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Horizons in Cancer Care: Payer Perspectives & Strategies for the Future

How cancer care will develop over the coming decade, and what payers should be doing to prepare now.

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Executive Summary

In the field of cancer science, a future we couldn't have imagined fifty years ago is now reality. Cancer diagnosis has become a field of multiple and growing sub-specialities, treatment options have proliferated and become more personalised, survivability is greatly improved and many cancer patients are living longer than ever before. Advances in cancer research have improved the outcomes for many people and will continue to do so, however they have also ushered in vastly more expensive treatments. Crucially, while the landscape of cancer science has changed dramatically, payment and reimbursement models have stayed the same.

Over the past six months, International Federation of Health Plans has consulted with its global membership on how insurers should prepare for the future of cancer care. In the spotlight are the questions how will payers meet the expectations of both their customers and providers and what does the latest research into cancer therapies mean for outcomes and, importantly, costs?

This paper uses McKinsey's Three Horizon model to explore best practice, interesting therapy developments and likely sticking points for innovation in three main areas of cancer care:

- Prevention and screening
- Genomics and personalised treatments
- Cancer as a complex and chronic disease

What, therefore, should insurers be paying attention to in order to mitigate the risks and navigate a sustainable path? Based on the insight gathered from contributors and a view of what's likely to emerge in each of the three horizons, the research suggests four priority areas:

1. New models for prevention, collaboration and value-based care – accurately measuring variations in care and outcomes in specialty care is challenging and it requires a longer-term view, but it provides an essential route towards better, more cost-effective care.
2. Data – pooling data, using emerging AI-powered capabilities and working on the barriers to data sharing is a long-term project. Success will require building better infrastructure to allow primary care electronic medical records (EMR), specialty care EMR and claims data to be shared and integrated.
3. Payment models – new payment models, such as subscription and warranty models are emerging, but to harness their benefits it is imperative to get manufacturers and providers around the table to collectively shape the future of reimbursement.
4. Members and patients – the need for preventative care and better management of patient expectations requires insurers to find ways to have much greater influence earlier in the care pathway. It will also be important for insurers to build trust with their membership around how cancer care is covered.

A recurring theme in the research is that any change that payers can make on their own is limited, and therefore key to all of these areas of focus is renegotiating and redefining the relationships within the health system, around the common goals of better outcomes and better value care.

The funding challenge of cancer demands a longer-term, value-creation focus that must also be guided by short-term wins and continuous learning. The task for insurers is to align their Horizon 1 and 2 initiatives with their Horizon 3 vision. In terms of AI Adoption Maturity presented in iFHP's previous white paper, "transforming health and wellness" emerged as a compelling vision for health insurers. For cancer care this may look more like "re-defining partnership for better cancer outcomes."

Introduction

“The new cancer drugs and treatments are turning more cancers into a chronic condition that can be managed, meaning fewer patients will end up in emergency rooms and hospitals, saving insurers and their clients’ money, provided they support integrated delivery models with strong patient navigation programs (both using AI and navigators).” Mike Meyer, President, Meyer Consulting

Cancer. For many people it’s the most dreaded of diagnoses. It’s also easily the foremost reason why many people make the decision to purchase health insurance. Their concern is well-placed: studies conducted in the US and UK conclude that more than 50% of people will receive a diagnosis of cancer at some point in their lifetime.

However, huge advances in cancer research and cancer treatments in recent years have significantly improved outcomes for many cancer patients, particularly with the emergence of innovative targeted or personalised treatments. Treating cancer today often requires a multifaceted approach, combining surgery, chemotherapy, radiation therapy, immunotherapy, targeted therapy and precision medicine. Personalised treatment plans tailored to an individual's cancer type and stage are becoming prevalent, utilising advanced diagnostics like genetic testing to identify specific mutations. Research into immunotherapy, which harnesses the body's immune system to target cancer cells, is producing promising results, while targeted therapies such as monoclonal antibody therapies are able to produce molecular changes within cells. As a result of these therapies and other innovations in the way cancer is treated, cancer is being diagnosed earlier and people diagnosed with cancer are living longer.

There is of course a catch. Many of these new treatments cost more – much more – than the therapies they replace. Yet exactly how and when the new treatments will realise any potential for cost savings is unclear, and given the current price tags for the newest therapies (CAR-T, for example, costs between USD 500,000 and USD 1 million per patient), we could be forgiven for being sceptical about their value. An analysis published in the Lancet suggests that a ‘cancer premium’ does exist, showing cancer drugs were approximately three times more expensive than non-cancer drugs in the US, Germany and Switzerland (1). Following US President Joe Biden’s recent cancer moon-shot pledge, some commentators have argued that cancer research in the US doesn’t need more funding, and pouring money into research is likely to increase inequalities in access to cancer care. Alongside this, research has shown that the revenue generated from cancer medicines increased by 70% between 2010 and 2019 for the global top 10 pharmaceutical companies (2).

Because of the costs involved, some health insurers have made the decision to keep well clear of the debate and exclude innovative cancer treatments from cover. Others are navigating the difficult terrain of not only financial consequences, but also the social and ethical implications. Insurers may be operating with little support from other areas of their health systems and, without a doubt, are on the difficult end of increasingly high patient expectations. Money is being invested, but to what extent is it making cancer treatments more accessible, to what extent is this creating better outcomes for patients and how should the burden of costs be shared?

The cancer care landscape in 2024

While the advances in cancer treatments are astonishing, the increase in prevalence of cancer worldwide is equally breath-taking. In 1990, cancer ranked sixth among the top causes of DALYs (disability adjusted

living years) worldwide. By 2017 cancer had risen to second place (3). According to the same paper, there were 24.5 million incident cases of cancer, 9.6 million deaths and 233.5 million DALYs in 2017, as a result of cancer (3).

There is precious little good news about cancer prevalence, with estimates forecasting a 50% increase in the global cancer incidence from 2020 to 2040 (4). A separate analysis (from 2021) predicts a 100% increase in the global incidence of cancer by 2070 (5). Prevalence of cancer isn't the only challenge: improved survivability and changes in treatments mean more people are living with cancer as a chronic condition. Data gathered by UK charity MacMillan, as part of its National Cancer Survivorship Initiative, indicate that two million people were living with cancer in the UK in 2008. By 2020, that number had risen to three million and it is predicted to reach 3.5 million by 2025 and four million by 2030. The number of people in the UK living with cancer was projected to grow by 3% each year (6).

Digging deeper into the global data, the exact nature of the cancer care burden varies between regions and is strongly correlated with socioeconomic conditions. In 2020, the lifetime risk of cancer from birth to death varied widely from 38.48% to 10.34% in countries with a very high Human Development Index (HDI) and countries with a low HDI, respectively (7). Increases in global cancer prevalence will largely be driven by socioeconomic improvements in lower HDI regions, which will support aging populations while also increasing the risk factors for those cancers most strongly associated with reproductive, dietary and hormonal factors. In essence, we can expect the prevalence of cancer in wealthier countries to stay high, with lung, breast, colorectal and prostate cancers being most common. We can also expect prevalence of cancer to increase in countries undergoing socioeconomic transition, and to shift from high prevalence of infection-related cancers towards lung, breast, colorectal and prostate cancers. This, naturally, means cancer will absorb larger slices of healthcare budgets in those lower HDI countries.

Another worrying cancer trend is an increase in cancer in people under fifty years of age. Oncologists have reported a significant increase (around the world) in cases of early onset breast, colon, oesophagus, kidney, liver and pancreas cancers since the 1990s. The 'birth cohort effect' describes the phenomenon that, from the 1950s onwards, those born in each decade have a higher cancer risk before they turn 50 than those born in the previous decade (8). In the UK between 1990 and 2018, the biggest percentage change in cancer risk was in the 25-29 age group. While this group still accounts for a relatively small proportion of cancer diagnosis it's a worrying, not to mention emotive, trend (9).

Human nature has a big impact too. Where the most innovative, individually targeted and therefore expensive treatments can demonstrate impressive results, individuals naturally want to access the latest treatments, and expectations about outcomes can be unrealistic. When price negotiations, meaningful evaluation of new treatments, diagnosis and matching suitable treatments falls across different organisations or even sub-specialities within the health system, it is sometimes difficult to maintain a cohesive approach. Meanwhile, patients are (understandably) more concerned about staying alive, potentially hanging on to the possibility there is another untried treatment waiting around the corner. As Andrew Cottrill, Chief Medical Officer at Australian insurer HCF is only too aware, managing patient expectations is a delicate balance that includes ethical, financial and practical considerations. "There's a moral expectation from consumers that health insurers should be doing something about access to cancer treatments," Cottrill warns. "We could simply adopt a stance that cancer treatment costs should be dealt with through PBS [Australia's Pharmaceutical Benefits Scheme], instead HCF has adopted a more compassionate response. Nevertheless, at the end of the day it's not sustainable to say we'll just have to pay for all cancer treatments."

Nuala Close, former Vice President of Cancer at US-based cancer care provider HCA is equally clear that a new approach to managing cancer care is needed. "If we are serious about funding cancer care for the future," she says, "we need a different approach...Identifying strategies for controlling the cost of the

entire patient pathway will be more effective in restraining growth in health care costs than examining operative or single element costs alone.”

A strategic, future-facing perspective

The affordability of cancer care is challenging terrain and change does not come quickly at a system or payer level. However, to offer the most meaningful map of the cancer care landscape, this paper uses McKinsey's Three Horizons model and recognises that all three horizons need attention:

Horizon 1 (0-24 months): Maintain & strengthen core business

Horizon 2 (2-5 years): Explore & discover new expansions

Horizon 3 (5 years+): Create entirely new possibilities

Horizon 1: Current cancer developments and immediate implications

Insights drawn from the contributors to this paper are grouped around three main topics within each horizon, each of which represents an important aspect of the delivery of cancer care:

1. Cancer prevention and screening
2. Personalised treatments and genomics
3. The complex and chronic nature of cancer

Horizon 1 includes existing best practice and new services, with examples from Bupa, UPMC and Kaiser Permanente. Key themes for insurers to pay attention to within Horizon 1 include using and testing new technology – in particular AI – and championing multi-disciplinary teams to improve the patient experience. Positive change in these areas is likely to help get patients and members on board with change, while also positioning insurers well to positively influence how standards of care evolve.

A Horizon 1 view of cancer screening and prevention

"Mapping out the entire cancer journey, including prevention and screening, is key for all large populations" Dr Yan Li, Kaiser Permanente.

Data from the World Health Organisation suggests that 30% to 50% of cancers can now be prevented by using evidence-based prevention strategies and educating populations on how to avoid risk factors. Prevention is therefore an important strategy for reducing the costs of cancer over the longer term.

Once an individual has cancer, if it is diagnosed later it is typically more expensive to treat and patient outcomes are usually worse. Consequently, stakeholders across health systems are generally in favour of improving access to preventative healthcare and screening for cancers. Specifically for insurers, there's a case to be made to support or even champion these earlier interventions for their cohorts, with the aim of reducing the overall burden of cancer care costs they will bear while simultaneously improving patient outcomes.

That doesn't mean it is an easy equation to balance. As Tim Woodman, Medical Director of Policy and Cancer Services at Bupa cautions, diagnosing cancer involves significant costs of its own. Screening a large population for breast cancer using digital mammography, for example, requires a lot of energy and many highly specialised personnel. Costs aside, as the demand for imaging grows, we are experiencing a global shortage of trained radiography staff which presents a significant challenge for reducing waiting times for cancer diagnosis.

Recent innovations in cancer screening are making testing cheaper, faster and readily accessible to a large population. In the UK, over 100,000 people a year present with haematuria (blood in urine), yet only 12% are diagnosed with bladder cancer (11). Using simple home urine tests, researchers believe the number of patients requiring a cystoscopy could be reduced by at least 45% (12). This could dramatically reduce the number of invasive cystoscopies performed, improving patient experience while lowering costs and freeing up clinical capacity.

To meet the need for faster diagnosis, genomic tests (using either urine or blood samples) are now being used as part of an AI-assisted diagnosis pathway. Nuala Close reports that the use of in-house genomic testing is delivering rapid diagnoses, reducing the turnaround of these tests from several weeks to 5-10 days and in some cases, such as lung cancer, they are able to give meaningful results in 24 hours. These genomic test results are reviewed by a specialist team of experts including Oncologists, Clinical Scientists, and Geneticists to identify the treatments that are most likely to benefit the patient (and of course the ones that will offer little benefit) as well as identifying clinical trials throughout the UK which patients may choose to access. Having access to geneticists also provides direct advice for patients being treated for inherited cancers and the consideration needed for other members of their family.

Inexpensive genomic tests also offer cost savings after treatment. In the recovery phase, genomic tests are already being used in place of imaging. For Bupa members, Tim Woodman explains a monitoring programme is already available for certain cancers, with imminent plans for wider roll out. “Advances in cancer treatment,” he says, “mean that more people are living with cancer and require regular monitoring for possible relapse. This usually means imaging of various types, all of which require significant capital investment and may be geographically difficult for patients to access. We are increasingly using genomics-based Minimal Residual Disease (MRD) monitoring as an alternative to imaging. Because this just involves a blood or urine test to be sent to a central laboratory there is no major capital outlay, and the test can be performed by any healthcare professional nearer to the patient’s home”.

A Horizon 1 view of personalised treatments and genomics

“Evidence based medicine is dead ... and highly personalised treatments have dealt the final blow.” - Thomas Szucs, Chair of the Board of Directors of Helsana Group.

Within the broader field of oncology, genomics is already a speciality of its own. Used in combination with AI to reduce the labour and costs of large-scale data analysis, it is opening up an abundance of possibilities for personalised and highly personalised treatments.

There are many genomic touchpoints in the cancer treatment pathway. This paper has already shared applications of genomics at diagnosis and in post-treatment follow-up. Further areas of application include treatment selection; assessing recurrence risk and assessing risks and benefits of chemotherapy. Applied in the right way, at the right time, genomics can positively influence cancer management by supporting providers and insurers to select the most appropriate care for an individual patient.

Ethan Bindelglas, Physician Partner at Meyer Consulting, sees the potential for cost saving by developing more highly targeted treatment plans. He acknowledges that biomarkers are expensive, however, “they can be used to identify the right treatment for individual patients. This will save money down the line; if you have someone on the wrong treatment for six to twelve weeks, by the time you stop treatment not only has the tumour grown, you’ve also spent a lot of money on a toxic treatment that didn’t even work.”

Taking a more personalised approach helps clinicians to predict when chemotherapy (and other, newer treatments) will effectively treat cancer for some patients and not others. Bindelglas observes that clinical trials for cancer treatments are getting smaller and processes for drug approval are being expedited. Improved molecular diagnostic techniques are leading to identification of smaller patient subgroups and more precisely targeted therapy. In his view, low sample sizes will become the norm and large, randomised trials will no longer be practical or appropriate.

The other side, as insurers know only too well, is the cost of personalised treatments. The potential for cost savings is real and yet, working against this, existing treatment and reimbursement models are still rooted in models of standardised treatment pathways, built on evidence-based medicine. As Thomas Szucs explains, “Pathway management only makes sense if you have a lot of people you can lump into a pathway. We are really moving away from the ‘cookbook’ sort of treatment design that we had with evidence-based medicine.”

With this shift in treatment design, do we also need a shift in roles and accountabilities for different parts of the health system? Can we be cost effective when insurer, provider and manufacturers continue to operate in individual silos? Collaboration came out as a key theme from all contributors to this paper, captured neatly by Andrew Cottrill at HCF who said: “Our health system suffers from fragmentation, where each stakeholder has its own part [to play] and they stick to it. We need more coordination between the public and the private sector. This may look like the public sector supporting more of the end-of-life care and the private sector taking up more early-stage treatment. But before we’ve had a good discussion round the table, we can’t really say.”

As we move away from heavily standardised treatment pathways for cancer, what else in the health system needs to shift to enable us to ensure the best care possible for the populations we serve?

A Horizon 1 view of chronic disease and complexity

“Cancer care is one of the most critical but also one of the messiest spaces for value-based care.” – Lili Brillstein

Today, some cancers are already being treated as chronic diseases, potentially requiring expensive, personalised treatment programmes that could span years. These advances are bringing greater and greater precision, meaning cancer care has become extremely complex.

As we watch treatment options multiply, we also see proliferating oncology sub-specialties: a multi-disciplinary team is a non-negotiable fact of effective cancer care. For Kaiser Permanente, meeting this challenge relies heavily on an integrated care model led by Dr Yan Li, Chair of National KP GI Oncology Programme at Kaiser Permanente. In 2022, Dr Li received the prestigious Sidney R. Garfield Exceptional Contribution Award for establishing the NCAL Kaiser Permanent Gastric/Oesophageal Cancer Program. This programme serves as a national model for complex cancer care, ensuring every patient receives the highest quality multidisciplinary care from the best subspecialty experts in a timely and coordinated manner.

As Dr Yan Li explains, a key focus has been on accelerating the patient ‘work-up’ – the evaluation of the patient’s condition, which may include lab tests, imaging and other diagnostic procedures – to shrink diagnosis time. This involves not only up-front co-ordination of multiple sub-specialists from across the US, but also committing specific resources to patient navigation to ensure patients don’t get lost between specialists or treatment centres. This, crucially, allows treatment to begin more quickly while also

maintaining high levels of trust with patients. This collaborative approach extends far beyond diagnosis, across the entire treatment pathway.

EU Navigate is another initiative that centres on patient navigation, supporting older cancer patients and their families to access the healthcare and services they need, when they need them. Based on a successful Canadian volunteer programme, Nav-CARE, the EU project is training lay-people in seven European countries as patient navigators. The navigators are not members of a healthcare team, instead they support individual cancer patients to access services, advocating for them where needed and providing companionship. Evaluation is built into the project, with a remit to review outcomes and cost-effectiveness of the programme over the next five years.

Differentiating the patient navigator role is part of an increasingly nuanced and patient-centred approach to cancer care that prioritises the right care at the right time to better support patients and clinicians, improve outcomes and save costs. In the US, payment for clinical navigators was just approved by CMS at the urging of President Biden's moon-shot program. The White House and the American Medical Association is encouraging health plans in the US to also pay for navigation. The new payment methodology will go into effect in January of 2024.

With an appropriate team of experts and sub-specialists, we can expect to find an optimal treatment pathway for the vast majority of patients and also diminish the variations in care between providers. Dr Li is clear that excellence in cancer care depends heavily on working closely with providers, advice that is echoed by UPMC's James Schuster and Meyer Consulting's Mike Meyer. To do this, Kaiser Permanente is leveraging its integrated payer-provider model and other insurers are investing time and effort in building closer relationships and stronger collaborative frameworks with clinicians.

James Schuster, Chief Medical Officer at UPMC, advises using shared data evaluation as a starting point for collaborative practice. UPMC is currently implementing a value-based payment model for oncology which reflects the Enhancing Oncology Model newly implemented by CMS in the US. A very innovative part of UPMC's model is offering data on the cost and quality implications of treatment choices in a near real-time way. This feedback is delivered by an integrated data set that includes both clinical utilisation data (served almost in real-time) and claims data (with a lag of only two to three months).

The costs and cost-effectiveness of cancer care isn't only about surgery and treatment choices. As treatment pathways become more patient-centred and personalised, we need to either retain enough standardisation or gather evaluation data that is granular enough that we can identify variations of care. All elements of the multidisciplinary team need to be active and co-ordinated towards reducing the incidence of patients being hospitalised. Kaiser Permanente has developed an advanced IT platform for patient monitoring to support multidisciplinary teams. It can, for example, automatically identify patients due for a six-month scan, therefore improving patient follow-up and compliance.

Patient management is also relevant, and Kaiser Permanente is demonstrating how patient communities provide valuable support for the practical aspects of living with cancer and cancer treatments. Education on how to manage the side-effects of chemotherapy, support for anxiety and mental wellbeing plus advice on lifestyle modifications all positively contribute to patient wellbeing and compliance with treatment, leading to better patient outcomes and more cost-effective treatments. These can be group sessions, where patients support each other as well as having input from providers.

Another element Dr Li mentions is prioritising excellent relationships between care givers and patients, which builds trust. This allows patients and providers to define the goals of care together, which is increasingly important for patients living with cancer as an incurable disease. Mike Meyer agrees; in his view, the earlier these conversations can be had the better as doing so allows both providers and payers to discuss and manage expectations, moving away from a scenario where patients and families concentrate only on treatment options instead of also looking towards likely outcomes and quality of life.

Best practice from UPMC, Bupa and Kaiser Permanente in managing the complexity of cancer care, including cancer as a chronic disease, points us strongly towards an outcome focus – or in other words, towards value-based healthcare. It's hardly a new concept, but many existing value-based models focus on acute care where it's much easier to define where care starts and ends.

For the Chief Medical Officer at South Africa's Discovery Health Medical Scheme, Unati Mahlati, taking an outcome focus is imperative. "With new treatments, we recognise a case for paying even before the evidence is mature ... but at the same time, we need to be collecting that real world evidence. We are seeing more and more drugs being introduced and we must make sure that if we are paying a premium [for them], we are paying for significantly better outcomes."

There is further complexity. While the rewards for introducing value-based care into cancer treatments may be greater, there are also bigger and more challenging barriers. Developing value-based care poses questions of 'when does cancer care start?', not to mention 'when does cancer care end?' How we define an episode of care has implications not only for costs, but also the amount of influence an insurer has over the outcomes and the evaluation necessary for outcome-related reimbursement.

The examples shared by our contributors demonstrate the possibilities for insurers to work collaboratively with providers and use new technologies to gather data to positively influence outcomes. However, these are early days. The new standards of care emerging now, within a Horizon 1 view, are encouraging but still only scratch the surface. Away from the operational focus of the previous section, insurers are becoming increasingly aware that supportive legislative, regulatory and collaborative frameworks need to be in place for best-in-class cancer management.

In the strategic planning and disruptive innovation spaces, we are likely to find game-changing applications of emerging technology (for example data analysis, AI and genomics) and clinical management (care teams, integration and patient navigation). We also anticipate the need for significant shifts in our partnerships and even how we define our role as insurers within our health systems. How easily these can be developed is a whole other question that we'll explore in the following sections of this paper.

Section summary:

- All three horizons analysed in the paper focus on three key areas: Cancer prevention and screening, personalised treatments and genomics, and the complex and chronic nature of cancer.
- Leading insurers are already embracing new technologies such as AI and promoting multidisciplinary teams to improve patient care and influence care standards positively.
- Cancer screening innovations aim to reduce invasive procedures, like cystoscopies and improve patient experiences, while genomic tests are starting to be used to speed up diagnosis and cost-effective monitoring after treatment.
- Personalised treatments using genomics are showing their potential to change cancer care, allowing tailored treatments and prediction of treatment efficacy, though cost challenges persist due to existing standardised treatment models.
- The complexity of today's cancer care demands multidisciplinary teams and patient navigation programmes, prioritising timely and high-quality care, while evolving towards value-based healthcare models.
- Many insurers see potential in collaborative efforts with providers, leveraging technology for data gathering, but recognise the need for supportive frameworks and partnerships for effective cancer management.

Horizon 2: Strategic planning and mid-term developments

Horizon 2 interventions – those we can expect to appear in the next two to five years – will tend to concentrate on translating initiatives that have been successfully used in other sectors or sub-specialties within health, and finding how they can be used effectively within cancer care.

This includes establishing more accurate and more affordable diagnostic tools as part of the standard of care for cancer that enable larger-scale adoption and realise cost-efficiencies. Another important advancement will be trialling new reimbursement models and linking them more closely with outcomes, which leads once again to finding scalable models for value-based cancer care.

A Horizon 2 view of cancer screening and prevention

When it comes to screening, in the medium term we can expect to make headway on reducing the numbers of expensive late-stage cancer diagnoses and hospitalisations, without overloading our screening capability.

The next generation applications of testing and screening are likely to involve today's more advanced techniques being adopted at scale. For example, at present, the use of genomic blood and urine tests is fairly limited, but what future can we imagine if they become part of the standard of care over the next five years?

Reducing the high rate of false positives when diagnosing bladder cancer (and others, including prostate and breast cancer) will mean fewer patients are put into a treatment pathway, freeing up valuable capacity. Treating only the patients who need these interventions (as identified by previous screening) will become the standard of care across all healthcare providers, generating cost benefits in public and private systems alike.

As well as increasing the standard of care for cancer diagnosis, widespread adoption of AI alongside inexpensive, local or at-home screening methods will also become part of the standard for cancer management. In the management phase, patients are typically treated with chemotherapy and/or radiotherapy or other methods. One challenge is to correctly identify when the treatment has been effective. Systemic treatments may be continued after they're needed, even when there are other indications the patient may be improving. By routinely using urine and blood tests for cancer management we can avoid the harmful side-effects of over-treatment. This means funding can be reserved for those cases where we have evidence that costly systemic treatments are improving outcomes. And simple, local testing reduces the costs of patient travel to centralised treatment centres.

Another example from Bupa shows how these innovations are being applied to new, costly treatments. Tim Woodman is pleased with what they have achieved so far: "Recent years have seen an explosion in immunotherapy treatments. While these can be lifesaving, they can have severe side-effects and response rates are very variable. We can now employ sophisticated genomic and epigenetic technology to enable clinicians to decide whether or not to start immunotherapy or whether or not to continue it in the face of severe side-effects or poor response."

As adoption of these advanced screening techniques increases, an important role for health insurers is to decide which genomic tests will be reimbursed. This will increase the incentives for clinicians to adopt these tests more widely and will give insurers valuable evaluation data. In the examples shared by Bupa and HCA, the importance of robust evaluation and building trust between insurers, providers, genomic specialists and patients should not be underestimated.

A Horizon 2 view of personalised treatments and genomics

“If you put the data on care and outcomes from stage 1,2 & 3 breast cancers into one bucket and measure outputs of that bucket, it’s garbage.” – Andrew Pecora, OMI

How can insurers leverage the developments in genomics to stay ahead of the curve and positively influence cancer care? At iFHP’s CEO Forum in April 2023, Thomas Szucs of Helsana shared his recommendations for advancing the use of genomics from a payer’s perspective. As well as selecting which genomic tests will be reimbursed, when payers collaborate with providers they can be more involved to support effective and appropriate use of genomic treatments. Interventions that make sense for insurers include establishing guidelines for the use of targeted therapies and evaluating the effectiveness of these interventions.

In the “messy space” of cancer, where boundaries between disciplines are being re-negotiated in pursuit of better outcomes and value, insurers may also benefit from redefining their relationship with research and development. Mike Meyer gives his perspective of the US market: “In the United States the insurers have basically stayed out of funding research. That is now changing and we’re seeing insurers forming partnerships with providers to test things that have the potential to impact outcomes. I don’t see [payers] funding basic bench science on the chemistry of a drug, but I do see an opportunity for insurers to move upstream and put some money into AI and screening to support the studies that are going on in these areas, rather than saying a hard ‘no, we don’t fund research.’”

As an example of how this might work, in 2023 the UK’s NHS signed a long-term partnership agreement with mRNA cancer vaccine manufacturer BioNTech, making the UK the first market to support such a partnership. mRNA vaccines are tailored to the tumour antigens of an individual patient, making them highly personalised and potentially more effective than existing treatments, albeit for a very high price. Clinical trials will be conducted through the NHS with the goal of providing treatment to up to 10,000 NHS patients by 2030, thus generating valuable data to assist BioNTech in its development work. Although this trial is in the public system, it could very well have been struck with a consortium of private payers.

In another example of what is being researched today becoming mainstream in the future, for some novel treatments that have already been cleared for use, today’s approved dosage may be a lot higher than is actually needed by many patients. Initial clinical trials may rely on larger doses to ensure drug or treatment efficacy, even though smaller doses could be equally effective. A recent trial in India showed that an ultra-low dose of the immunotherapy drug Nivolumab (6% of what’s typically prescribed in the US or Europe) increased lifespan for people with head and neck cancer. This lower dose has the potential to be much more affordable, particularly for lower- and middle-income countries, while also reducing toxicity to the patient (13). A review led by researchers in China has gathered data from a number of clinical trials producing encouraging anti-cancer effects with lower doses of immune checkpoint inhibitors, like Nivolumab. This suggests there may be some merit in further outcomes-based analysis that looks specifically at dosing schemes (14).

In the previous section, this paper notes that targeted (or personalised) therapies are not well managed within standard reimbursement models. Simply, we have much less effectiveness data for each treatment as it comes to market, while producing many more drugs. And as each drug is only suitable for smaller target groups and for a much higher price – this is not a sustainable model within current healthcare budgets.

To make personalised treatments more widely available, what will provide the leverage for change in pricing models? Real-world data or real-world evidence is increasingly used alongside randomised clinical trial data to support the approval of novel drugs. While still contentious, real-world data offers the potential for outcomes-based evaluation by providing information on treatment randomised clinical trial access, uptake, long-term safety and effectiveness in routine clinical practice. Real-world data will also generally have broader inclusion criteria than data, which again, supports more robust outcomes evaluation (15). In the US the FDA has recently initiated Project Optimus to focus on this topic for pre-marketed drugs.

A more personalised approach to cancer treatments doesn't only apply to drugs or treatments targeted to the tumour or an individual's genome. It can be applied to existing sub-populations who may have under-represented and therefore underserved needs. Strong AYA is a European project designed to address the inequalities of cancer care for adolescents and young adults living with cancer. As Marion L'Hote, of the Brussels-based European Cancer Organisation (ECO), notes, the costs of cancer are far-reaching, particularly for this age group, and include infertility, unemployment and financial difficulty. "Cancer incurs costs both within the health system and beyond. It can affect an individual's social life and economic activity over their lifetime. Cancer survivorship has long term costs for the individual and the society." Supported by a number of partners, including the European Cancer Organisation, Strong AYA aims to create a value-based healthcare research system, which includes providing real-world evidence on outcomes to the relevant decision makers.

By concentrating on a sub-population, the data gathered is more meaningful yet the same challenge with sample sizes emerges as for personalised treatments. One of the project's objectives is to enhance AYA research data sharing. The international collaboration involved is important, as it is far more challenging for any one entity or nation to gather real-world data on a relatively small sub-population.

European research is emphasising the need for EU-wide standardisation and unification of precision cancer medicine to streamline collection of real-world data (16) with cost burdens shared by manufacturers and health technology approval bodies. It also points to a possible lack of skilled methodologists within individual national systems (17). The potential for real-world data to provide cost-effectiveness data and inform pricing negotiations is not yet proven, but it offers a promising avenue.

How would decision making criteria be designed for insurers to fund or part-fund real-world data gathering? And how could that work with the existing business models? On the face of it, it seems the more competitive the insurance market is in a given region, the harder this would be to rationalise. Again, collaboration between diverse stakeholders (not only insurers) at a national or international level is likely to be effective in driving change.

A Horizon 2 view of chronic disease and complexity

"... outcomes aren't only about cost or clinical outcome, they're also about patient experience." –Unati Mahlati

Extending through Horizon 2 and Horizon 3, we can expect cancer diagnosis to become even more complex, to demand yet more precision and rely more heavily on genomics. To illustrate, today, we currently identify three stages of breast cancer, plus 25-30 distinct types. Within the next few years, the number of breast cancers we can identify will keep increasing.

With so much variation in cancer presentation, we need more granular data to understand and improve outcomes. Lili Brillstein, founder of US-based BCollaborative, shares insight from her work on Episodes of Care models in the US, confirming that insurers have an important role to play in contributing much needed data: “In many value-based healthcare models, the claims data is often enough to show the variations in care and opportunities for care and cost improvement. This isn’t true for cancer. With breast cancer, for example, we need clinical data, such as size of the tumour, its receptor status, etc. to be able to determine opportunities for change. For complex, specialty care [like cancer treatment] we need the clinical data integrated with the claims data.”

Alongside an increase in the number of cancer variations, we can also expect an explosion in the number of available treatments which, as survivability increases, will very likely be used for longer with more rounds of treatment requiring more funding than ever before. The future costs of cancer care can only be effectively managed by taking an end-to-end view of the patient’s treatment pathway. Insurers and hospitals (or other providers) currently tend to work in their own traditional silos, making the sharing of information needed to understand an individual patient’s pathway unnecessarily challenging. Comparing single element costs alone is much simpler from an administrative point of view, but it leads to fragmented care and inefficiencies. In Horizon 2, excellent management of follow-up and patient navigation will be an important factor in producing better outcomes and managing costs. Without the context of the whole pathway, it will remain impossible to compare like for like.

For this to work, we also need consistency and standardisation in the data that’s gathered and shared, which requires discussion and agreement between providers, insurers and others. Cancer registries at national level are an important tool. Nuala Close talks about what’s needed for meaningful evaluation: “We need to submit outcome data to national cancer registries from the independent sector, for example in colorectal surgery. This can be highly complex surgery and we need to be able to review the volume and complication rates by hospital and by surgeon. Having comprehensive outcome data would allow us to better understand differing practices and make necessary changes.”

Plainly payers are also interested in this data for the efficient operation of outcome-based contracts. However, it is also important to identify which outcomes are most meaningful. Discovery Health’s Unati Mahlati makes the point that, “...outcomes from a patient experience perspective aren’t just about side-effects, it’s also how treatment is administered: is it IV? Tablets? Close to home or needing travel to a specialised treatment centre? This all has a bearing on patient compliance [with prescribed treatment regimens] and, therefore, outcomes.” Defining a manageable set of meaningful outcomes is not something that can be done by any one consultant or team in isolation. Nuala Close agrees: “What we define as an ‘outcome’ is very important. The outcomes we collect data on don’t always align with what patients are most concerned about. Within urology, outcomes such as urinary incontinence or erectile dysfunction are very personal to patients and aren’t always picked up. We need to lead conversations with different stakeholders so we can gather the right data to meaningfully evaluate outcomes.”

An approach adopted within the EU is to bring data relating to cancer outcomes together through the lens of inequality. The European Cancer Inequalities Registry (ECIR) is a data tool that presents data and indicators on inequalities in cancer, encompassing prevention, screening, diagnosis, treatment, survival, quality of life and data quantifying the burden of cancer, with the data accessible to anyone with an internet connection. A data visualisation tool was subsequently launched – the European Cancer Pulse (co-ordinated by the European Cancer Organisation) – which is showing early promise. The next evolution of these tools is dissemination, to reach more decision makers, researchers and other interested parties so that these resources are better understood and used more widely. Within a Horizon 2 view it is expected that more consistent, more granular data will be available, and therefore the correct infrastructure and dissemination can also be developed within the next few years to support it. Without it, the data cannot be used effectively by the various stakeholders in a health system.

Horizon's Director of Value Based Specialty Care, Jennifer McGrath, reminds us that health insurance is not a quick ship to turn around. "The evolution we're moving through is partly about having the data in formats we can easily share. All these things have to be built and they take time to evolve." Building better systems and protocols for sharing data starts now and we can expect the necessary longer-term shifts to include:

- creating and maintaining cancer-specific registries;
- improving and replacing legacy systems for better interoperability; and
- creating robust data sharing policies and influencing legislation where needed

Only with these shifts (and more) in how we collaborate and share data across health systems can we bring the future of cancer care within financial reach. As Nuala Close points out: "We need to work collaboratively across the boundaries of physician, provider and payer with the same aim - 'how can we deliver this care better, and can we provide it at a reduced cost?'"

Section summary:

- Horizon 2 focuses on implementing successful strategies from other sectors into cancer care and exploring new diagnostic tools and reimbursement models.
- Advancements in cancer screening will aim to reduce late-stage diagnoses and hospitalisations by adopting advanced techniques at scale, such as genomic blood and urine tests.
- Use of AI in cancer management alongside inexpensive local or at-home screening methods is expected to become standard, aiding in effective treatment identification and avoiding unnecessary systemic treatments.
- Insurers play a crucial role in deciding which genomic tests to reimburse, collaborating with providers, and supporting effective genomic treatments.
- Real-world data will play a pivotal role in assessing treatment effectiveness, supporting outcomes-based evaluation and influencing drug pricing models.
- Improved data sharing, standardisation and collaboration across stakeholders are critical in understanding cancer variations, treatment pathways and patient outcomes for better care and cost management.

Horizon 3: Innovation, disruption and wellbeing vision

Looking to Horizon 3, organisations need to be guided by their vision for the future and their ability to embrace innovation. Given the current pace of cancer research, it's exciting but incredibly challenging to anticipate the landscape of cancer care over the next 5-10 years (and beyond) in detail.

However, it is widely expected that the adoption of AI and greater automation across all sectors, including healthcare will play a large part. Improvements in data infrastructure, large scale analysis and secure data sharing will likely be driven by AI and the accompanying leap in processing power provided by quantum computers. When used in the service of improving outcomes, AI is expected to become a powerful tool for increasing personalisation and prioritising a patient-centric approach.

A Horizon 3 view of cancer screening and prevention

"Our pillars of success include early identification; and supporting early precision care and care navigation support." Jennifer McGrath, Horizon BCBSNJ.

Having introduced AI into the diagnostic pathway, the potential for AI and machine learning to increase access to diagnostics (thereby screening more people and diagnosing cancer earlier) and decrease the costs of diagnosis itself are already clear. Patients are likely to be open to these kinds of improvements as they reduce waiting times, reduce the need for invasive treatments and lead to better outcomes.

Currently, AI is a tool to provide a decision support framework for reviewing test results. It can identify when a patient doesn't have cancer with very high accuracy. All other cases still need to be referred for further testing to determine the diagnosis and require specialist clinical intervention. Bupa's Tim Woodman foresees a potential future where there's an end-to-end AI pathway from first presentation through to diagnosis, including development of a treatment plan. AI is already freeing up clinical capacity and in this Horizon 3 future, the input needed from clinical specialists will be further reduced, lowering costs and increasing clinical capacity.

Andrew Pecora, founder of Outcomes Matter Innovations (OMI) – a US-based provider of AI technology for cancer treatment – describes the coming advances in artificial intelligence for clinical oncology as similar to the instruments used by aircraft pilots. As oncology specialists face an increasing challenge simply to keep up with the literature, they will need more point of care decision support in place. And just as no human pilot expects to land an aircraft without any technological guidance, our future oncologists and other specialty consultants will not be expected to make complex decisions about cancer without the latest, data-driven guidance systems. We're still a few years away from AI that's capable of making more complex diagnoses, however the main challenges for increasing the role of AI will likely centre on trust rather than capability.

AI could also be used to support data-driven preventative healthcare at population level. Assuming the infrastructure is in place to gather and analyse relevant data about health plan members, machine learning algorithms could be used to identify at-risk groups for different cancers at scale. By creating accurate and timely interventions for members most at risk, the aim would be to dramatically reduce future healthcare costs, while simultaneously improving customer outcomes. The success of this will depend heavily on insurers' willingness to invest in activities that fall outside their traditional role of calculating risk, setting premiums and processing claims. Given the genetic component of cancer, it also depends on the quality of the data held by insurers about their members' current health and genomic profiles. Again, this brings up the issue of trust and data sharing.

Picking up on this crucial point about trust, relevant factors for the successful adoption of AI undoubtedly include data privacy concerns and legislation, affecting what data can be shared and used in machine learning training sets. There are also concerns about the discriminatory biases that become part of machine learning models. As well as research and investment in the technical advancements to realise this third Horizon vision, all healthcare stakeholders (not just insurers) will need to work with patient advocacy groups and engage in meaningful education on the impact of AI adoption on public and individual health. The discussion will need to centre on improving outcomes, decreasing costs and improving access. Centring members and patients in this process may be the key, and this will also be relevant for more widespread use of personalised medicine which will be explored in the next section.

A Horizon 3 view of personalised treatments and genomics

“Change is difficult. The reimbursement and treatment delivery models have not kept up with the advances in science. New treatment modalities like CAR-T, vaccines, etc...will have a large impact on health plan strategies around care.” –
Mike Meyer

As this paper has already suggested, precision and personalised medicine give us a new paradigm for understanding why cancer patients have widely varying responses to standard treatments. We are already moving away from a ‘one-size-fits-all’ approach and there is great optimism about the future of cancer treatments. However, the prohibitive costs of personalised treatments are inhibiting their wider uptake particularly because it takes time to obtain robust data on their effectiveness. Health stakeholders (including insurers) have yet to find an effective solution to balance affordability with the need to demonstrate a return on investment. Managing the risk in relation to a short term (one or two year) health plan adds another challenge. Hence, one of the risks associated with the rise of personalised medicine is it may exacerbate health inequality, where only the very wealthy can access new, more effective therapies.

Put simply, payment and reimbursement models are falling out of step with the latest science. Helsana’s Thomas Szucs asks, “Where you have very expensive CAR-T treatment and short-term insurance policies, can it be split among many years? How can the burden of drugs be split over various years and insurance carriers? Could it work like a leasing agreement?”

Other suggestions for lease-style arrangements include so called ‘Netflix-models’ or volume-delinked subscription payments for medicines. A fixed, recurring fee is paid to a manufacturer in return for access to the treatments rather than payments based on the volume prescribed. The model has been trialled for Hepatitis C antiviral treatments in the US and Australia, and for procurement of antibiotics by the UK’s NHS (18). For low- and middle-income countries that lack the purchasing power of higher income countries, a volume-delinked subscription model may offer significant savings. Potential benefits for pharmaceutical companies include possibly higher and more predictable revenue, reducing advertising and marketing costs. This approach has not been trialled for cancer treatments, however the pressures on pharmaceutical innovation and pricing will be different in oncology and it’s not clear this would be a priority area. A 2023 review identifies five features of new treatment technology where volume-delinked payment models can create benefit. Cell and gene therapies match only one of the features, that being the high cost of development (19).

Another longer-term development is ‘bedside manufacturing’ (also called decentralised manufacturing or point of care manufacturing). That is, production of treatment therapies on a low scale within specialty hospitals. This has the potential to reduce manufacturing costs, not least by reducing the logistics of

transporting the treatments. At least one study has assessed the results of decentralised manufacturing of CAR-T cells in India, demonstrating a successful and robust process (20). Other researchers are less optimistic (21) and as we'd expect at this point in its development, the technology requires more investment and testing.

Given our starting point at the beginning of 2024 and the materials we have to work with, what decisions and actions can health insurers take to influence health systems towards new payment and reimbursement models? This will likely take the form of providing funding to pilot novel approaches or collaboration through data sharing, or both.

A Horizon 3 view of chronic disease and complexity

"Treatments are now coming from many different angles, not just the drugs side. We now have many diagnostic pathways, whole genome sequencing, immunotherapy and more. This rapidly expanding innovation will continue to add precision and quality of care, while also increasing complexity." – Chronis Manolis, UPMC

Oncology care encompasses many different stakeholders and specialists who are, by and large, working towards the same goals: better outcomes for patients, equity of access to treatments (which includes affordability) and better targeting of treatments. That doesn't mean they naturally work closely together and many contributors to this paper touched on this. Bringing stakeholders together to build consensus on an end-to-end treatment pathway won't happen overnight. It's imperative to create an environment where all stakeholders create a common understanding of the different priorities and build trust, particularly when working with complex specialty care like cancer.

As Lili Brillstein explains: "Most specialty-care value-based models focus on acute care and procedures, because there are a lot of them and a lot of variation in care and cost of care, and they're relatively easy to define. They are typically 'one and done'. When you look at cancer, almost nothing is easy to define, including when it begins and ends." It may not be easy, but when we create partnership between stakeholders to define the full treatment pathway, we become far more successful at forecasting and managing the costs of care. Sharing her approach, Nuala Close suggests using metrics spanning the entire treatment plan like Units of Time, Cost of Units of Time and Quantity of the Service to provide realistic costings.

Like several other companies in its field, Outcomes Matter Innovations (OMI) – a New Jersey-based clinician support business – is preparing to launch a value-based care model for breast cancer and colon cancer following successful results with a value-based care model for ophthalmology. OMI's CEO Andrew Pecora explains that there are two main barriers to overcome for value-based care models to work in cancer. Firstly, you need to extract the data so it is meaningful. Andrew explains: "We realised through our work that cancer doesn't give us a biotechnology problem. It gives us an information problem. To make progress, we must digitise the biological narrative and turn it into numbers. Now we identify 25-30 variants of breast cancer; we must be able to compare like for like, and that involves extracting the digital code from the medical and biological data." Once this code has been translated to numerical data, comparisons can be made that draw out variations in care. Andrew also sits on the Board of Directors at COTA, a multi-disciplinary organisation founded to create the digital code needed to stratify patient populations, allowing meaningful comparisons to be made between patient outcomes and care.

The other barrier to widespread adoption of value-based care models is creating a business model that appeals to all stakeholders, the very problem OMI was founded to address. Value-based care demands changes to how each stakeholder operates and, therefore, creates uncertainty and risk. All parties need evaluation data so they can track outcomes, look for improvements and rationalise making the necessary changes. Data sharing for meaningful evaluation provides a strong incentive to collaborate. The infrastructure must also be in place, however, in a sector where interoperability is generally poor, and that can be challenging. Andrew explains that OMI's role is to reduce the risk for providers, payers and patients to participate in value-based healthcare.

To evaluate outcomes, UPMC's James Schuster suggests we look to AI to cut through the complexity of cancer care. "The evaluation for these very specific, targeted innovations needs a level of analytic sophistication beyond what we've typically used in much of our work to date. AI based tools will allow us to move beyond traditional statistical approaches, which is required because the data sets are small and the costs are very high." While traditional data analysis methods are time-consuming and expensive (in terms of people and energy costs), newer and robustly trained machine learning algorithms offer faster, cheaper and more powerful data analysis. As we master our data sets and AI assisted analysis, drawing ever closer to real-time evaluation data available at the point of care, clinicians will have access to a wealth of data to support them in making the best decisions at the bedside. We can expect full integration of AI for evaluation of personalised cancer treatments to land within Horizon 3. Firstly, because we already know there will be significant work needed to improving data infrastructure for effective use of AI and secondly, because this also involves sensitive genomic data, new data sharing agreements or even adaptations to data sharing legislation will be needed.

The conundrum of data sharing could be solved by pursuing greater involvement of patients and health plan members in the debate. This would fit well as part of a Horizon 3 vision for insurers of creating partnerships with members in the pursuit of their wellbeing.

Section summary:

- Horizon 3 demands a forward-looking approach, anticipating the evolution of cancer care over the next 5-10 years, primarily driven by AI and automation in healthcare.
- AI's role is expected to expand, aiding in diagnostics, personalisation and patient-centric approaches, potentially streamlining end-to-end AI pathways from diagnosis to treatment planning.
- AI's potential extends to population-level preventative healthcare by identifying at-risk groups at scale, albeit this is reliant on insurers' willingness to invest in such activities.
- Trust issues regarding data privacy, discriminatory biases in machine learning models and education on AI's impact on public and individual health are key concerns for stakeholders.
- The rise of personalised medicine presents yet more challenges in balancing affordability and demonstrating return on investment, requiring the continued development of even more innovative payment and reimbursement models than those created in Horizon 2.
- Collaboration among stakeholders to build consensus on treatment pathways and the integration of AI for evaluating personalised cancer treatments are key themes in managing complexity in cancer care within Horizon 3.

Barriers to innovation

The advances, examples and future perspectives of cancer care outlined in this paper so far indicate varying levels of innovation and change. As we would expect, the most innovative and, potentially disruptive, initiatives sit within Horizons 2 and 3 and they are also the ones most likely to generate the largest returns and create more value in the long term. Equally, the bigger the change the more resistance there is likely to be from existing systems and stakeholders.

It would be impossible to draw a complete map of all possible barriers to innovation; instead this paper will outline the main themes arising as a result of discussions with its contributors. To make serious progress on mitigating the risks of the cancer care burden, health insurers will need to consider each of these aspects and understand the nuances of each within their market.

Taking a longer-term view

Focusing more resources and care upstream into screening (for earlier diagnosis) and preventative care (to reduce the incidence of cancer in our populations) makes sense both for improving health and future cost exposure. While there will be some immediate (Horizon 1) cost savings, truly unlocking the benefits and cost-savings of prevention and screening will be a longer-term project. Preventative care and screening will be most effective as part of a longer-term strategy of educating populations and reducing expensive late-stage cancer diagnosis and hospitalisations. This starts with the goal of reducing risk for the insurer and can potentially go further, into a broader range of products that support members to understand and reduce their own risk. For example, just offering screening services won't create much change if members aren't also educated on when to use them and how doing so will benefit their lives. Effective information and education campaign that targets younger populations, offering easy to access diagnostics and supporting lifestyle shifts, can support even better outcomes. One point is clear, health insurers are not the only stakeholders with an interest in better outcomes: there are many other interested parties.

Prevention may be the clearest example of a long-term intervention, but many of the initiatives discussed in this paper require a long-term view to maximise their payoff. This raises the question, how feasible is it for insurers to take a long-term view? For national health systems, their populations are (generally speaking) in the system for the whole of their lives. It's relatively easy to make the case for a longitudinal view. For private health insurers offering yearly policies, it is challenging to make a case to fund long-term initiatives when the results (in terms of lower health care costs) could easily be reaped by competitors.

Data

According to Andrew Pecora at OMI, the information challenge of cancer is at least as complicated as the biotechnology. As the complexity of cancer science and cancer treatment increases, the need for ever higher quality data grows exponentially. By way of example, as technology enables the diagnosis of a rapidly growing number of cancer variants, we cannot understand variations in care if we're not comparing like with like.

Available and reliable data open up exciting possibilities for analysis and evaluation which can be used to guide better treatment. With the help of AI we can reduce analysis times and costs, plus smaller data sets can be meaningfully analysed.

Effective data management and data applications, however, are subject to many challenges:

- Data pooling – multidisciplinary teams and value-based care require many partnerships to share data, which takes time and trust to achieve

- Systems – interoperability between legacy systems for storing and sharing data is generally poor in health systems; investment will be needed.
- Privacy – health data is sensitive information and is protected by specific legislation in many countries. New data exchange agreements with members and progressive legislative frameworks are needed for sharing genomic or other personal health data between stakeholders. Relationships with regulators will be key.

An emerging topic of interest in the discussion about privacy that applies to cancer patients is the ‘right to be forgotten’. This is a particularly active part of the policy landscape of European data privacy laws. Cancer survivors can experience discrimination when accessing financial products including mortgages, life insurance and health insurance, where their previous cancer diagnosis may impact their premiums or their ability to access services at all. The ‘right to be forgotten’ aims to end discrimination, and has the potential to impact underwriting practice. It may also influence public perceptions of the risks and benefits of giving consent to access their sensitive medical data. iFHP is publishing a separate paper on this topic.

In short, there are many obstacles to effective data sharing which collectively span all zones of influence that insurers have, from internal to the organisation (systems), through to partnerships (data pooling) right through to the national and global community (privacy).

Influencing the health system

This paper discusses the increasing need for partnership in providing excellent cancer care. The establishment of multi-disciplinary teams as the standard for cancer care is one example. The emphasis on championing excellent patient navigation throughout their cancer care is another. Variation in care analysis and shifting boundaries around who funds research or even leasing arrangements for new drugs show more clearly than ever that traditional silos within healthcare can create barriers to innovation.

Making decisions to fund innovative treatment is a challenging area. Australia’s Pharmaceutical Benefits Scheme (PBS) subsidises the costs of medicines, including some cancer treatments. New medicines are added regularly and in 2017 a new type of immunotherapy, Blinatumomab, was added, bringing the cost down from AUD 61,975 to AUD 38.80, when accessed through PBS (22). What happens with novel treatments that have been licensed for sale, but are not yet listed on PBS? Andrew Cottrill describes the quandary for insurers: “The PBS is slow and it can take several years for a new cancer drug to move from being licensed to being available through the scheme. At HCF...we consider ex gratia funding for those drugs that are going through the process to become available through PBS, subject to the clinical evidence.” Clearly, none of these decisions are made in a vacuum. When health insurers decide to fund a novel drug, they will be paying full price for it and it’s not always clear how each decision to fund may incentivise or dis-incentivise other actors in the health system towards certain activities or goals.

The extent to which health insurers can advocate for change and create positive innovation depends heavily on the regulatory environment. This is obviously different for each locality, and Thomas Szucs, Chair of Switzerland’s Helsana shares an example relating to prevention: “We need to put a lot of emphasis on prevention and early detection; this will bring down costs and improve outcomes. Yet, in some countries it’s still awfully difficult to push for preventative measures. In Switzerland, health insurance law is very much geared to dealing with the burning house and not paying for measures to prevent the house from burning in the first place.”

Another perspective on regulation comes from the European Union, which has relatively recently identified public health as a growing priority, and over the last five to ten years cancer has become a key health theme. Marion L’Hote, Policy Officer at the European Cancer Organisation, explains that one strategic priority is notably to create an EU Network of Comprehensive Cancer Centres across the EU.

Harmonisation across member states is developing, with explicit goals around the reduction of health inequalities. This includes disparities between member countries, but also within member countries, in recognition of the many drivers of inequality. All marginalised groups (whether related to gender, age, location, disability) will tend to experience poorer health outcomes and encounter difficulties accessing care. Therefore, at the level of policymaking in the EU, the costs of cancer care (and healthcare in general) are likely to be discussed in the context of equity of access to healthcare. Where private insurers will have a legitimate concern about and perspective on the cost of cancer care, equity of access to healthcare beyond their member populations is arguably not a business-critical concern. Therefore, to what extent should and could private insurers look to policymakers for leverage to shift reimbursement and pricing models?

Managing member expectations

Supporting patients through their journey is an extremely challenging part of cancer care. Treatment options for incurable cancers are increasing, and patients are living longer, leading to increased patient expectations. Nuala Close explains: “We spend a lot of time with patients and families who are desperate to try anything, who would be willing to pay thousands for treatment that would not be appropriate. Having those conversations with patients can be hard despite the clear science behind it. Having good governance frameworks in place can really support consultants and their teams with these challenging conversations.”

Naturally making the decision either to stop cancer treatment or, if a patient experiences a relapse, to rule out unsuitable treatments may necessitate a difficult conversation with a patient and their family. Media interest in high-profile advancements in cancer science can create unrealistic expectations around treatment options and a 2016 study showed that large numbers of patients receiving palliative radiation or chemotherapy had a strong hope of being cured (23). In addition, patients don’t always understand the fine detail of their health plans and what treatments, in what circumstances will be covered. This may be particularly true for corporate health plans which are purchased by the employer, not an individual.

Before a health event like cancer, health insurance needs to be an attractive option to prospects and members. That is, they need to be aware of their health risks and confident that their health cover will allow them to access excellent care when needed. In the event of cancer diagnosis, what’s emerging is that both payers and providers must be active in managing expectations and initiate open, transparent conversations about treatment within the context of overall outcomes.

Insurers may want to consider being in dialogue about cancer planning and cancer treatments with their members earlier. Potential touch-points would be the point of enrolment; around preventative care and screening programmes. Andrew Cottrill, Chief Medical Officer at HCF, is interested in the idea of combining life and health insurance to better support cancer patients. “Cancer is a life event that members want to be insured for. However, when treatments like monoclonal antibodies are costing tens of thousands of dollars for one individual, and reaching tens of millions of dollars per year for an insurer’s population, it’s hard to see how this could be sustainable within current policies and premiums. A life insurance policy that pays out a lump sum upon cancer diagnosis could give the insured more freedom to spend that money as they wish and work alongside a typical health insurance plan that covers some of the care costs could provide more flexibility for all parties.”

The biggest challenge for insurers may be revisiting existing policies and designing policies and insurance products that better meet the rapidly shifting landscape of cancer treatments.

Section summary:

- Prioritising preventive care requires a strategic approach for resource allocation, posing challenges for insurers with annual policies.
- Managing patient treatment expectations demands transparent conversations, robust governance frameworks and early engagement in cancer planning with insurers. Insurers can explore hybrid insurance models to cover expensive treatments and adapt policies to evolving cancer landscapes.
- The complexity of cancer science necessitates high-quality data, yet challenges like data pooling, system interoperability and privacy regulations hinder effective data sharing. Emerging privacy concerns, including the 'right to be forgotten,' impact data use and underwriting practices, creating obstacles across insurer domains.
- Partnering for excellent cancer care, advocating innovative treatments and navigating regulatory environments significantly influence insurer decisions. Their roles in advocating change vary based on regulatory environments and priorities across regions, impacting reimbursement models and healthcare access.
- Insurers uniquely understand rising cancer care costs through data-driven perspectives, exploring value-based care models and building diverse partnerships. Success stories such as Kaiser Permanente's integrated cancer care provide guidance for effective insurer-provider relationships and innovative care models.

Concluding remarks

As exciting as the future of cancer treatment is, how we treat cancer in the future will challenge many of the norms and assumptions that insurers rely on today. For example, the methods used by payers to evaluate new medical technology, price risk, build products and assess claims currently all require large data sets to feed well-established algorithms. In the future, using real-world data alongside (or instead of) clinical trial data, relying on data from much smaller trials or no trials at all ($n=1$ at the limits of personalised medicine) and measuring the value of preventive measures will turn these norms on their head, and require a radically different approach to understanding and managing risk.

Payers will also have to look carefully at how their role will change as new ways to prevent and treat cancer surface. They will need to present themselves as a partner in cancer care not just the bill payer, and – crucially – be accepted as such by patients and providers. This is particularly true as we move towards Horizon 2 and 3 when important functions such as pathway management, preventive care and patient navigation become crucial to the effective treatment of cancer (or, preferably, its prevention). AI combined with pooled data will power much of this effort, however the opportunity for the payer to lead in its provision is already becoming evident today. Of course, these changes are not limited just to cancer care; the applications of these functions are many and varied, but cancer provides a leading use-case.

Further, new commercial models will be crucial to maintaining the affordability of cancer cover. We should expect today's high costs of new technologies to normalise over time, however by their very definition, personalised treatments will likely take a long time to become commoditised and priced as generics/biosimilar medicines. The so-called 'Netflix' model is intriguing, and offers interesting avenues for negotiations between payers, pharmaceutical companies and other provider parties. Nonetheless, the gap is wide between today's prevailing fee for service model and the future commercial models needed to keep cancer treatment affordable, and will require new levels of collaboration between all stakeholders to create the necessary breakthrough.

Finally, as the driving force behind these innovations, AI requires iterative development and widespread acceptance, particularly among consumers and providers. As the linchpin facilitating these transformations in cancer treatments, AI's acceptance will be pivotal in navigating this evolving landscape. Insurers can pioneer this acceptance by initially integrating AI into non-medical pathways to demonstrate its efficacy and safety before extending its scope into health-related applications, thereby playing an important role in advancing AI technologies to support cancer treatment in a safe and tested way.

Contributors

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- **Thomas Szucs**, Chair of the Board of Directors of Helsana Group and Professor & Director of the European Centre of Pharmaceutical Medicine at the University of Basel.
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