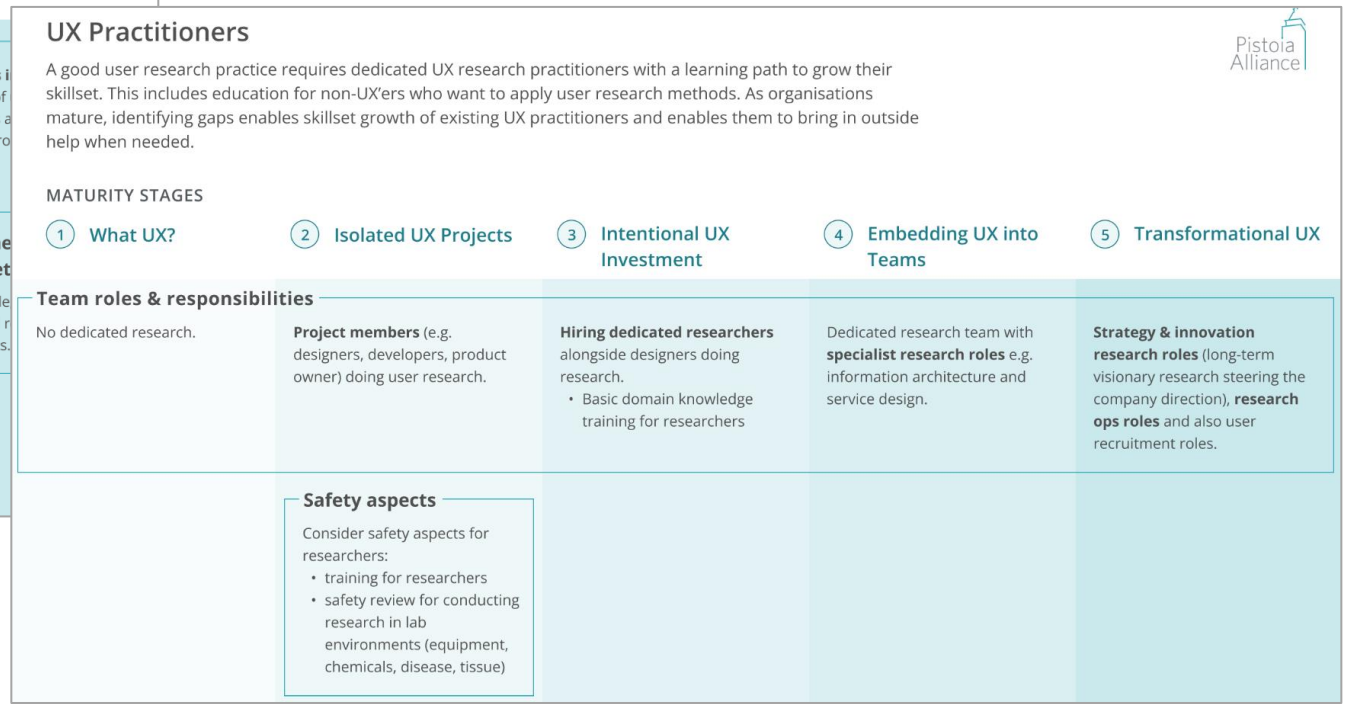
MATURITY STAGES

1 What UX?	2 Isolated UX Projects	3 Intentional UX Investment	4 Embedding UX into Teams	5 Transformational UX
Define user research protocols for reuse				
Identify user research protocols by looking at past projects and seeing what makes sense to make a reusable component.	**Library of user research protocols and templates**. Library should be aligned with company policies and processes. • Glossary of user research vocabulary	**Refinement** of user research protocols as needed.	**Continuous i** evaluation of protocols as a operating pro	
Sharing of user research insights				
Share research insights with the smaller project team.	**Communication**: build a communication plan and identify who to share insights with? **Framing research** Identify how research should be presented based on your audience. Organising and publishing it for audience consumption.	**Templates** for analysis/ briefing/ sharing user research insights * Powerpoint decks to the Execs * Decks for PM's or dev teams. Templates should be designed for the tools in which they will be consumed e.g. Jira.	**Experime new met** For example introduced r frameworks.	



UX Practitioners

A good user research practice requires dedicated UX research practitioners with a learning path to grow their skillset. This includes education for non-UX'ers who want to apply user research methods. As organisations mature, identifying gaps enables skillset growth of existing UX practitioners and enables them to bring in outside help when needed.

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MATURITY STAGES

1 What UX?	2 Isolated UX Projects	3 Intentional UX Investment	4 Embedding UX into Teams	5 Transformational UX
Team roles & responsibilities				
No dedicated research.	**Project members** (e.g. designers, developers, product owner) doing user research.	**Hiring dedicated researchers** alongside designers doing research. • Basic domain knowledge training for researchers	Dedicated research team with **specialist research roles** e.g. information architecture and service design.	**Strategy & innovation research roles** (long-term visionary research steering the company direction), **research ops roles** and also user recruitment roles.
	Safety aspects Consider safety aspects for researchers: • training for researchers • safety review for conducting research in lab environments (equipment, chemicals, disease, tissue)			

See https://drive.google.com/file/d/1JZZ5fC8TrISBTDa2hauV__nLzilIPHW2/view

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Digital Accessibility Guide

Digital Accessibility Starter Guide

Based on WCAG 2.1 AA and AstraZeneca best practices
For questions, contact Accessibility@AstraZeneca.com

1. Color

Do not use colors alone to communicate. There should be sufficient contrast between text and background or user interface elements and background to enhance visibility.

2. Visuals

For meaningful visuals, provide description to help users understand the purpose, and provide alternative text (to be read via screen readers) to allow users with visual impairments to understand the content.

3. Media

For audio, offer transcripts. For video, provide captions and audio descriptions, and remove seizure triggers such as flashing content. Autoplay should be under 5 seconds. Users should also be able to pause any audio and video content.

4. Touch & Mobile

Keep site and navigation structure consistent across desktop and mobile devices. Ensure adequate touch targets and space between interactive items. Avoid horizontal scrolling and text overlapping.

5. Structure

Provide proper heading structure (in the code) that mirrors the visual structure to help users of assistive technology understand the content and context.

6. Keyboard

Ensure the site/tool/app can be used without a mouse, only with the keyboard. When navigating through interactive elements using the tab key, the users should be able to move through the content in a logical order resembling the reading order.

7. Forms & Errors

Associate form inputs with clear labels. Make errors and alerts clear and easy to find. Suggest corrections with enough context for blind users.

8. Links & Buttons

Visually differentiate between links and buttons. Use links to take users to a new location. Provide a visual indicator for links, like an underline, and use clear language to describe the link destination. Use buttons to trigger an action.

See https://www.pistoiaalliance.org/uxls/digital-accessibility-starter-guide/

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Blogs/ Publications

Business Analysis and UX

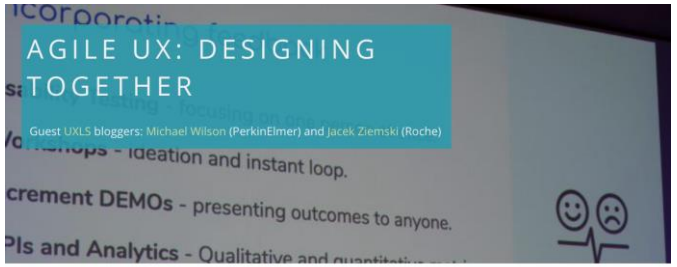
The roles of User Experience Designer and Business Analyst in Life Sciences

In recent years Business Analysis and User Experience Design have been in demand in Life Sciences organisations. Companies are increasingly relying on these two complementary disciplines when it comes to designing and implementing digital solutions.

Business communities are actively taking crossover initiatives to support the relationship between UX and BA practices because these professionals are increasingly sharing tasks and responsibilities in the delivery of solutions.

It is clear that the two disciplines can overlap in supporting organisations in the era of digital transformation. However, the boundaries of these two roles can be unclear, which could blur the understanding of who is doing what, and risks generating a sense of us-and-themness. And if the BA or UX handbooks provide well-crafted definitions, their roles in life science organisations are not always as well defined (see Table 1). The culture and structure of an

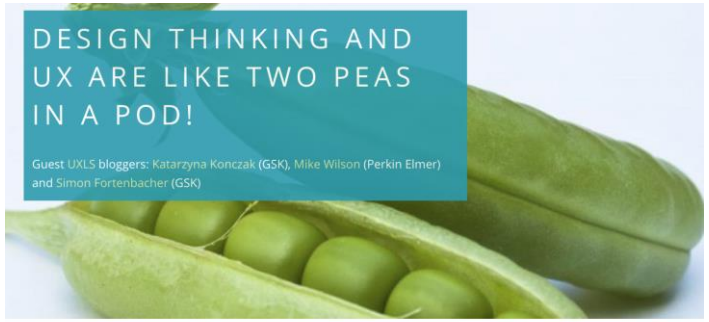
Agile and UX



When you hear the word "agile" is it just a trendy buzzword to you? Do you find it flexible but risky? Too short sighted and an excuse not to think ahead? Does it conjure up images of sticky notes, cult like devotion, and taking itself too seriously?

Or are you just bored hearing teams wave the banner of agile as a weapon against "corporateness" only to turn the "process" into the same rigor and rote behavior it claims to be the savior of? (Take a moment to do an eye roll.)

Design Thinking and UX



In large companies, design sounds risky and introduces a myriad of questions. How does design fit into business? How does collaborative design function effectively at the enterprise level? How do we design at scale while avoiding the risks and uncertainties? For many organisations, design thinking has provided a good solution to this problem space.

This has led many in life sciences to question how design thinking and UX relate to one another? Why do we have two similar sounding processes in our field?

Design Thinking and UX are by and large the same thing. Their goals are essentially the same. Put users at the forefront of your mind when designing creative solutions whether they are digital or physical. They use the same methods such as personas, empathy maps and user journeys. They follow a similar design trajectory of understanding the user, designing solutions and evaluating them against the user. They use a similar team ethos of using a multi-disciplinary team to come up with the best solution.

Traditionally the UX approach has been used to describe design in a digital landscape and design thinking can be applied to any problem space. To be fair the UX approach would likely work in any problem space. Although design thinking is often described in a linear process diagram most people would practise it iteratively as can be seen from Figure A from the Interaction Design Foundation. Compared to the UX approach in Figure B one can see the immediate commonalities.

See https://www.pistoiaalliance.org/category/uxls/

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Previous ‘UX Therapy’ topics

From Project to Product

Coaching and UX team development

UX Toolkits and Design Systems

Strategies to raise your UX maturity level

UX’ers new to life sciences

A day in the life of a scientists

Non-UI UX

SAFE, Agile and UX

Digital Accessibility

Accessibility - lessons learnt with user research

Colour and digital accessibility

3 Active Workstreams in 2024

GenAI and UX

Exploring how GenAI can help UX – e.g. in analysing user research insights or creating first draft designs – and how UX can help GenAI – e.g. training users in entering effective prompts

Data Visualisation

Collating UX best practice and guidelines for visualising big data, displaying dashboards, etc. in the most usable and effective way

Research Ops

Continuing previous work into approaches to re-using user research insights, common user research methods and tools, etc.

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UXLS Annual Conference

(our 2024 conference will be held at Novartis, Basel, in October)

Thank you! For more info, please contact the UXLS project manager, Giovanni Nisato (giovanni.nisato@pistoiaalliance.org).

Rob is contactable via robert.graham@astrazeneca.com