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EXPERIENCE

REPORT



Oncologist issue

FJORD™
Design and Innovation from
Accenture Interactive

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Boris Bogdan

As a strategist, I value numbers and facts, but often miss the inspiration and storytelling that makes insights come to life. This is why we teamed up with Fjord for this immersion into the daily practice of the oncologist — to go beyond the obvious and analyse and present oncologists study results with a design mindset.

Global Lead for Precision Oncology and Personalised Healthcare CoE at Accenture



Hartmut Heinrich

Life Science is an exciting area for us designers, as health is incredibly personal, and empathy is key to design for meaningful change. From our perspective, adoption and adherence are tightly linked to experience and emotions. Working hand in hand with the strategists and experts from the Accenture Life Science practice, we focused on giving the oncologists a voice and expanding our thinking. In this report, we bring together detailed research with a human view to get immersed into the real needs and experience gaps of oncologists. We hope you find this journey as enriching as we did.

Group Director Fjord Switzerland



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Introduction

Oncologists are at the forefront of the health care system, day by day interpreting and translating rapidly evolving science into therapies that save patients' lives. Oncology is advancing faster than most therapeutic areas towards personalised medicine, promising hope for patients, but also creating enormous complexity and new challenges for oncologists. Yet, the tools, services and experiences they are provided in their interactions with pharma, congresses, peer networks, etc., often leave much to be desired. The need for transformation has been amplified by the current necessity for remote interactions, intensifying an existing steady shift in behaviour, as well as uncovering the insufficiencies in the current healthcare system.

The Experience Report Oncologist Issue takes a human-centred approach to evaluate the activities and interactions of HCPs in oncology, and puts forwards a comprehensive perspective of their actual needs, expectations and frustrations.

This perspective provides service providers in the health care industry as well as pharma companies a better understanding of the underlying human drivers so that existing processes and tools can be iterated to better match oncologist's expectations. Besides these tactical gains, we focus on the strategic value of a more forward-looking perspective.

Our ambition for this report however goes further - we strive to go beyond expectation matching. It aims to re-envision and re-shape expectations and standards with the help of cutting-edge technology and human-centred design. For that reason, we have synthesized six activity themes based on quantitative and qualitative research and derived theme-specific design principles and explored opportunity areas for a future with better services and experiences for oncologists.



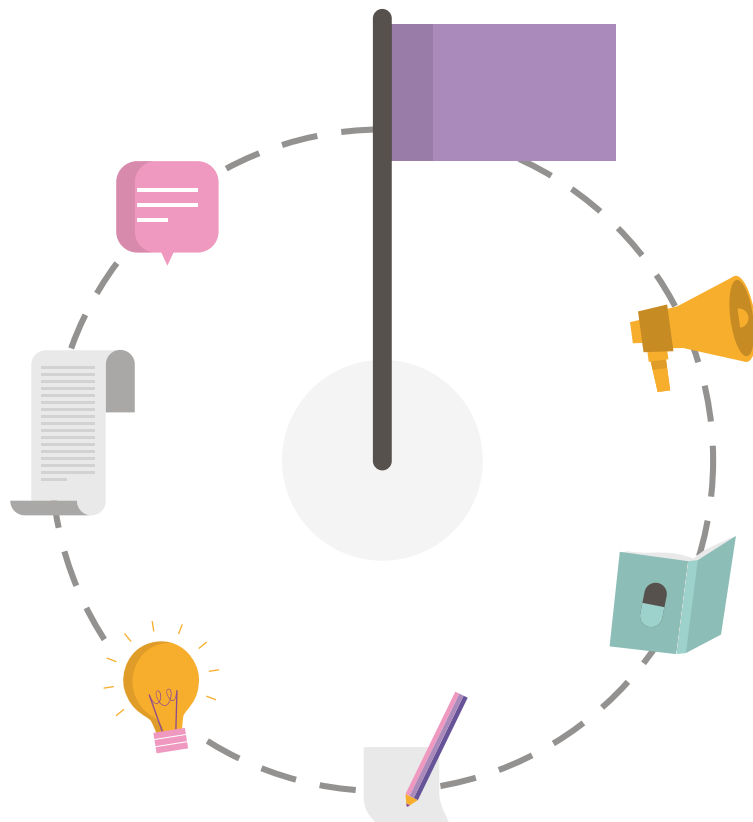
Study methodology

We designed the method used in this study to be replicable across other fields of medicine. A powerful combination of quantitative, qualitative and strategic research, it was crafted to reveal explicit and implicit opportunities in oncology.



Episodes

Deep insights into oncologists' recurring activities



To improve the lives of oncologists, we needed an accurate picture of their activities. Mapping their activities allowed us to isolate challenging areas and identify the support they expect when they collaborate with pharmaceutical companies.

When mapping professionals' detailed needs and behavior, we often leverage user experience journeys. This allows us to map their daily activities against emotions in a format that creates a view of the user experience from both an explicit, as well as an implicit needs' perspective.

The non-linear characteristics of health care provider activities across time means user journeys cannot account for the recurrence of their activities. This is why we use another tool: Episodes.

Episodes allow us to segment user journeys into aggregated units of distinct and related needs and activities. Episodes are especially useful to focus on recurring tasks at the core of physicians' work lives.

We have identified 19 recurring episodes

Theme 1 Exchange medical knowledge

Episode 1
Participate at a congress

Episode 2
Participate in continuing medical education

Episode 3
Attend an advisory board

Theme 2 Diagnose and treat patients

Episode 4
Access molecular profiling services

Episode 5
Access peers/experts to discuss patient cases and therapeutic options

Episode 6
Interpret and action molecular profiling insights

Episode 7
Apply digital technology for clinical support

Episode 8
Attend a (molecular) tumour board in person or virtually

Episode 9
Share therapeutic decisions or patient outcomes with peers

Theme 3 Conduct and publish clinical research

Episode 10
Publish a scientific paper or a case report

Episode 11
Participate in clinical studies and research collaborations (also as principal investigator)

Theme 4 Support cancer patients

Episode 12
Access material for patient education

Episode 13
Find information online (e.g. patient treatments)

Episode 14
Identify and enrol patients into relevant clinical trials

Theme 5 Access clinical data

Episode 15
Access real world evidence/ data for therapeutic decisions

Episode 16
Access data from clinical trials for therapeutic decisions

Episode 17
Access historical/ longitudinal patient cases (incl. outcomes)

Theme 6 Record patient data

Episode 18
Manage, record, and report patient side effects

Episode 19
Monitor, measure, and record patient outcomes

Episode qualification

100 oncologists share their opinions

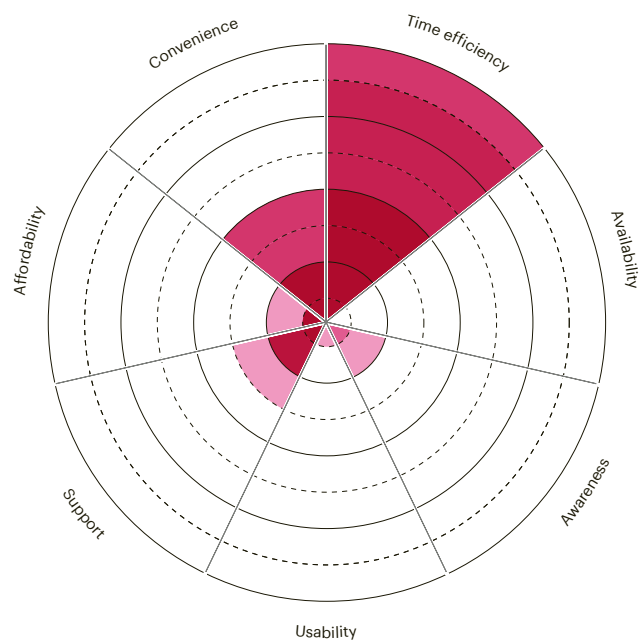


Figure N°1: Summary of expectations

We asked 100 oncologists in the US, the UK, Germany, Switzerland and Spain to voice their unmet needs and frustrations with regard to these episodes and help us identify areas where they saw significant potential for improvement. To structure their answers, we presented seven areas of personal necessity and asked them to indicate which of these applied to each episode:

- Convenience**
Do you find the current episode cumbersome?
- Time efficiency**
Is your time investment in the right relation to the value you get in this episode?
- Awareness**
Are you adequately informed about the episode and related activities?
- Availability**
Is this activity, content or resource available to you?
- Usability**
Is it easy for you to use the service or platform that you currently use to perform your tasks in this episode?
- Support**
Do you get enough support for your needs in this episode?
- Affordability**
Do you find it affordable?

We wanted to have a consistent scale of comparison across all episodes. In order to do so, we normalized the number of times one area was mentioned on a scale from 0 to 4. When we applied this approach across all episodes, we uncovered surprisingly consistent results. Time efficiency is the most critical and unmet expectation across the board. Time is the scarcest resource for the 100 HCPs we surveyed, so making the most of it is critical. Interestingly, oncologists actively criticize activities that are necessary but demand to be too time consuming compared to their

perceived value (see Theme 1, Exchange medical knowledge). The consistency and frequency of this perspective leads us to put forward a first overarching design principle: **Be conscious of HCPs' scarce time and always maximise the value from their time investment.**

This design principle is an indispensable steppingstone when creating a service or product that creates value for the oncologist.

Finally, we sought insights on where oncologists most seek improvements. We leveraged the same approach used to measure their unmet needs and frustrations i.e. respondents selected the areas where they wanted to see improvement from nine options and we calculated an overall score based on the frequency of each selected dimension, per episode:

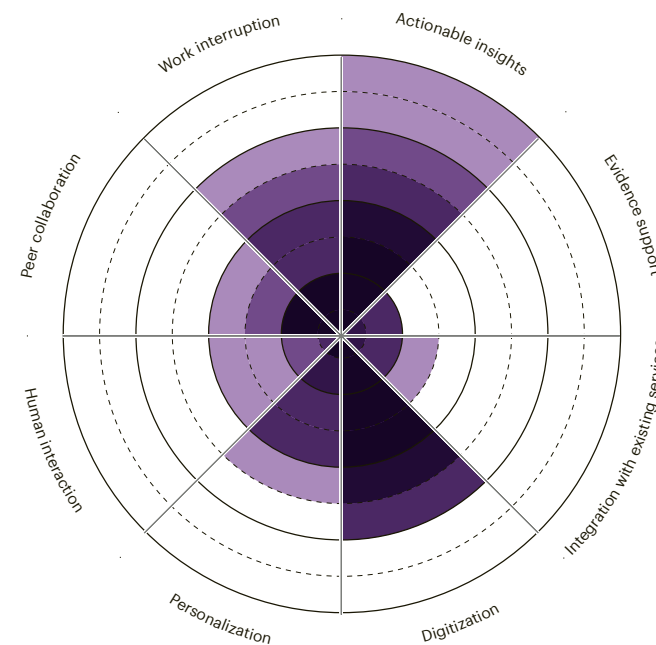


Figure N°2: Summary of areas of improvements

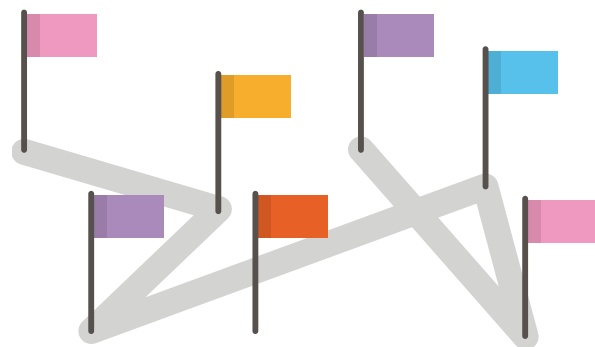
- Work interruption**
Do you expect solutions that are more embedded in your work routine and activities?
- Actionable insights**
Do you expect solutions that provide more actionable insights?
- Supporting evidence**
Do you expect more evidence to support your decisions?
- Integration with existing services**
Do you expect more integration with services you already use, e.g. molecular profiling?
- Digitisation**
Do I expect the current services and solutions they use to be more digital?
- Personalisation**
Do you expect current services and solutions to be more personalised?
- Human interaction**
Do you expect services and solutions to be supported by more human interactions?
- Peer collaboration**
Do you expect more support to share and collaborate with your peers?

Themes

Grouping episodes that contribute to the same goal

Our assessment of the episodes revealed that oncologists share a common set of professional goals. We found the same unsatisfied expectations across different episodes, suggesting that groups of episodes actually contribute to the same goal. We grouped episodes into themes to create actionable opportunities to meet oncology practitioners' daily needs on the basis of the quantitative study and complementing qualitative interviews.

Each theme cluster represents an overarching purpose that oncologists are pursuing and can be linked to practical improvements. Thus, these episodes and themes provide a framework for enhanced and new content, interactions and services pharmaceutical company should consider to support oncologists in their increasingly complex professional reality.



The quantitative survey highlighted general areas of frustration but, for consistency, answers were aligned using the criteria mentioned above. The responses pointed us to frustrations that needed clarification—to understand why certain areas of frustration were so common.

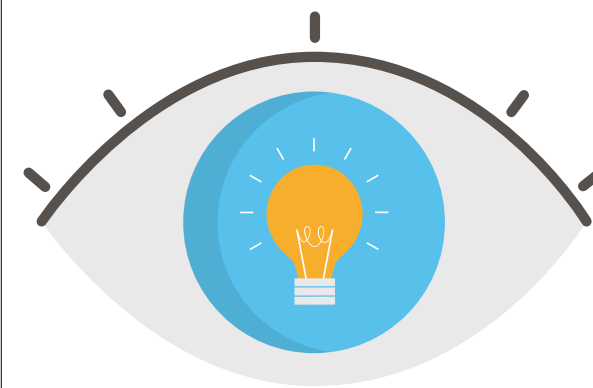
To flesh out pain points, clarify explicit needs and uncover implicit needs, we interviewed several oncologists. These qualitative interviews helped us narrow down three or four pain points per cluster. It also helped us uncover the most critical unmet expectations and areas for improvement. Together with our strategic research and group working sessions, this formed the foundation for the final step: defining opportunities for pharmaceutical companies who want to make their services as desirable as possible.

Pain point clusters

Where oncologist struggle the most

Areas of opportunity

Problem statements that define a design space for future solutions



Given this quantitative and qualitative foundation, we have defined the areas of opportunity that exist by turning pain points into problem statements and verbalising solutions. Usually, we've attached a group of solutions to each area of opportunity before evaluating them with prospective and users.

Design drivers

A desirability scorecard for future services

The expectation map reveals unmet expectations and aspirations like the desire for more digitisation, or greater integration of services into physicians' daily workflow.

Combined with the overarching goal of the cluster, we can derive design drivers—criteria that define the attractiveness of designed solutions, per area of opportunity.

Design drivers explicitly state the expectation specific to the cluster and the goal it contains. Design drivers can therefore be used as a desirability scorecard to evaluate and rank candidate solutions within areas of opportunity.

This approach uses the best of both quantitative and qualitative insights to gain the perspectives of oncology physicians from within. Moving from purely functional requirements to qualitative insights based on objective preferences reveals a wealth of opportunities that can differentiate your services to oncologists.

Research findings and areas of opportunity for oncologists' focused services

It is remarkable how little of the industry's effort to understand oncologists' real needs translates into desired, valued and well designed experiences towards these physicians. In this chapter we'll try to bridge this gap: we'll look at pain points oncologists may face in their daily practice, identify areas for improvement and derive opportunities for high-value services.



2

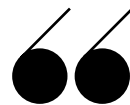
Exchange medical knowledge

THEME 1

Episode 1

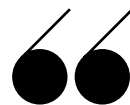
Participate at a congress

Congress attendance is an essential source of insight into current clinical developments. Oncologists meet their peers, sometimes present their own findings, learn about latest research and upcoming trends. They encounter pharma industry representatives to discuss ongoing or potential collaborations, for example, participation in clinical trials.



It's not what's actually happening in the big auditorium or the conference itself, the actual data being presented. I'm looking to actually meet and participate with folks in the pharma industry to pitch and lead clinical trials.

ONCOLOGIST



When I go to a congress, what I'm looking for is to meet the physicians who are interested in the things I'm interested in, to work with them, to get to know them on a social level, and that makes our academic pursuits much more fruitful.

ONCOLOGIST

Episode 2

Participate in continuing medical education

As part of continuing medical education and to keep up with the developments in the industry, physicians attend presentations and boards at hospitals and visit seminars or congresses. Compared to physicians in training, knowledge acquisition on top of daily practice changes—the focus for practicing physicians lies less on primary literature and more on concrete expert knowledge (e.g. on a specific drug).

Another important source of education are social platforms like Twitter, where physicians discuss data and cases with patient advocates and patients, outside of the controlled, academic setting.



I don't have time to read as a physician like I did earlier on in my career.

ONCOLOGIST

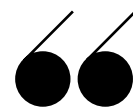


This theme is about the development of knowledge through participation and exchange at congresses, seminars, advisory boards or on social platforms.

Episode 3

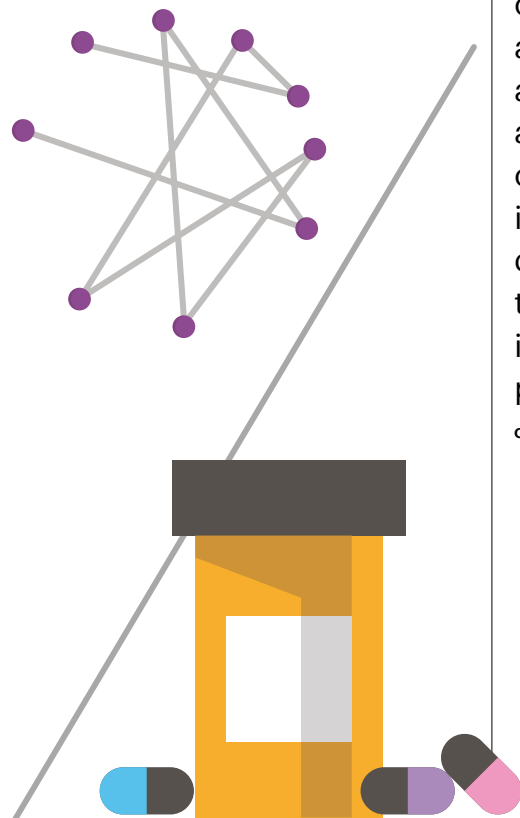
Attend an advisory board

Advisory boards provide non-binding strategic advice to companies and are used across many functions and disciplines including sales, marketing, market access, and medical. There are different advisory boards along the development of a drug. Scientific boards range from discussing pre-clinical data to clinical trial strategy to marketing tactics. However, the discussion and advice from experts is highly valuable for pharma companies.



Marketing advisory boards are less exciting. I get insight into how other people are thinking about things, and how other people interpret data, but the data is already published.

ONCOLOGIST



Pain point grouping

Scientific world versus real-world practice gaps

The perceived value of a congress or advisory board lies in the networking opportunities and not necessarily in its educational aspects. Often, the data presented is interesting, but not necessarily relevant for daily practice.

One-sided communication and exchange

Dependent on the format of a congress or advisory board, physicians may attend long presentation and sales pitches and lack opportunities to interact with experts and peers. Virtual congresses are especially prone to one-way data presentation.

Time consuming and costly physical attendance

Exchanging medical knowledge disrupts a physician's practice since it goes beyond daily work and often requires travelling to another location. Congress attendance is onerous: physicians need to register, book the venue, organize hotels, travel and possibly even ensure compliance when invited by a pharma company.

Areas of improvement

Making the acquired knowledge actionable, and limiting interruption of the workday, point to the same conclusion. The cost of acquiring new medical knowledge is too high, considering the toll it takes on physicians' productive time and the effort they put into translating the general knowledge they acquire into actionable items for their daily practice. Reducing this effort should be a priority for a new service trying to improve on this them.

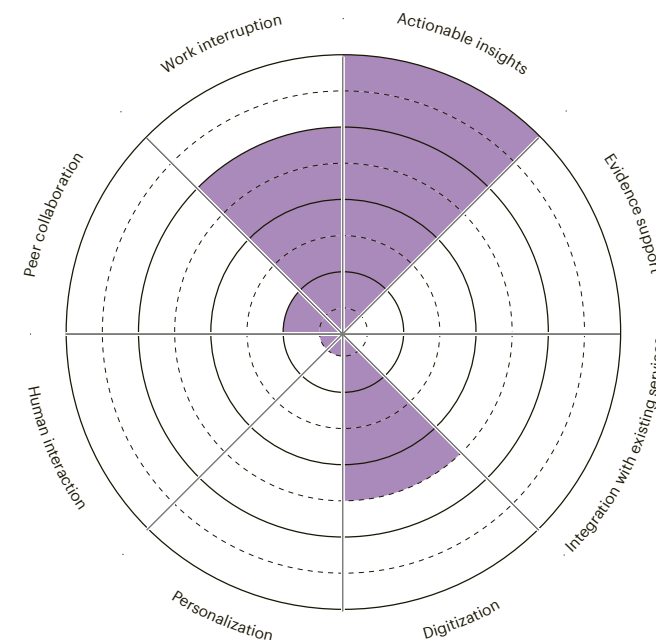


Figure N°3: Areas of improvement for theme 1

Design drivers

→ Services in this theme should consider minimal disruption, effortless network access and purpose-driven knowledge events.

01 Minimal disruption

Services are integrated into the daily activities of the health care practitioners and generates little to no disruption to their flow.

02 Effortless network access

Physicians can exchange knowledge with peers and experts about their own, or any other medical, field.

03 Extended access and connection

Create a knowledge network that oncologists can access whenever they need to.

04 Purpose-driven knowledge events

Congresses will be tailored and cover topics that range from the specific to the general.

Area of opportunity

Simplify networking and making it more accessible

Oncologists are intrinsically driven to connect with like-minded peers, exchange knowledge and establish long-lasting connections for future collaborations. Time and effort to build the network could be lowered and the energy spent should be invested in the exchange itself.

What if networking were integrated into an oncologist's environment, and not dependent on accidental or remote physical encounters? Networking would be a collaborative, constantly evolving ecosystem that algorithmically matches and connects the right peers, generates new impulses with targeted content and is reactive to demand - while providing the experience of a strong human and social interaction.

MAGINE an oncologist had a proactive suggestion on an app of a personal smartphone to connect with a fellow oncologist or group of oncologists from other countries is working with similar patient profiles, already having experiences with important newer therapies, and having a shared personal interest in expressionist art.



Restructuring the flow of medical knowledge

Access to medical information that is truly relevant to an oncologist's specific field of expertise is a need that hasn't been met well yet. Physicians still search for relevant information, curate and interpret it by themselves to make it applicable to their work.

What if there were a shift from the top-down model of information flow, to a less unidirectional, more interactive informational conversation, integrated into daily practice?

MAGINE a physician had personalised information fed from various sources on their preferred channels and devices? An intelligent, possibly AI driven, curation engine would suggest knowledge and insights from various relevant sources physicians would have to access separately day by day, and would allow them to learn and evolve their expertise in a much more targeted and focused way.



Our perspective

Existing, well-established formats might remain but will be complemented with rich, targeted information exchange formats. Tech companies such as Apple and Google moving away from presences at large tradeshows are showing the way. Large gatherings of physicians that convey generic information won't respond to the individual interest of a participant.

There have been many virtual congress pilots since the arrival of COVID-19, but simply digitalising the real-world experience is a short-term answer and does not leverage the full potential of virtualization and networking. Knowledge creators and networking platform providers should rethink their content and interaction strategies and create or acquire the required capabilities (and discard irrelevant ones).



Diagnose and treat patients

THEME 2

Episode 4

Access molecular profiling services

For many cancer indications, there are targeted therapies available for a sub-group of patients with specific cancer mutations. Via next generation sequencing the physician can discover the genomic fingerprint of cancer patients and potential licensed or unlicensed treatment options.

Episode 5

Access peers / experts to discuss patient cases and therapeutic options

Discussion with peers and experts is an important part of the physician's daily activities. Clinical developments happen quickly, and physicians need to keep up with new information. As no two patients are identical, gathering knowledge from a large group of physicians enables better treatment decisions.

Supporting physicians during diagnosis and subsequent treatment decisions with molecular profiling services, tumour boards, CDS tools as well as expert and peer exchange.

Episode 6

Interpret and action molecular profiling insights

With next-generation sequencing, a patient's molecular fingerprint can be analysed. In-depth knowledge of what the individual genomic alterations and their molecular context mean is needed to draw conclusions on best therapies. As many physicians have limited knowledge of molecular profiling, assistance in the form of expert advice or a clinical decision support tool is often needed to interpret the data and support therapeutic decisions.



Episode 7

Apply digital technology for clinical support

Clinical decision support (CDS) tools help physicians to navigate increasingly complex diagnostic and treatment decisions and interpretations. Based on algorithms and extensive computing power, CDS tools are essentially structuring and filtering medical data to help physicians make more informed treatment decisions faster.

Episode 8

Attend a (molecular) tumour board in person or virtually

In tumour boards, physicians and their treatment team have the opportunity to discuss a patient case in a multi-disciplinary set-up with the associated care team as well as experts in precision oncology, molecular biology, genetics and bioinformatics. Treatment recommendations and clinical implications are provided based on information and insights from molecular profiling. Many hospitals offer regular (molecular) tumour boards, with an increasing number of virtual (molecular) tumour boards available too.



Episode 9

Share therapeutic decisions or patient outcomes with peers

Discussion with peers and experts is a vital part of the physician's daily activity, since clinical development happens fast. Interaction among peers helps gather information on individual cases and treatment options.

Pain point grouping

Physicians struggle to interpret molecular profiling insights

Physicians struggle to interpret the outputs of highly complex molecular profiling insights by themselves. They regularly need to find experts to translate the insights and put them into the context of clinical practice. Access to experts, molecular tumour boards and/or CDS tools (as well as quality of support) varies depending on the region, size and research focus of the hospital.

Static information that lacks interactivity

Physicians generally receive test results such as next-generation sequencing insights as a PDF documents and can't interactively drill down for more detail.

Cumbersome to exchange knowledge amongst peers and share patient information

Currently, peer to peer exchange is mostly telephonic or email-based as physicians don't have access to a convenient collaboration and knowledge sharing platform.

Information too specific, not always "scalable" to general practice

Since the advice physicians get on a molecular tumour board is tailored to a particular case, other physicians can't always benefit from the discussion because these individual cases are often not comparable to others.

Time consuming to prepare content for support / discussion

Physicians can prepare and discuss their individual cases in tumour boards but this requires additional effort to prepare the cases, and it takes time to get a slot.

CDS tool usage: not enough user-friendly and actionable

Physicians often face challenges working with CDS tools. A cumbersome, not integrated interface can hinder physicians in deciding the best therapy. Physicians must often navigate with poor usability which inputs to put into the CDS, making these solutions unnecessarily time-consuming. Furthermore, if the CDS tool is not integrated into the EMR system and

the physician must open a separate app, it is too time consuming.

The process of getting molecular profiling is too cumbersome

Roadblocks to accessing molecular profiling services including onerous paperwork and logistics for things like getting the samples to the lab. Also, ordering and processing additional tests is a hurdle, not only for physicians but also for patients.

No standardised approach to share expertise

There is no formalised and centralised way for physicians to share therapeutic decisions and patient outcomes with peers. Physicians must rely on their own networks and find their own sources of expertise.

Too much content, too little personalization

Oncologist need to navigate a plethora of content and information, yet simple personalization e.g. access to clinical trials and medical information could easily be personalised to their needs and knowledge.

Areas of improvement

With improvement expected in all topics, the research responses demonstrate the oncologists' need for support across increasingly complex diagnosis and treatment decisions in the age of genomics. Coupled with peer collaboration and personalised insights, respondents expect digital solutions to facilitate the necessary shift from a single person building a diagnosis towards an intelligent support system involving multiple actors and the distillation of large amounts of shared information.

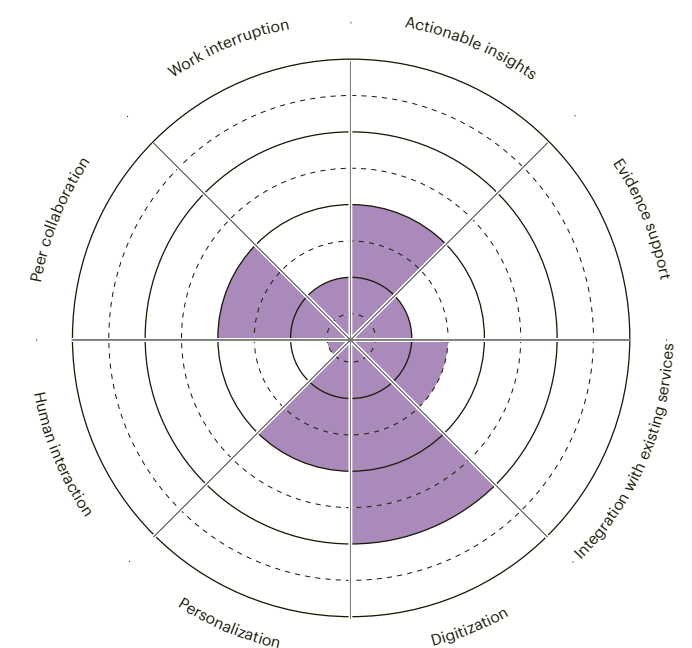
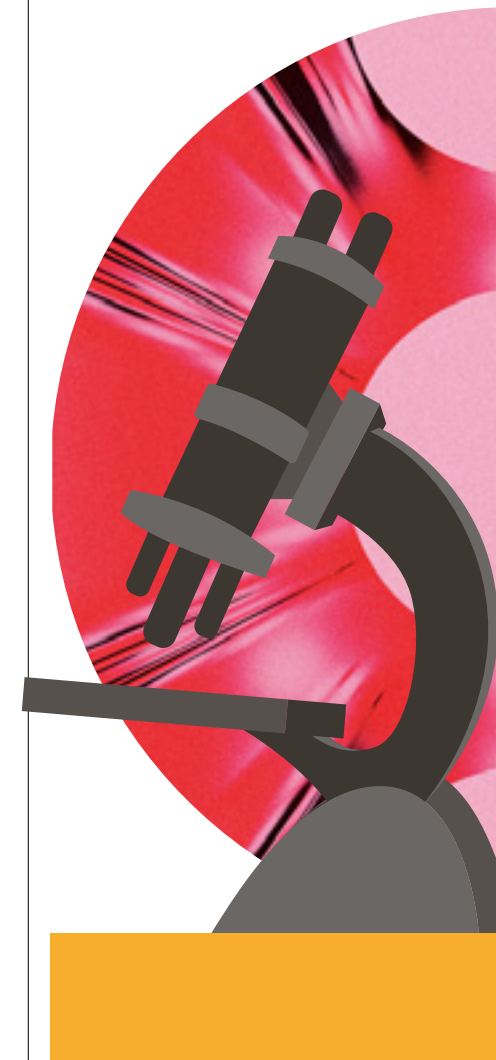


Figure N°4: Areas of improvement for theme 2

Design drivers

→ Services in this theme should consider information fluidity, accessibility of support, actionable insights and the growth of a professional network of an oncologist.

01 Information fluidity

Information is standardised and coded for easy exchange via various channels, digital and physical.

02 Accessibility of support

Support is available within reasonable time and hence oncologists get access to the help they need on a case.

03 Actionable insights

Recommendations provided to the physician are relevant and can be applied without major difficulties.

04 Grow professional network to get access to expertise

Oncologists can grow their professional networks to obtain or provide expert assistance on medical issues.

Area of opportunity

Triage / recommend clinical decision tools and guide physicians in navigating different diagnosis and treatment options

Dependent on the nature and stage of a cancer, diagnostics and treatment possibilities vary—and can be highly complex. In simple cases, oncologists can rely on their own knowledge for decision support tools. In complex scenarios they need CDS or tumour boards for specific, expert inputs on diagnosis and treatment. Finding the right support tool for each patient case appears to be challenging for oncologists due to the manifold options and the continuous focus on more and more rare cancer types. Furthermore, the process of applying and enrolling each case is a time-consuming or not accessible. The current support services (e.g. molecular tumour boards), tools and technology do not fully meet oncologists' needs, are not standardised enough and thus are still dependant on circumstances such as type of hospital, and which expert is consulted.

What if oncologists had access to a seamless ecosystem of services and tools – all fit for purpose for the questions they have? Embedded AI could assist oncologists compare rare cancers to comparable cases from all over the world and understand how other cases were treated without delay or interruption. Beyond providing guidance, the service would allow oncologists to grow their expertise by navigating profiling insights that are augmented with explanations so that they can on the spot educate themselves on new treatment options immediately.

MAGINE that, whatever the complexity of a question, a physician could log into a single international knowledge and experience portal without even having to schedule a meeting.

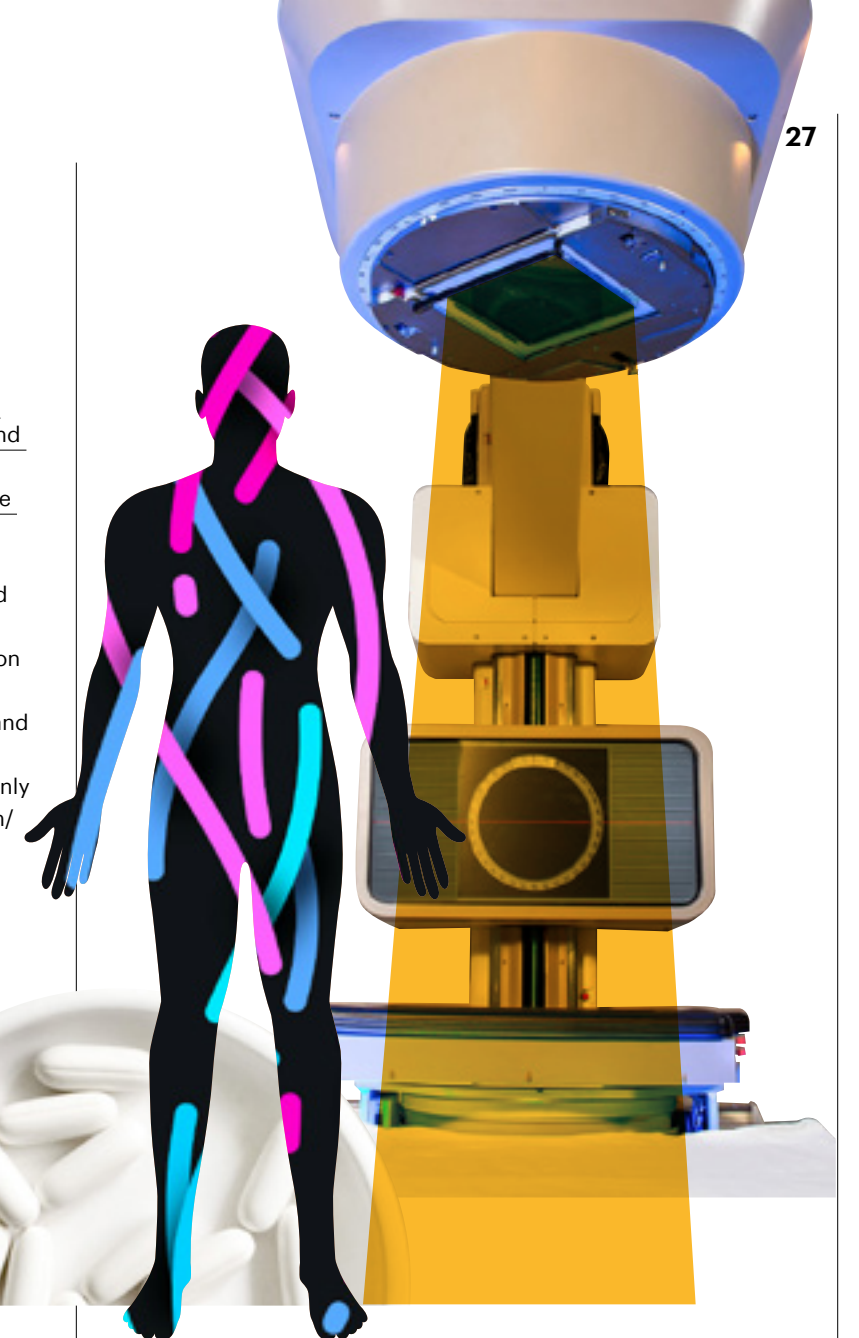
Extracting, pre-populating and reusing data to facilitate the preparation of expert discussions and tumour boards

Preparing a case for expert discussions like tumour boards is time-consuming and interrupts the healthcare providers' workflow. A physician needs to gather the right data and compile a comprehensive patient document that is presentable to a wider audience.

What if the HCP could outsource this process to a tool that can access patient data automating this process and helping to compile the necessary information directly from the patient file, automatically

convert relevant data to visual form and interactively format it for presentation and discussion purposes? All the physician would have to do is review and digest the presentation.

MAGINE a physician could initiate and finish the preparation of the expert review during the patient's consultation or submit the case to another tool or service that provides real-time insights and recommendations based on the unique patient data. The physician would now only be required to review and familiarize him/herself with the presentation.



Our perspective

Oncologists and HCPs are highly trained professionals, often on the lookout for cutting-edge medical treatments based on proven science. They tend to rely on external support for specific cases that stand out because of their complexity or rarity. The process of automating, digitising and simplifying manual tasks won't stop for these complex cases. Getting a restaurant recommendation and booking a table is a matter of clicks these days, and finding recommendations on how to treat a specific cancer should be similarly accessible to the oncologist given the importance of the related decision.

THEME 3

Conduct publish

Contributing to scientific research and sharing new results supports knowledge advancement and builds the oncologist's professional reputation.

clinical research

Episode 10

Publish a scientific paper or a case report

Writing and publishing a scientific paper or patient case report in a peer-reviewed journal is one of the key ways to benefit the overall medical community. It is also essential for physicians' credibility, ability to collaborate and a prerequisite for some senior roles.

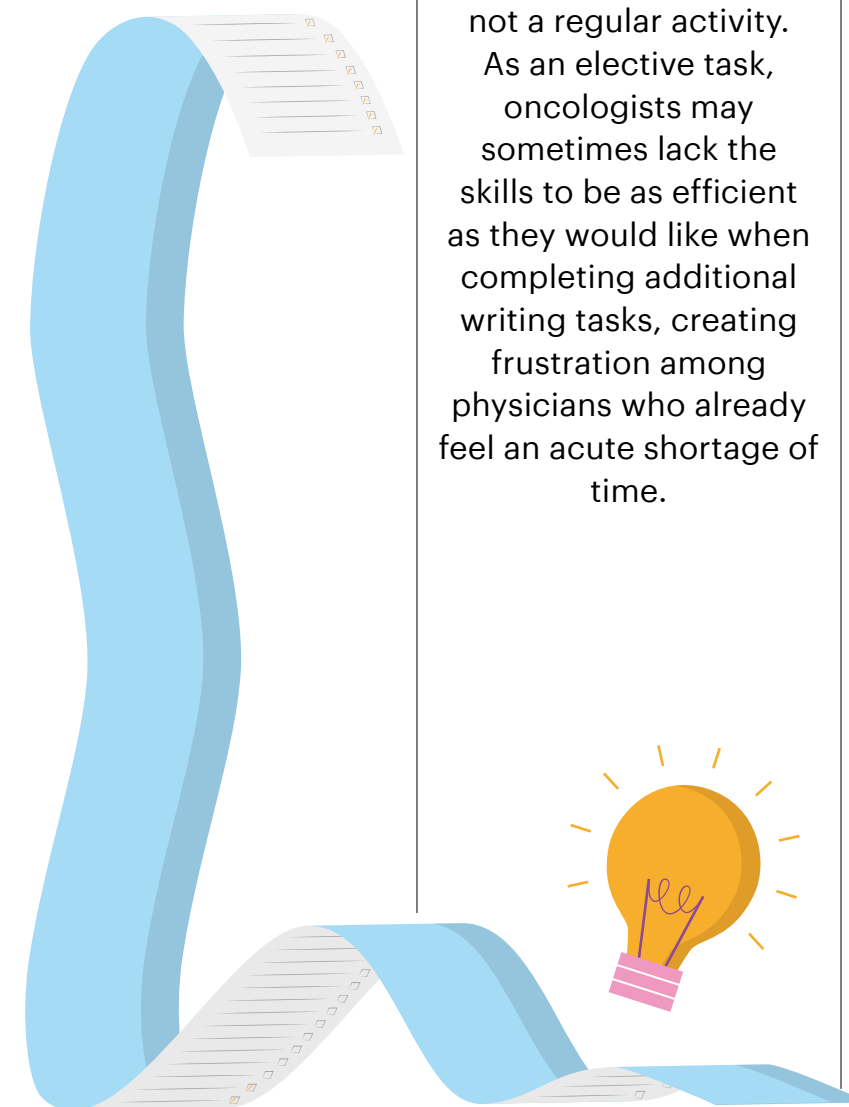
Episode 11

Participate in clinical studies and research collaborations (also as principal investigator)

An important driver for oncologists to participate in clinical studies is the possibility to offer the latest drugs in development to their patients. Oncologists who lead a clinical study as a principal investigator are often closely involved in defining the development strategy and are expected to present the research results at congresses and other community events.

Writing is a stretch to everyday practice

Medical education does not typically prepare physicians for extensive clinical writing. Hence writing is often perceived as a painful-but-necessary exercise on top of their work, which may even prevent some physicians from publishing their results at all.



Pain point grouping

Oncologists' challenge here lies in the fact that writing papers is not a regular activity. As an elective task, oncologists may sometimes lack the skills to be as efficient as they would like when completing additional writing tasks, creating frustration among physicians who already feel an acute shortage of time.

Limited support and assistance

When contributing to scientific research, many physicians are typically on their own when trying to navigate the cumbersome process of writing papers, finding suitable journals in which to publish, and preparing presentations for congresses. When the publication is about a clinical trial, pharma coordinates and does most of the publishing work, but many publications are also done outside of clinical trial setting.

Many ways lead to Rome

Physicians may feel they have to reinvent the wheel every time they publish. Often, they need guidance since there isn't a standardised approach to conducting and publishing research and formats. Research contributors therefore rely on their own knowledge and best practices, with little sharing between researchers.

Time-consuming additional workload

Participating in clinical studies is a time-consuming exercise because of various, (often in-person) meetings with stakeholders like pharma companies. Administration and paperwork (like ethics reports, costings, forms, etc.) place a massive burden on publishing physicians. These tasks create incidental work, unrelated to the scientific research itself, while draining resources from physicians and their teams.

Areas of improvement

In this theme, limited interruption and actionability lead the way. Conducting and publishing clinical research are activities that oncologists perform in addition to regular duties such as seeing and treating their patients. Here, they expect and need greater support from integrated and digitized processes and solutions.

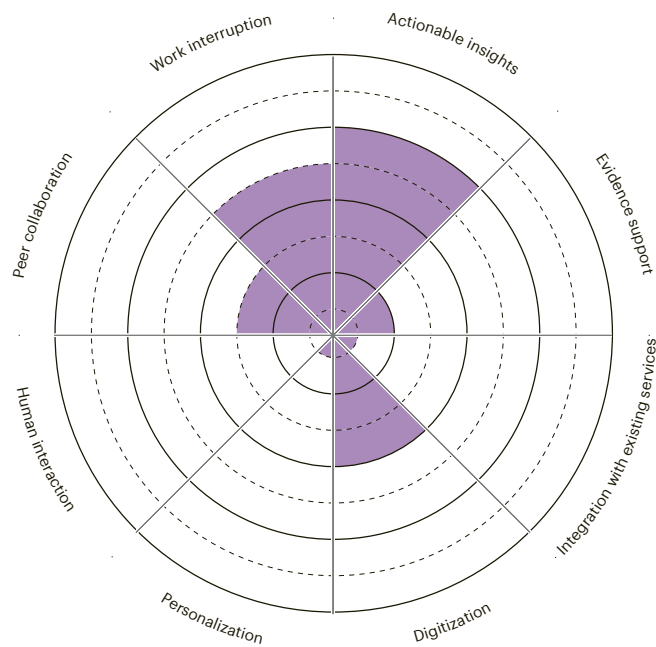


Figure N°5: Areas of improvement for theme 3

Design drivers

→ Services in this theme should consider effortless knowledge and insight sharing, peer and expert recognition and a reduction in red tape excessive standards.

01 Effortless knowledge and insight sharing

The friction involved in sharing research insights and knowledge needs to be minimised. Allowing physicians to focus on conducting research and creating knowledge and integrating knowledge sharing into everyday practice while streamlining and outsourcing the publishing and writing process would ease the process and enable the physician to focus on the science.

02 Peer and expert recognition

Services should help physicians create expertise and enhance their professional profiles by reducing their efforts to publish findings in journals and/or present them at congresses.

03 Reduction of bureaucracy

Solutions need to be focused on reducing and not adding to the already untenable administrative workload of the oncologist.

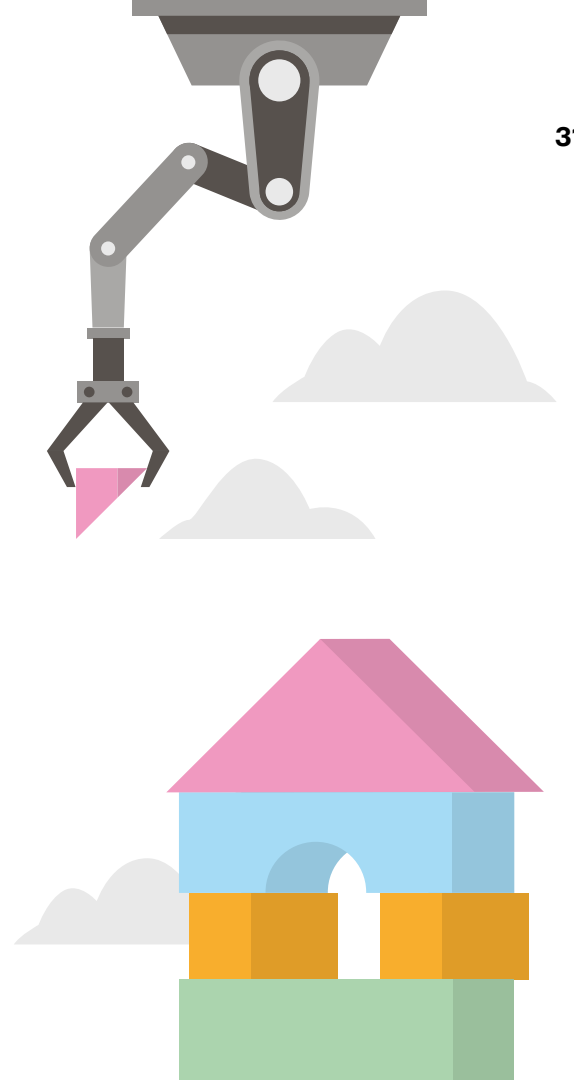
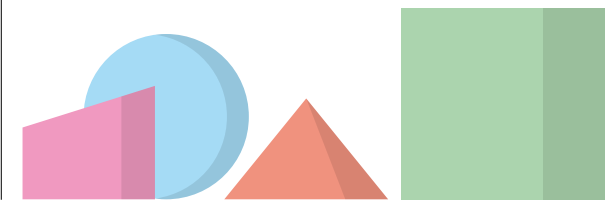
Area of opportunity

Sharing scientific insights and data made easy

When writing, physicians seem to rely a lot on their "human support crew" such as medical students or assistants if the study is conducted outside of a clinical trial environment. We believe that physicians should have support along every touchpoint of their journey of contributing to scientific research.

What if the writing process would be more automated and collaborative writing would be seamless and supported by technology? A new open format of scientific publication that is dynamic, evolving and collaborative would accelerate the writing process with suggested content. Also, the collection of data and insights towards scientific research would be simplified and automated.

IMAGINE, an oncologist could draft a case report with a few clicks. The solution would access anonymised patient data, organize into a standard structure and use AI to write the core content elements of the story. Instead of administrative red-tape and writing, the physician can focus on reviewing and the conclusions. As a next step, the case could be directly matched to the best paper or journal without any additional time consuming involvement (e.g. peer reviews) by the oncologist. Imagine all physicians could share their expertise and findings with only a few clicks. This might sound like far out in the future in our industry, but in news publishing, this has long been reality.



One procedure, one platform to submit and access clinical research

Each pharma company or clinical research organisation has its own way of operating when it comes to clinical trials. For oncologists, it is a complex environment to navigate and the related paperwork is overwhelming. Finding a study to participate in is also not straightforward, and as a result, it is often well-known opinion leaders that participate.

What if there would be a platform and automated ecosystem fuelled by smart algorithms that could better match oncologists to clinical studies based on their interests, expertise or patient population? One single approach would allow physicians to contribute to clinical studies in a standardised and efficient way – no time consuming paperwork would follow.

IMAGINE having access to the wisdom and patient populations of all oncologists globally with their diverse patient population. An ecosystem that connects, contributes and learns across the globe to jointly drive scientific research.

Our perspective

Despite the benefits to the medical community, writing scientific papers is far from being a frequent endeavour for many oncologists. Our research has shown that many oncologists need significant support in this area—whether taking away the bureaucratic burden for the more experienced or providing writing support for the less experienced. The future of academic medical publication will be more fluid, with different modular formats. Physicians won't need to write content anymore, but rather provide facts, insights and review the conclusions. Everything in between will be automated.

Oncologists will have access to clinical studies and journals, and will be able to reuse insights in an automated way. The research content itself would be gathered from single sources of facts, reprocessed in a consumable and interactive format so that it can be reused by physicians.

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	LO800	4.937	5.784	5.763	5.875	5.923
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	control	7.791	4.534	4.738	6.787	4.771

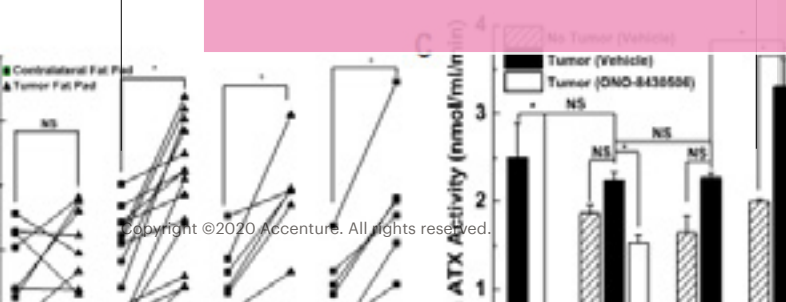
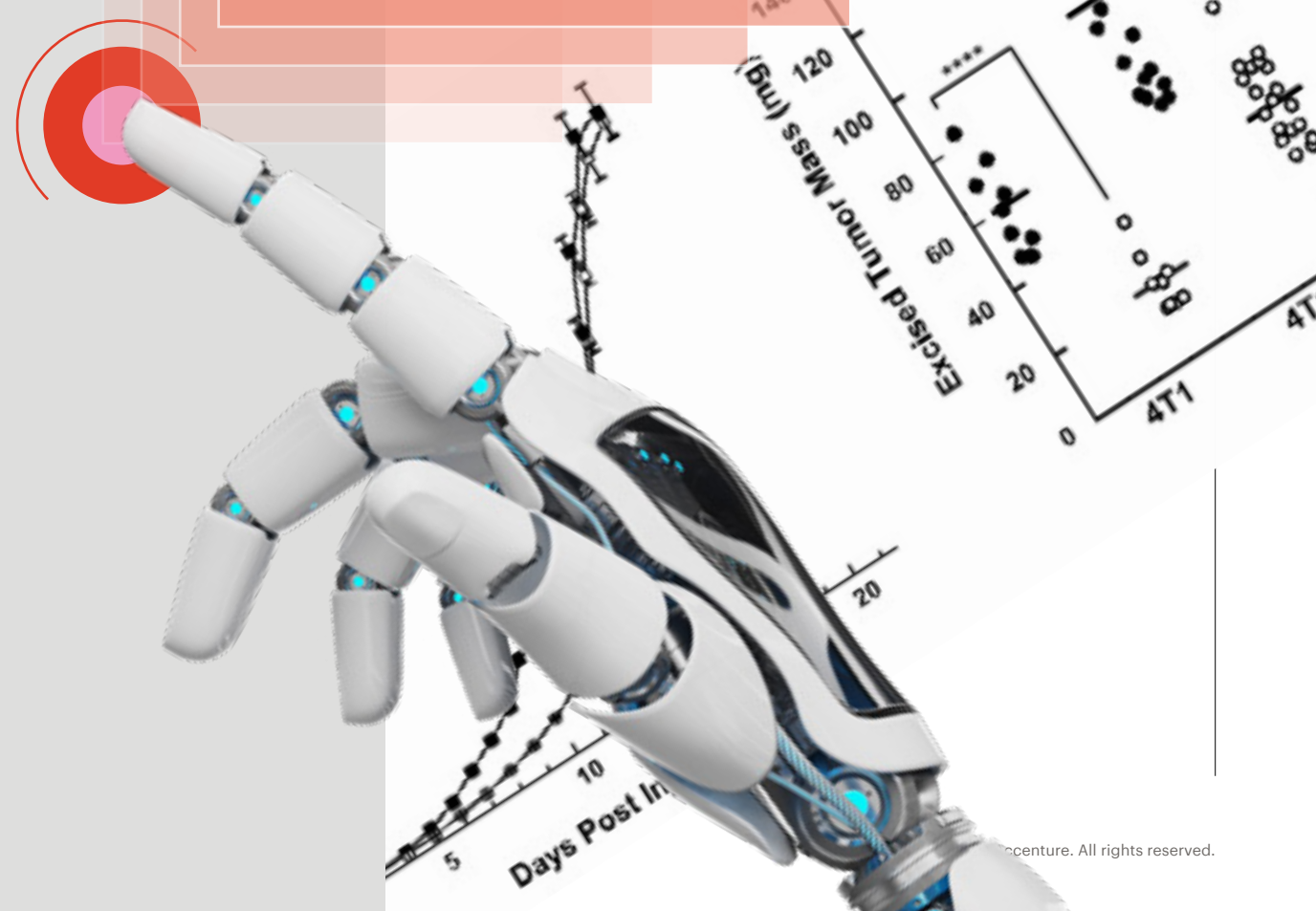
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	someag01a	4.985	4.045	4.024	4.953	4.325
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	none	4.304	5.207	5.240	4.708	4.784
	LO800	4.980	5.566	5.927	4.680	4.435
	someag01a	4.435	4.435	4.394	4.435	4.394
	control	6.884	4.435	4.394	4.435	4.394

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THEME 4

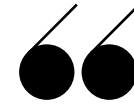
Support cancer patients

Whether it's providing educational material for cancer patients, finding and curating relevant information on a treatment or identifying the right patients to enrol for a clinical trial—oncologists need access to the most relevant information to their patients' treatments.

Episode 12

Access material for patient education

Physicians support their patients to understand key information about their disease, including information about treatment, condition, lifestyle, use of the treatment recommendations and important contacts. Typically, physicians can distribute brochures put together by the industry with said information.



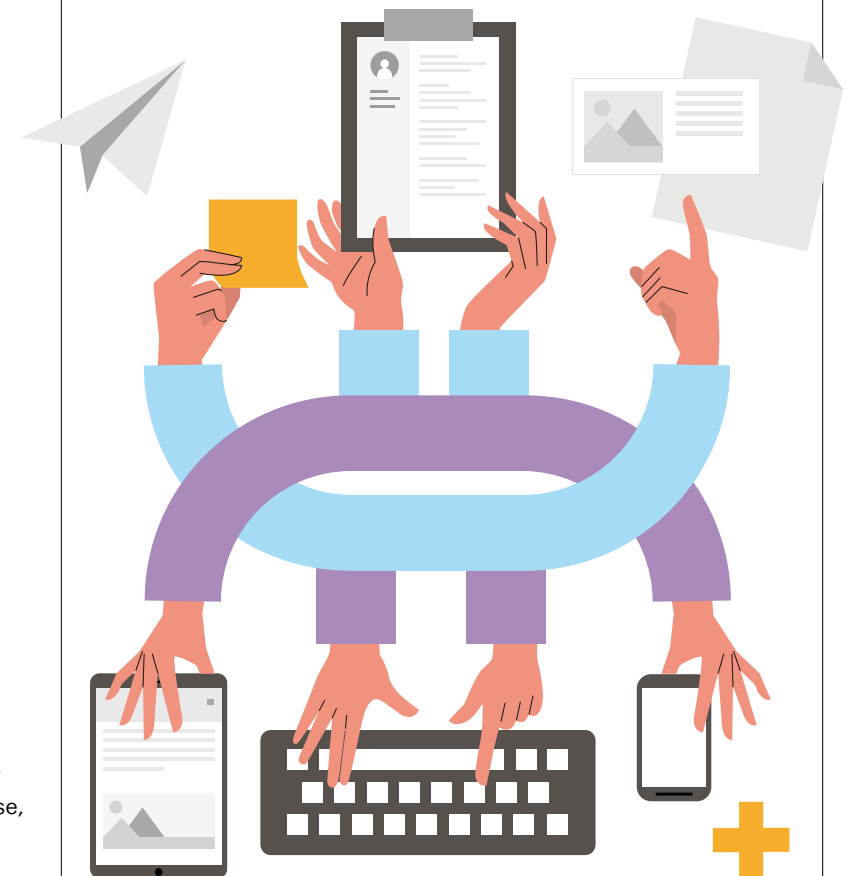
I like to give my patients published information from societies like a research fund and I only use pharma sponsored content when they're on specific drugs for patients.

ONCOLOGIST

Episode 14

Identify and enrol patients into relevant clinical trials

Participating in clinical trials is vital if hospitals and physicians are to be actively involved in clinical development and to offer patients access to clinical trials. Before patients can be enrolled in clinical trials, physicians must ensure that they fulfil the necessary conditions requested by the sponsor of the trial which defines the criteria.



Episode 13

Find information online (e.g. patient treatments)

As in every industry, the world wide web is a vital source of information for oncologists. The main topics they look for include background information on disease, patient treatment paradigms and current advancements in drug development.

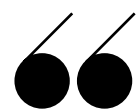
Pain point grouping

Finding the right educational material for individual patients takes time

Providing educational information to patients isn't as straightforward as physicians would like. Often the information is inaccessible, contains medical jargon or isn't curated and thus too generic. To provide information relevant to the patient's case, physicians need to collect content online, but also rely on brochures provided by pharma companies. These one-size fits all brochures often overlap and don't really help individual patients, so the physician has to do a lot of additional explaining.

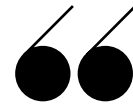
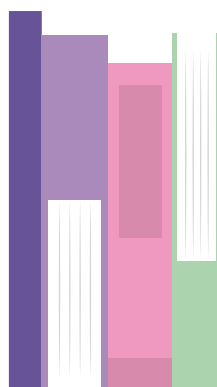
Patient materials are often perceived as biased

Physicians tend to be hesitant about distributing brochures from pharma companies because they often appear to promote that company's products. The perceived sales push erodes trust in the objectivity and transparency of the information, and results in a need to compile their own educational material, which is very time consuming.



I want to give the patient sort of non-biased information.

ONCOLOGIST



What I don't use as much are branded pieces from the pharmaceutical companies because I think it sways opinion and there are many other drugs in this space.

ONCOLOGIST

Time consuming to find the right educational information for patients

Educating patients while treating them is a time-consuming task, on top of regular work, and isn't reimbursed. Finding and preparing educational material is a hassle on its own. Imparting it to patients requires additional effort.

Fragmented landscape of clinical trials

Clinical trial methodologies vary depending on the stakeholder involved. Physicians struggle with finding clinical trials and there isn't a standardised way to do so.

Patient enrolment in clinical trials

Patient clinical trial enrolment is cumbersome, and physicians need to go through various bureaucratic hurdles on top of their daily tasks.

Areas of improvement

Digitisation and personalisation are the most frequent areas where oncologists expect improvement. Patient support systems still fall far short of going online to leverage the capacity of the digital world and tailor content to each individual user.

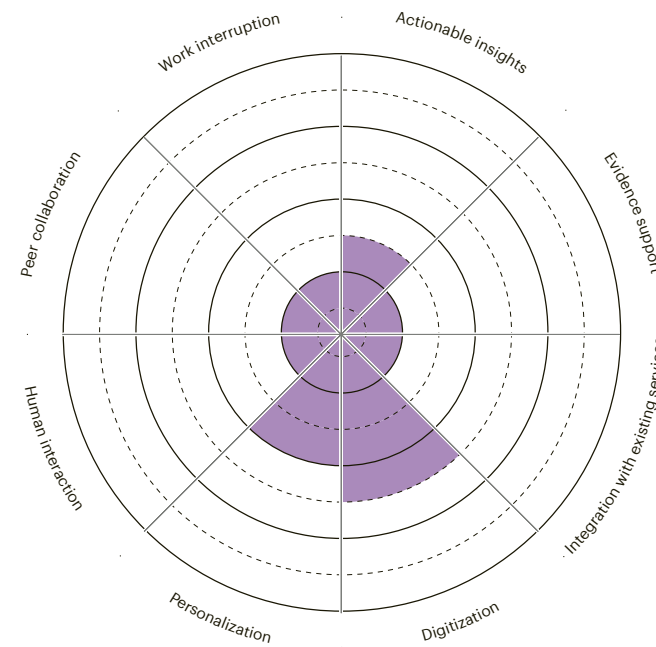


Figure N°6: Areas of improvement for theme 4

Design drivers

→ Services in this theme should consider trustworthiness, accessibility, availability, shareability, discoverability and reduce administrative workload.

01 Trustworthiness
Services should help create trust based on specific patient support.

02 Intelligibility
Educational material is comprehensible for patients.

03 Availability
Services simplify access to curated patient support material.

04 Discoverability
Services make it simple to find support (like financial support or access to clinical trials) for the patient.

05 Harmonise and centralise
Services are efficient and reduces administrative workload for oncologists.

Area of opportunity

Providing curated content for patient education

Currently, oncologists manually collect, curate and translate information in order to provide relevant educational material to their patients.

Although physicians have a wide selection of patient information, they often perceive it as too general or not well suited for the specific patient context. Physicians all have their own best practices and rely on various sources and formats (e.g. guides from a cancer research foundation) to navigate and satisfy the different needs of their patients.

What if there was a platform with curated, trustworthy information where oncologists can assemble modular content relevant to each individual patient case? As information would be provided interactively through new media instead of paper brochures, patients could engage with the physicians and other patients or experts from the pharmaceutical industry through embedded social platforms.

MAGINE oncologists could get the content tailored to the input that you provide such as age, literacy, disease and emotional preference. With the help of AI powered tool / platform, the relevant information would be gathered and exported in a suitable physical or digital format according to the patients' need. On top of that, physicians would be able to educate their patients with the support of interactive screens and applications where they would guide the patient through important facts of his health condition.

A companion for a patient's support and education

When diagnosed with cancer, patients and their social circles find themselves in an extraordinary situation. On top of psychological stress, they need to navigate a flood of information. Often, they are dependent on the oncologist's social competence and capacity to get the support and education they need.

What if patients had personal digital companions to guide them along their individual journeys? Digital companions would provide answers to pressing questions and be on call day and night. They would also constantly monitor patients' vitals and symptoms to ensure a more complete health history and identify possible treatment complications early.

MAGINE patients would have a fluid coaching ecosystem available that learns and evolves with the stage of the disease. It would learn from diagnoses and additional, relevant data and adjust to the respective disease. It will address the patients' condition in a more holistic way and complement the oncologists interaction in a very personal and ideally emotional way.

Matching patient profiles with clinical trials

Currently, patient profiles are manually reviewed in order to find a match for a clinical trial. Often, this is highly inefficient, not only for pharma companies but also for the physicians who need to compile, record and submit the patient dossier.

What if this process could be streamlined and the patients could be matched even more accurately to a suitable trial? In order to automate patient to trial matching, patient profile data needs to be standardised, accessible and machine readable.

MAGINE physicians would have access to an intersection between a digital patient database (including longitudinal life data) and the global clinical trial ecosystem that automatically does the matching. Whenever an oncologist has a patient, that would be a potential match, he would be asked if he explored to involve the patient into the clinical trial. After the oncologist did the proposition, he will receive a checklist with missing, required data that has to be provided to then enrol the patient.

Our perspective

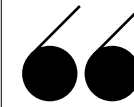
The information currently available to oncologists is often not fit for purpose. However, accessible, vetted and well-curated information can create added value not only for physicians but also for patients. Establishing knowledge databases for patient education seems rather trivial, given the potential positive impact. In the future, AI driven smart ecosystems will be much more tailored to individual patients and integrated into their lives. It will curate the information a patient would need and involves the surrounding of his digital environment. It will take care of the patient in a highly immersive way and will play an active role in various touchpoints and services of a patient's life in order to ensure that the patient's behaviour is in line with the physicians' recommendation. However, optimizing patient to trial matching and patient trial eligibility verification is more delicate and needs to start with the establishment of standards for patient data.

THEME 5

Access clinical data



data



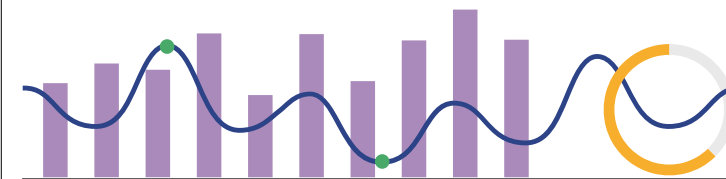
Eighty-two percent of physicians surveyed said that a lack of supporting real-world evidence was a key hurdle to precision oncology becoming a mainstream treatment modality.

ACCENTURE STUDY

Episode 15

Access real world evidence/data for therapeutic decisions

Physicians usually base their treatment decisions on clinical trial data. However clinical trials are often done in a specifically defined patient population (e.g. excluding co-morbidity etc.) and they often don't perfectly match the specifics of the patient treated by the physician. Real world data about more diverse patient cases would improve physicians' understanding and help them identify the right treatment—but this is not accessible to most practitioners.



Episode 16

Access data from clinical trials for therapeutic decisions

Data from clinical trials is still the main data set on which physicians base their treatment decisions. While summarised results of clinical trials are included in the drug pamphlets, more specific results from clinical trials are only published in journals or presented at conferences.

Episode 17

Access historical/longitudinal patient cases (incl. outcomes)

Accessing historical/longitudinal patient case data of other (but similar) patients enables the physician to gain a more holistic understanding of his/her patient's condition and evaluate possible treatment options.

Accessing various types of patient data, ranging from real world evidence data, to data from clinical trials or historical / longitudinal data for therapeutic decisions.

Pain point grouping

Real-life, longitudinal patient data is not accessible

For the majority of physicians real-world data sets of patient cases, including longitudinal history are typically not accessible, or very difficult to find. There is limited exchange of cases or access to searchable databases, as the data usually resides with the treating physician / institution only.

Finding trial data is time consuming

Finding detailed trial data, such as cohort-specific results, is very time consuming as these are often only published in papers or presented at conferences. Reading and interpreting papers to extract the required information is very slow. There is no database to search in, and physicians receive very limited support in this regard.

Data is too aggregated and not available at case level

Physicians only receive aggregated mean values and cohort data provided in studies, but they need insights into individual cases of specific patient groups.

Data alone is not actionable

The data needs to be better integrated into the daily work of physicians, for example, via integration into a clinical decision support tools.

Areas of improvement

The research results point to a call for more digitisation, actionability and personalisation. Today's challenges of accessing medical data prevent oncologists from deriving the full potential benefits of such data. Oncologists expect a more decisive digitization of medical data addressing key obstacles such as incompatibility of different data formats.

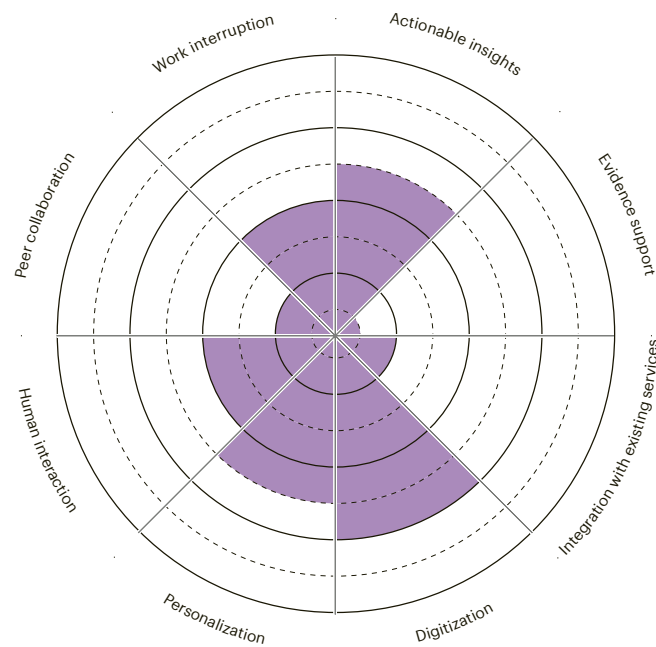


Figure N°7: Areas of improvement for theme 5



Design drivers

→ Services in this theme should consider data fluidity, relevance and convergence.

01 Data fluidity

Services make medical data (patient data, drug data trial data etc.) fluid, easy to search, access, format and re-share.

02 Data relevance

Services present only contextually relevant medical data and hide unnecessary data.

03 Data convergence

Juxtaposing different data sets can drive insights - e.g. identification of unseen patterns and indications.

Areas of opportunity

Open conversations on clinical data

Pharmaceutical companies are protective of the raw data of clinical trials and sometimes do not publish all the details. Thus, data isn't easily accessible to a broader group of practitioners. While this stance is understandable from a traditional point of view, opening-up clinical data to the outside world might generate new opportunities. A recent Twitter experiment showed that patients themselves wanted to report the benefits and side-effects of a drug in a very open and collaborative way. Closer interaction with the physicians and pharmaceutical representatives could lead to significant improvement in the use of the drug.

What if data fluidity were a reality, and access, aggregation, and sharing of clinical data were easy? Data formats and standards need to be reworked in order to make information machine readable while preserving human readability and compatibility, as has been the case when PDFs are exchanged. But freeing the data from silos would allow broader comparison, research and better-informed decisions.

MAGINE an ecosystem of clinical trials, research data and contextual information that is as navigable and accessible as stock market data—so that insights can be formed in real-time.



Cultivate patient data pools

Since oncologists struggle to access specific patient data, there is a need for data pools large enough, accessible enough and rich enough to provide oncologists with the data they are looking for when issuing a diagnostics and treatment plan. Data pools exist today, but they're usually gated. Accessing them is often not obvious for a single oncologist or too costly for an institution.

What if one would think about different value models for new data pools, some of them could be inspired by open source (e.g. oncologists' level of access to the data pool could be determined by their own level of contribution). we could move away from big, chunky and expensive to access data sets towards a more fluid exchange of relevant data.

MAGINE relevant patient information is digitised, and agreed formats and standards enable anonymous patient data exchange. But instead of centralised data lakes with pressing questions of data ownership and high infrastructure cost, data would be decentralised and remain with the patient as the custodian. Only he could give permission to access and use his personal case data based on predefined rule sets. Matching algorithms could find cases with similarities and enable the physician to globally search for historic, comparable cases, even for rare diseases. This would give physicians access to comparable cohort of patients (same age, same co-morbidities, treatments, outcomes, etc.) beyond clinical trials.

Our perspective

Streamlined access to more detailed patient data pools can have an immensely positive impact on oncologists' work and, ultimately, patients' health outcome. However, this likely requires a new level of collaboration and alignment among key players in the field. Also, a decision to open up data pools might seem contradictory to pharma's traditionally closed source policy. Yet, acting as a first mover might set in motion a larger trend that, in turn, gives access to even larger data pools. This will push the industry to differentiate through algorithms and insights instead of pure data access.



Record patient data

THEME 6

This theme aims to capture the activities, difficulties and systems linked to the collection of patient data by oncologists and their teams. The theme is deeply linked to theme 5 as it accounts for the data capture that would feed medical databases. This is why it is a critical topic for all practitioners, although the very nature and intensity of their jobs seems to leave little room for proper use of existing data entry tools.

Episode 18

Manage, record, and report patient side effects

Managing, recording, and reporting patient side effects is part of a physician's everyday practice and enforced through safety / adverse events reporting regulations.

Episode 19

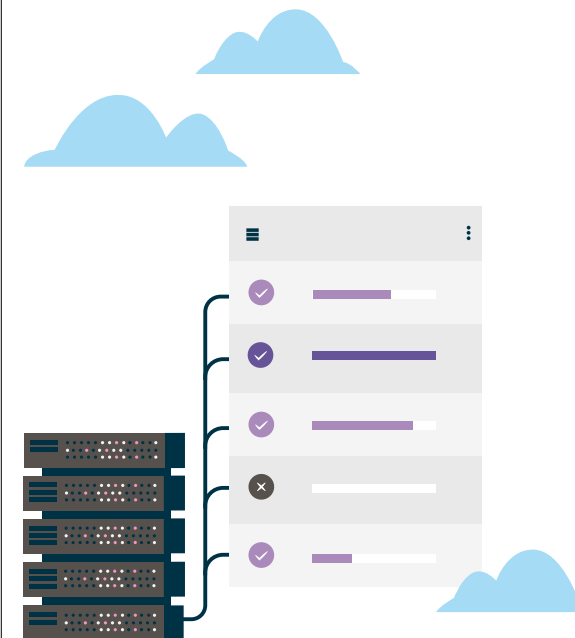
Monitor, measure, and record patient outcomes

Physicians closely watch the patient's outcomes, measure different factors and record them either on paper or in an electronic medical record (EMR) system over the full treatment cycle and beyond.



The problem is that the usability of the data depends on the quality of the data that was put in automatically

ONCOLOGIST



Pain point grouping

No central place for data entry

Physicians in the same clinic and/or across medical centres use different systems. Also, collaborations with pharma companies use different systems (potentially one for each pharma company).

Inefficient reporting process

Data on side effects and patient outcomes is not always digitally recorded and reporting is often manual and paper-based, hence inefficient and time consuming.

No feedback loop

Reporting on side-effects or patient outcomes is a one-way input without feedback or advice on how to potentially adjust treatment.

Recording patient outcomes is an exception

Patient history and outcomes are often only consistently tracked when a patient is part of a registry or enrolled in a clinical study.

Lack of exchange

No standardised solution to access experts outside of the immediate network or peer group (e.g. in the same hospital or region).

Inconsistent data quality

Non-concrete data such as images or text is difficult to abstract and collect and the quality of input varies.

Expectation mapping

There is an expectation of greater digitisation to record patient data. A couple of possibilities exist: existing tools are not user-friendly enough to help physicians record data easily, or user-friendly tools are not widespread enough to have an impact on this theme. In any case, there is space for digital-enablement that facilitates this theme.

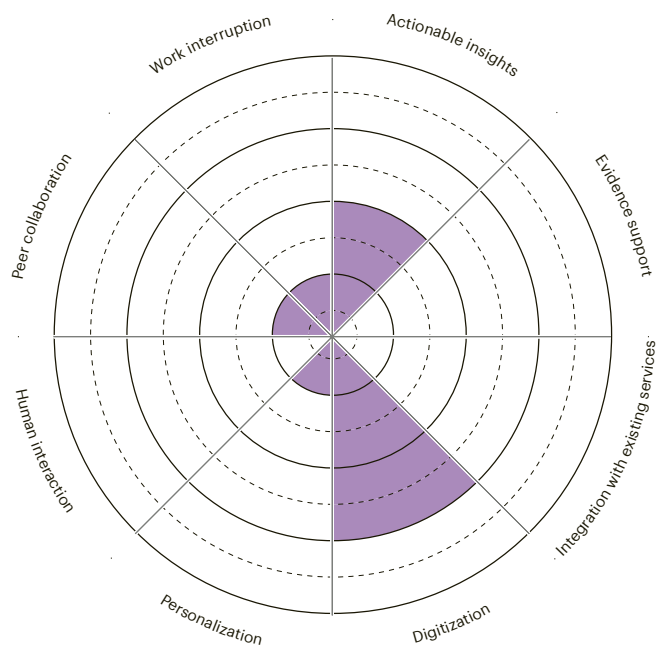


Figure N°8: Areas of improvement for theme 6

Design drivers

→ Services in this theme should consider minimal disruption and the establishment of standards.

01 Minimal disruption

The service is integrated into the daily activities of the physician and generates little to no disruption to workflow. The service helps capture input easily, minimising the additional work required from the oncologists and their team.

02 Ensure quality

The service should facilitate and encourage the collection of detailed and quality data.



Area of opportunity

Automate and remove the worry of different platforms for physicians

Reporting patient side-effect should be effortless, seamless and avoid double entry.

What if reporting could be simplified to the point that relevant data could effortlessly be entered and submitted via the practitioner's EMR system? Data standards and an API interface for case reporting to a central platform would allow EMR system providers to integrate with their software.

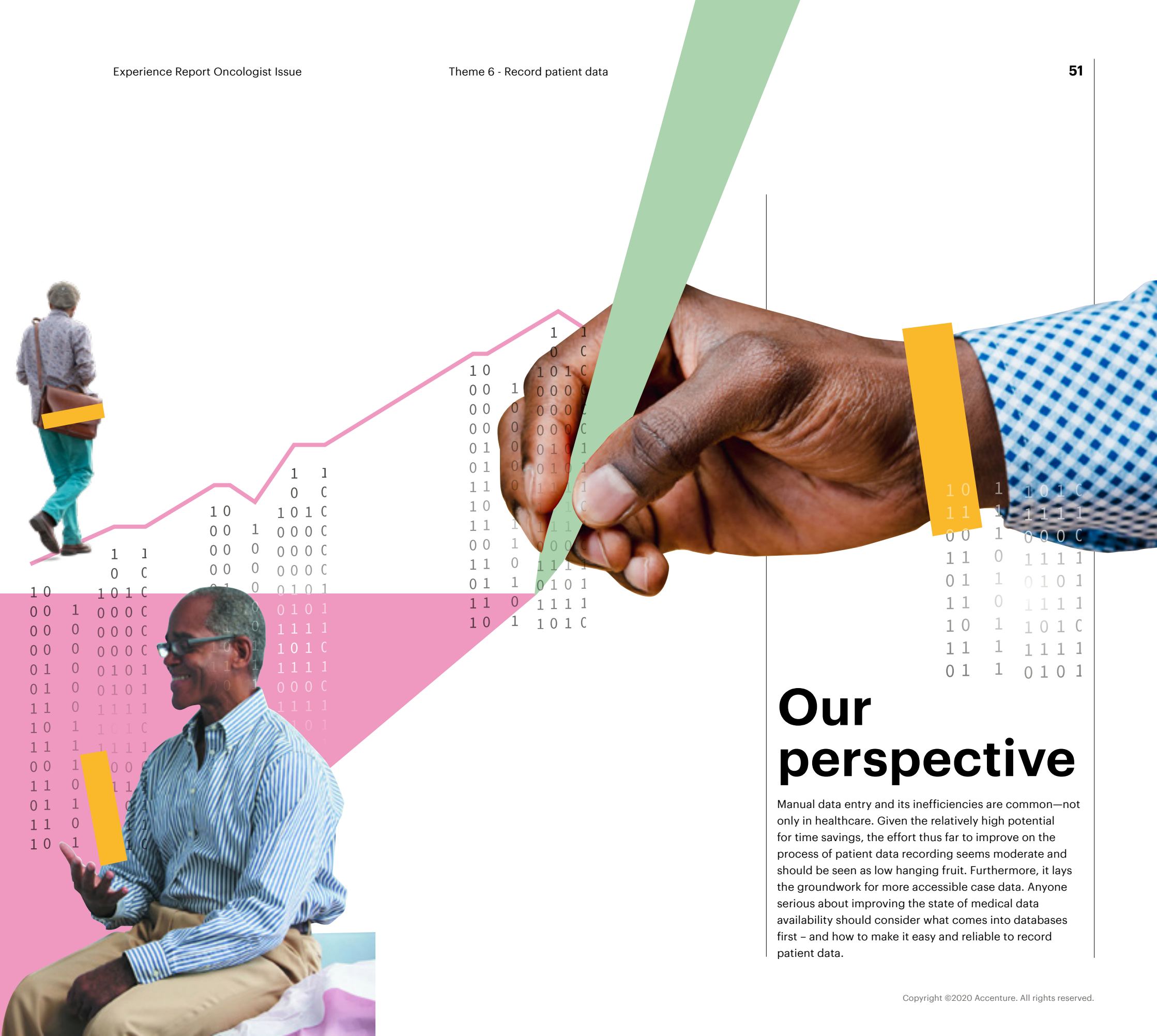
MAGINE an oncologist could write a summary of the patient consultation and a prescription which is then sent to the patient, the EMR is automatically updated and connected systems are notified.

Engage and involve patients in data collection

Physicians need to monitor patients' condition as possible side effects must be reported. Currently, physicians gather this specific patient information through personal consultation or by issuing lengthy forms to the patients.

What if there was a more "subtle" way to collect potential side effects of products. In addition to the patient reported symptoms (e.g. headache), tools could capture passively other parameters which might point at a side effect (e.g. getting up more often at night) or at a product not working.

MAGINE, the patient would not even have to record habits or nutrition consumption as smart wearables would classify and report this automatically. On a daily base, the patients intelligent personal assistant would ask him how he has been and if he had observed any symptoms or side-effects.



Our perspective

Manual data entry and its inefficiencies are common—not only in healthcare. Given the relatively high potential for time savings, the effort thus far to improve on the process of patient data recording seems moderate and should be seen as low hanging fruit. Furthermore, it lays the groundwork for more accessible case data. Anyone serious about improving the state of medical data availability should consider what comes into databases first – and how to make it easy and reliable to record patient data.

The way forward

We now have a rich series of areas of opportunity. The question we have to answer now is “where to start?” It is now a matter of selecting the areas of opportunity that will bring the most value to oncologists, pharmaceutical companies, and the broader healthcare ecosystem. All the stakeholders that are necessary to build and provide desirable solutions to these areas of opportunities, have sometimes diverging interests. We do believe, though, that by taking the point of view of the oncologists first, we will be able to build the desirable services that people will adopt, generating the value and business cases that private actors will go after.



3

Where to focus next?

Uncovering the needs and underlying drivers is the starting point for human-centred transformations that put the emphasis on desirability to drive the success of a service or solution. The outlined different themes and opportunity areas have opened up the innovation spaces – this activity needs to be followed by strategic prioritization to regain focus and zoom-in on the opportunity areas that fit to the overarching corporate strategy and the existing or planned capabilities. To do this, we determine the individual sweet spot that drives the prioritization for a company.

Desirability: Does the opportunity area help cater to an oncologist's or patient's need. Can it help make the experience better and win-over people's hearts.

We can add:

- we selected 5 of the most frequently quoted expectations across all episodes to provide a framework to evaluate desirability;
- we were then able to infer and map these expectations with the themes they were most relevant to the result: a first view of what themes harbour the biggest potential for improvement in the eyes of oncologists.

Viability: Can the opportunity area deliver value along the focus areas outlined by the corporate strategy. Does it move the organisation towards achieving strategic and financial ambitions?

Feasibility: Is the opportunity area a realistic target based

on the existing or targeted capabilities. The feasibility will have to be in-sync with the time-horizon and ambition level of the corporate strategy.

We believe in designing and delivering experiences end-to-end. We bring quantitative and qualitative data to represent the oncologists voice and help clients identify the intersection with their business ambitions and capabilities. Instead of planning the future we however believe in acting on the future by testing out future value propositions and services already today, with rapid prototyping, business model explorations and design led agile delivery.



Desirability

		<i>Time efficiency</i>	<i>Digitization</i>	<i>Actionability</i>	<i>Less disruption</i>	<i>Convenience</i>
Exchange medical knowledge	Simplify networking and making it more accessible, also outside of knowledge sharing events.					
	Restructuring the flow of medical knowledge.	●			●	●
Diagnose and treat patients	Triage / recommend clinical decision tools and guide physicians in navigating different diagnosis and treatment options.	●	●	●		
	Extracting, pre-populating and reusing data to facilitate the preparation of expert discussions and tumour boards.					
Conduct and publish clinical research	Sharing scientific insights and data made easy.					
	One procedure, one platform to submit and access clinical research.		●	●		●
Provide patient specific support	Providing curated content for patient education. A companion for a patient's support and education.					
	Matching patient profiles with clinical trials.	●	●	●		
Access clinical data	Open conversations on clinical data.					
	Cultivate patient data pools.		●	●		●
Record patient data	Automate and remove the worry of different platforms for physicians.					
	Engage and involve patients in data collection.		●		●	●

Table N°1: Opportunity areas, desirability scorecard

Viability

Feasibility

<i>Strategic priority</i>																			

Table N°2: Opportunity areas, viability and feasibility scorecard template

Conclusion

Healthcare, and especially oncology, desperately needs process transformation. However, it is vital that changes be human-centric, and seamlessly integrated into oncologists' workflows rather than consuming more time without adding any value.

The Experience Report Oncologist Issue focuses on six themes (exchange medical knowledge, diagnose and treat patients, conduct and publish scientific research, support cancer patients, access clinical data, record patient data) to bundle oncologists' expectations and pain points, and align them with opportunities. Defining problem statements based on human needs is the foundation for effective transformation projects, and this report, with all its underlying quantitative and qualitative research, can serve as this foundation.

The design principles we have aligned with each theme act as guardrails that can help any transformation project stay true to user expectations and needs.

The report is a launch pad: in reality, transformation projects can have different ambition levels and time horizons. At Accenture, we improve established oncology services iteratively, and we support ambitious strategic bets. Most importantly, we believe that better experiences and outcomes come from deeper understanding of, and design for the oncologists' needs.



Credits

Credits

P.02 Gloved hands of a Centers for Disease Control and Prevention (CDC). Photos by CDC / Unsplash
 P.05 Laboratory technician, dressed in personal protective equipment Photos by CDC / Unsplash
 P.20 Fox Cities Exhibition Center, Appleton, United States. Photos by Headway / Unsplash
 P.21 Man holding black smartphone. Photos by Jim Reardan / Unsplash
 Person holding white heart shaped paper photo. Photos by Branimir Balogović / Unsplash
 P.27 Radiotherapy room - Radiation therapy machine Photos By Mediteraneo / Adobe Stock
 Plate of white caplets. Photo by The Tonik / Unsplash
 P.33 White cyborg pointing his finger 3D rendering By sdecoret / Adobe Stock
 Nurse prepares an injection wearing a uniform Photos by Azerbaijan Baku / Freepik.com
 P.39 Server. Illustration by Macrovector / Freepik.com
 Person holding white shuttlecock photo Photos by Siora Photography / Unsplash
 P.43 Thunderbird supercomputer at Sandia National Laboratory. Photo by Science in HD / Unsplash

P.45 Man writing on paper with pen. Photo by 8Photo / Freepik.com
 Office desktop with laptop and analytics. Photo by Freepik.com
 Young tender curly girl holding documents. Photo by cookie_studio / Freepik.com
 Girl with tablet. Photo by Marek Levák / unsplash
 P.49 Pile of printing papers photo. Photo by Sharon McCutcheon / Unsplash
 Person holding white piece of paper. Photo by Sarah Brink / Unsplash
 Black and white plastic containers photo. Photo by Markus Winkler / Unsplash
 P.50 Man in a colorful costume walking. Photo by ishopper.com
 P.51 Male hand holding pencil. Photo by @master1305 / Freepik.com
 P.55 Woman doing research while holding equipment. Photo by National Cancer Institute / Unsplash
 P.59 Medical science laboratory. Concept of virus and bacteria research. Photo by alphaspirt / Adobe Stock

About us

About Accenture Life Science

Accenture's Life Sciences group is committed to helping our clients make a meaningful impact on patients' lives by combining new science with leading edge technology to revolutionize how medical treatments are discovered, developed, and delivered to people around the world. We provide end-to-end business services as well as individual strategy, consulting, digital, technology and operations projects around the globe in all strategic and functional areas— with a strong focus on R&D, Sales & Marketing, Patient Services, and the Supply Chain. We have decades of experiences working with the world's most successful companies to innovate and improve their performance across the entire Life Sciences value chain. Accenture's Life Sciences group connects more than 15,000 skilled professionals in over 50 countries who are personally committed to helping our clients achieve their business objectives and deliver better health and economic outcomes.

About Fjord

Fjord, part of Accenture Interactive, is a design and innovation consultancy that reimagines people's relationships with the digital and physical world around them. We use the power of design to create services people love. By combining a human-centered approach with robust methodology, we work with some of the world's leading businesses to make complex systems simple and elegant. Founded in 2001, Fjord has a diverse team of 1,200 design and innovation experts in 38 studios, including Atlanta, Auckland, Austin, Barcelona, Berlin, Bogotá, Buenos Aires, Canberra, Chicago, Copenhagen, Costa Rica, Dubai, Dublin, Helsinki, Johannesburg, Lima, Lisbon, London, Los Angeles, Madrid, Medellin, Melbourne, Mexico City, Milan, New York, Oslo, Paris, San Francisco, Santiago, São Paulo, Seattle, Singapore, Stockholm, Sydney, Tokyo, Toronto, Washington, D.C. and Zurich. Learn more, follow us @fjord and visit www.fjordnet.com

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