



White Paper

The evolving technical landscape of data integration in primary care

Exploring options for accessing and exchanging data across systems

A Digitals for Health white paper produced in collaboration with Martin Bell

Foreward

The £30 Billion Opportunity: Why NHS Integration Can't Wait

Healthcare is on the cusp of a digital gold rush. The United Kingdom's digital health market is projected to more than double from about £15.5 billion in 2025 to over £36.8 billion by 2030.

This explosive growth is fuelled by an NHS mandate for electronic patient records and strategic investments in interoperability and data-sharing technologies, as well as a strong "analogue to digital" left shift as part of the new NHS 10-year plan.

For health tech companies eyeing NHS partnerships, the message is clear: integrating with NHS systems isn't a technical nicety, it's a strategic necessity.

The NHS is one of the world's largest health systems, serving over 60 million patients and conducting hundreds of millions of patient interactions each year.

Tapping into NHS data flows – from GP records and referral systems to national services like the Spine – can set your product apart in an increasingly crowded market. Companies that move early to integrate will gain first-mover advantage, embed themselves into clinical workflows, and unlock access to lucrative NHS contracts and data-driven revenue streams. Those that delay risk playing catch-up in a market that's moving fast.

Yet this opportunity comes with urgency. Integration timelines can stretch 6–12 months or more, meaning today's integration efforts translate into next year's deployment and revenue. Every month spent navigating NHS APIs or compliance hurdles is a month your competitor might be in front of customers with a fully connected solution.

In short, the clock is ticking for companies to build NHS connectivity into their roadmap or be left behind.

'Integration is no longer a back-office IT project: it's the key to market leadership in digital health. If you're not integrating with NHS systems, you're not truly in the game'

BEATA GREEN, CHIEF TECHNOLOGY OFFICER AT DIGITALS FOR HEALTH

Executive Summary

Integration with GP systems and national NHS services has become essential to deliver safe, efficient, data-driven healthcare technology. Yet the pathways to integration: IM1, vendor partner programmes, national APIs, and compliance frameworks can be difficult to interpret and even harder to execute.

This white paper outlines:

- The major routes to integration with primary care systems**
- The compliance and governance requirements** suppliers must meet
- Commercial, technical, and operational considerations**
- Risks and opportunities**
- Clear recommendations for suppliers** planning their integration journey

'Today it is essential, both for the delivery of health services and for any supplier wishing to be part of the primary care systems or data market, to have a clear understanding of what the right integration strategy looks like for them, to enable them to plan, fund and execute that strategy'

BEATA GREEN, CHIEF TECHNOLOGY OFFICER AT DIGITALS FOR HEATLH

Contents

1. Foreward	2
2. Executive Summary	3
3. Introduction: Understanding the integration landscape	5
4. Deciding on the right approach	7
5. Route to integration	9
a. IM1: The Standard NHS GP Data APIs	
b. Vendor Partner Programmes, going beyond IM1	11
c. National Integrations	13
6. Risks and Challenges	16
7. Opportunities	17
8. Navigating the process: help is available	18
9. Conclusion	20
10. References	22
11. About Digitals for Health & The Martin Bell Partnership	23

Introduction: understanding the integration landscape

Since before the creation of the NHS in 1948 (if not before!), the challenge of accessing and exchanging information with GPs and primary care has been ever present.

From the founding of EMIS in 1987, through the widespread embedding and usage of GP practice systems in the 1990's, to the creation of TPP in 1997.

From the many GP practice systems suppliers in the early days, through the emergence of the National Programme for IT in the 2000's and the huge consolidation of GP systems suppliers over the decade that followed.

From the creation of national integration programmes to share, access and exchange information, such as MESH (Message Exchange for Social Care and Health), IM1 (Interface Mechanism 1) and GP Connect.

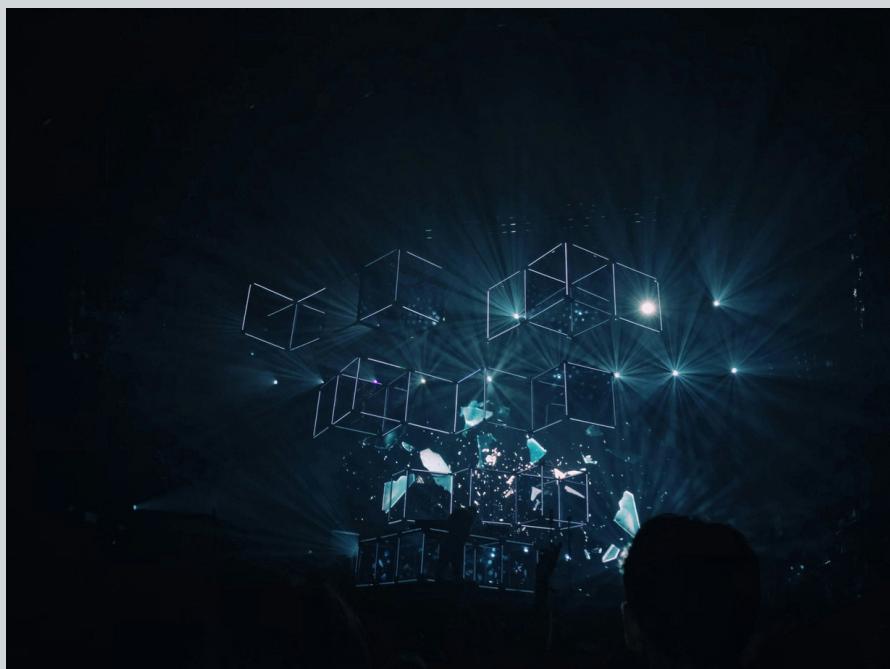
From the building of national infrastructure such as the Spine and Patient Demographic Service (PDS) to the NHS App and NHS Login.

To the recent emergence of some potential new challenger GP practice management systems, such as Medicus and OX.DH to rival EMIS Health (now Optum) and TPP.

...The need and desire for both public healthcare providers, care providers and other software suppliers to the NHS to deliver additional services, has always been ever present.

'Today it is essential, both for the delivery of health services and for any supplier wishing to be part of the primary care systems or data market, to have a clear understanding of what the right integration strategy looks like for them, to enable them to plan, fund and execute that strategy'

BEATA GREEN, CHIEF TECHNOLOGY OFFICER AT DIGITALS FOR HEALTH



Deciding on the right approach

If you are a systems supplier that needs access to primary care data held in what are called the foundation or core GP electronic patient record (EPR) or practice management systems (PMS) – as they are also called – you need to consider a few things:

What data do you require access to?

How do you require access to this data (e.g.: instantly, weekly).

Is your system to be used by clinicians?

Is your system to be used by patients?

Are you an NHS, private healthcare or care sector provider?

Are you a software provider delivering or wishing to deliver technology or technology-based services into the NHS?

Do you have the right levels of compliance to take part in integration programmes?

The answers to these questions will determine the right integration strategy for you. They impact everything from which APIs you should use, to how long the integration will take, to how much it will cost.

For example, a read-only data analytics platform pulling bulk anonymised data weekly will take a very different path than a point-of-care clinical app that needs instant, read-write access to a live GP record during an appointment.



Deciding on the right approach

You also need to consider some broader regulatory questions in doing so:

How will patient consent be collected if required?

What is the legal basis for you become a data processor?

Do you meet required compliance standards (e.g.: those that fall under DTAC, for example NHS Data Security and Protection Toolkit – DSPT))?

Are you interacting with the GP data (e.g.: pushing back data into the systems, as well as extracting) or do you simply need to view?

Have you considered and addressed clinical safety (e.g.: DCB 0129)?

Have you considered and addressed information, data and cyber security (e.g.: ISO 27001, NHS Data Security and Protection Toolkit, Cyber Essentials and Cyber Essentials Plus)?

Do you use AI, and do you need to register as a medical device?

Do you need to integrate with the NHS App?

And do you need to use the NHS Login?

You also need to consider speed, time to market and costs. Some routes may be a little slower but involve far less costs. Other routes might present more opportunities in more markets across the UK. Some routes may be applicable for primary care, but different for acute, community or mental health.

All the questions will impact the potential integration routes open to you, the length of time it takes to get your solution integrated and useable and the amount of money you will need to spend to make it all happen.

Route to integration with Primary Care Systems

Interface Mechanism 1 (IM1)

One of the most common ways to integrate a 3rd party system with the current Optum (EMIS Health) or TPP systems – and in the future the likes of Medicus and OX.DH – is via IM1. For each core EPR systems provider, 3 APIs are provided for usage by 3rd parties, allowing ancillary software providers to connect to the core GP EPR systems and extract, view and push back data.

Those 3 APIs are:

- Transactional.
- Patient Facing Services (PFS).
- Bulk.

The names largely describe what they do, with, clearly, the PFS API being for those applications that want to offer patient facing services. Likewise, bulk, tends to be used if you wish to extract large amounts of data (perhaps overnight or weekly) for analytical purposes.

The IM1 central programme team (now) at NHS England are very helpful and very nice. They are however, typically under resourced.

From first contact to moving through the waiting list to start the process by completing an initial assessment (called a SCAL – Supplier Conformance Assessment List), can often take 3 months.



Route to integration with Primary Care Systems

Interface Mechanism 1 (IM1)

Passing that initial assessment (no doubt with some questions) and then being passed onto the GP EPR suppliers for them to assess, can add another month.

Once you have your environment created and can start to develop and test the API(s) you have chosen, then the process is more under your control, but again may take 1-2 months, depending on the speed of progress.

The process ends with witness testing and being signed off for usage. Again, there can be delays in this process, so allow enough time versus your go to market plans.

It can therefore take at least 6 months, to perhaps 9 months and sometimes 12 months to move through this process. It is therefore best to plan and, if this is your route, to get started early on.

The good news at least, is that (at the time of writing), there is no charge for this process. NHS England centrally compensate the GP EPR suppliers (for the initial integration and subsequent annual maintenance).

As a 3rd party supplier, you just need to swallow your own project management and software development costs.

It is worth noting that this route is if you wish to integrate with GP systems in England, only.

If you also need to access GP systems in Scotland, Wales or Northern Ireland or non-GPs versions of the same systems in England (for example in a community setting), then you will need to explore integration directly with the GP systems provider (see next), even though the APIs are fundamentally the same.

Digital for Health can guide you through this process, making it as short and as smooth as possible.

Route to integration with Primary Care Systems

Supplier Partner Programme

IM1 can be a bit slow as a process, but it works and is free. However, IM1 only applies (currently) to integrating with Optum (EMIS Health) and TPP for GP and only in England.

If you wish to integrate with Optum or TPP in another care setting or outside of England, you will need to go via their respective partner programmes.

Optum offers a range of APIs for integration with its current EMISWeb solution. Some of these are very similar to the IM1 APIs, although may offer more functionality.

TPP similarly offers a range of APIs for integration with SystmOne, its current solution. Some will be very similar to the IM1 offerings, some (e.g.: Telephony), are clearly additional.

Similar applies at present to OneAdvanced (Cegedim) in Scotland and will apply (due to the IM1 restrictions) to new challengers as they are able to take part in broader integration programmes.

Typically, the GP EPR Partner programmes will charge a range of fees, some of which might include:

- A joining fee to join the programme.
- An initial integration fee.
- An annual maintenance fee to manage the API.
- A volume fee depending on API data usage.
- Per patient, per practice/org, per annum fee.
- Activation fees when an organisation is switched on to the API.
- De-activation fees when an organisation is switched off from the API.
- And so on...

Route to integration with Primary Care Systems

Supplier Partner Programme

Not all GP EPR suppliers charge the same fees, in the same way (and here is not the place to get into the commercials of this discussion). However, as a short guide, it is recommended:

Engage early and allow 6 months.

Budgets cost might be up to £25,000.

Check the IM1 programme is not applicable.

Take full advantage of any additional promotion or sales services offered.

Engage customers/potential customers as advocates.

Whilst the focus of this paper is very much on primary care, it seems sensible to touch upon the other provider sectors of the NHS and include some headlines from integration in those sectors.

Much integration with acute hospitals will likely be done with the Trusts IT Team, via the Trust Integration Engine (TIE). The TIE integrates different systems together within the hospital setting, where there are high numbers of systems compared to primary care.

Larger suppliers may be able to integrate directly with the major EPR vendors in the hospital space. For community and mental health settings, integration would be via the Optum or TPP programmes for those solutions. The other major player in this space is The Access Group (formerly Servelec) and their RiO EPR.

The Access Group has a partner programme and suitable APIs to enable integration. As with the other suppliers, there is a cost involved.

Route to integration with Primary Care Systems

National Integrations

If your strategy requires integration with any of the national infrastructure items, which may (or may not) also then connect to GP systems, you should again be considering 6 to 12 month time line, how many you need to or can do at any one time and what the key ones are to enable you to operate in the market.

The process you will go through for those national integrations is not unlike that you will follow for IM1, and timelines and pace can at times be frustrating.

National integrations you may need to consider are:

Spine

Personal Demographics Service: a comprehensive database of NHS patient demographic information

Electronic Referral Service: delivers referrals from primary care to secondary care (GPs to Hospitals).

NHS Login: The NHS Login provides patients with a secure and convenient way to access a wide range of health and care services.

NHS App

Route to integration with Primary Care Systems

National Integrations

The Spine provides secure messaging that facilitates data exchange between systems and provides a hosting platform for critical national services, including:

Electronic Prescription Service (EPS)

Personal Demographics Service (PDS)

GP Connect

National Care Records Service (NCRS)

Summary Care Record (SCR)

Not all of these are specifically just for primary care. You may wish to use NHS Login for patient login validation and ease of access or integrate with the NHS App as the range of services it provides also expands.

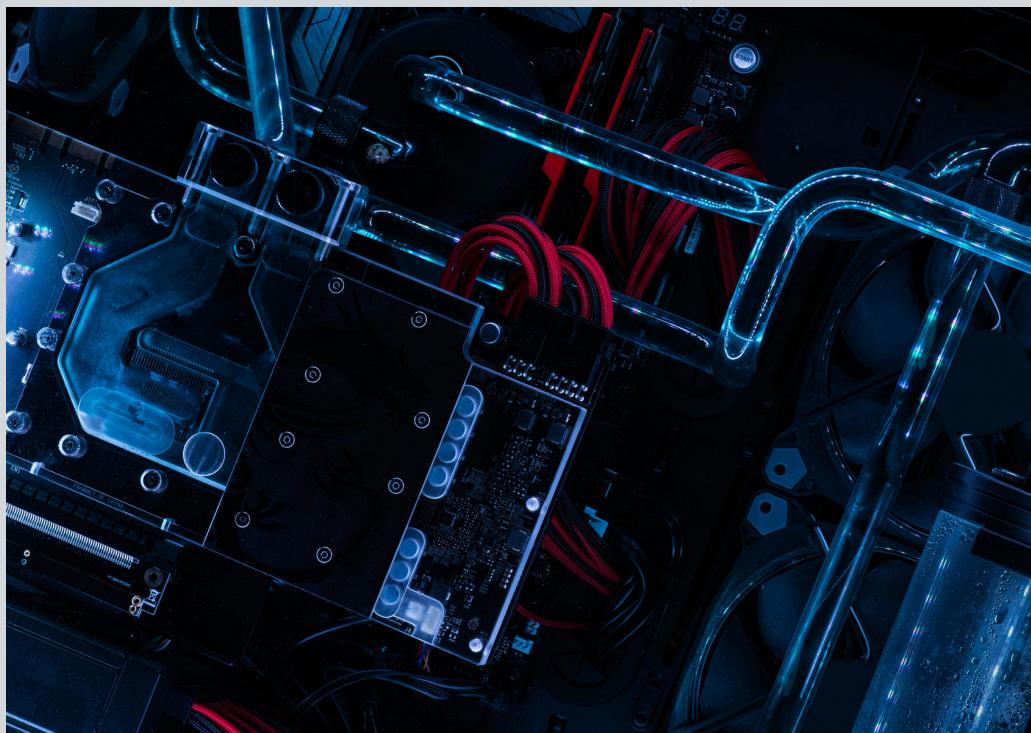
Other national integrations follow a similar pattern, and their information can be found via a simple search online.

National integrations for many applications are likely to be more limited in requirement, depending on what your software does.

However, if you plan to offer patient facing services, then the NHS Login, and potentially the NHS App are becoming increasingly required.

'Smart integration with national services doesn't just tick a box; it transforms fragmented processes into a unified experience and the companies that do this will define the next generation of healthcare solutions.'

ANDY GREEN, MANAGING DIRECTOR AT DIGITALS FOR HEATLH



Risks and Challenges

When approaching NHS integration, there are several risks and challenges you to plan for to avoid delays, barriers to adoption or additional cost:

A lack of integration risks siloing your data and application away from other information it needs (e.g.: GP record).

Partner selection is critical

Clarify the 'why' and the 'what': it's important to know up front why you are integrating and what you are integrating with, so you can choose the right path, and if needed, support.

Compliance can be a major early stage barrier. Especially at an earlier stage in a supplier's development, it can be costly and time consuming to gain the necessary compliances (digital standards) to enable you to integrate – you may not be able to "just integrate" without these.

National teams are very helpful, but are generally under resourced and in a period of significant change. This makes integration through central NHS programmes take far longer than is often desired commercially, something to be aware of.

Opportunities

Despite the challenges outlined, when executed well, NHS integrations can unlock significant opportunities that enhance product value, strengthen credibility and accelerate growth.

Integrating with Primary Care EPR systems opens up value to your application, that can drive adoption with your users and revenues with your customers. The ability to access such data, enriches the offerings you can provide but may also drive innovation in what you can provide in terms of enhancing health services for patients and supporting clinicians. By integrating as needed, a supplier becomes part of the eco-system and can drive more opportunities and take part in more conversations.

Integration drives market adoption. In healthcare it is rare something scales without being able to interact with other systems, as ensuring the right data is in the right place at the right time is critical.

Partnership and promotional opportunities within some of the supplier partner programmes may provide a boost to the promotion of a supplier's solution, extending reach and profile of that solution. Especially helpful if a smaller or earlier stage supplier.

Trustworthiness: Certain integrations can announce real presence in a market and value to that market, for example, having patients being able to use the NHS Login, or integrating with the NHS App, the front door of the digital NHS.

In short, **integration drives scale.**

Navigating the process

Support is available

The multiplicity of routes, range of options and technical scale of delivery, can make integrating into this landscape appear daunting. Certainly, it needs to be taken seriously, but there is no need to feel overwhelmed.

The people who run many of the NHS based integration programmes are very knowledgeable and generally very helpful.

There is a wealth of information and support available online.

The core GP EPR suppliers Partner Programme staff are generally very knowledgeable and helpful – it is in their interests after all to ensure your integration journey goes smoothly.

There are a range of companies out there who can offer “widgets” or “brokers” as well as integration services, to smooth and in some cases speed up, the integration process (a cautionary note to always ensure you understand the costs of these before proceeding).

There are several consultancies that can help you manage your integration journey, like Digitals for Health, providing knowledge and expertise, as well as technical and project management capacity and capability.

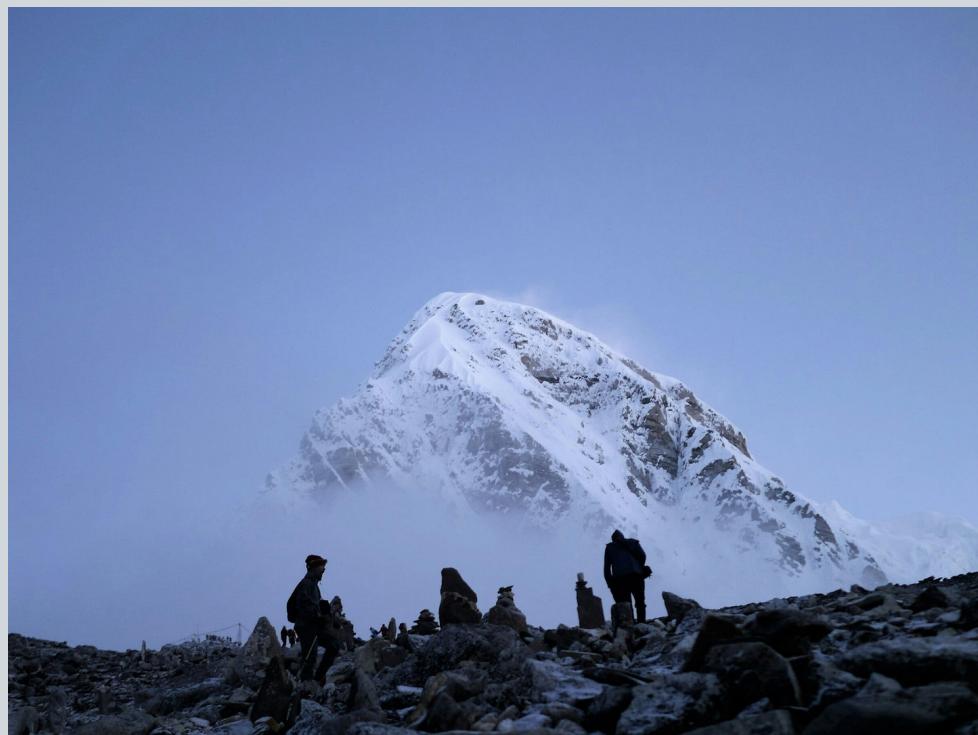
Digitals for Health can deliver this support either themselves or in using partners, such as The Martin Bell Partnership.

Whilst you may feel you are capable of doing the integration(s) yourselves, taking longer, getting it wrong, re-working, not mapping out all the integrations you actually need, etc can not only add significant cost and timeline to the integration, but in a competitive market, could cost you customers and revenue versus the competition.

Asking for some assistance may well be the sensible strategy.

“Think of NHS integration like climbing Everest,” says Beata Green, CTO of Digitals for Health. “You might reach the summit on your own, but it’s far safer, faster, and more strategic with an experienced sherpa by your side”

BEATA GREEN, CHIEF TECHNOLOGY OFFICER AT DIGITALS FOR HEALTH



Conclusion

Recommendations and Next Steps...

Integration options to access and exchange data in primary care can seem complex and confusing. There is however a wealth of information and support available to make this journey no more complicated than it needs to be.

Be clear about why you want to integrate.

Research the best integration route for you.

Ensure you have the necessary compliances in place to allow the integration(s) to take place.

Don't take too much on at once but sequence your requirements.

Seek support from Digitals for Health to guide you through the process.

We hope this paper provides practical guidance for organisations planning or delivering NHS system integrations.. If you would like support on your integration journey, whether advice and guidance, to project management or full technical support with the integration work, then please speak to us and we would be delighted to discuss and assist you further.

Is your organisation facing any of the challenges described here?

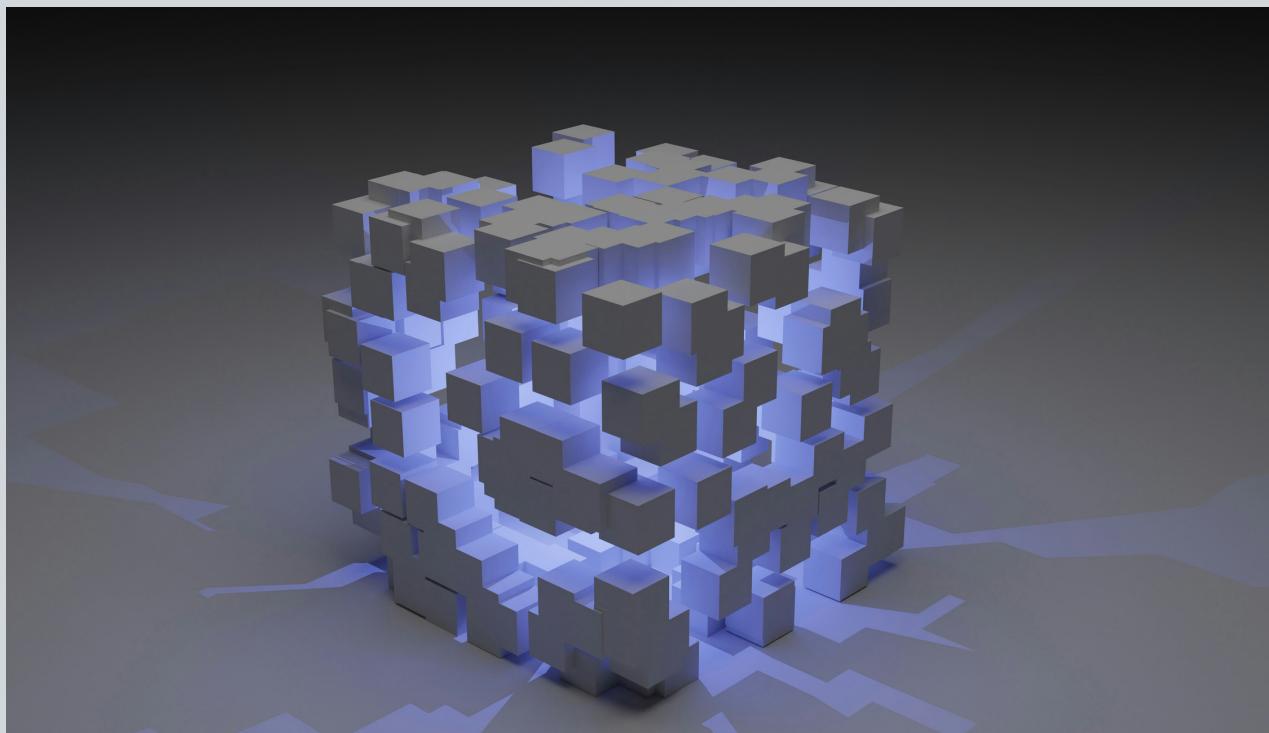
Contact Digitals for Health to see how we can help you with your integration journey.

<https://digitalsforhealth.co.uk>

admin@digitals.org.uk

'Healthcare providers aren't just buying tech – they're buying trust and future-readiness. Showing that your product can seamlessly integrate with NHS systems signals that you're here for the long haul, that you enhance the system rather than disrupt it.[...] In my experience, the difference between a pilot languishing on the shelf and a nation-wide rollout often comes down to integration capability. It's the best investment to turn a great idea into a sustainable, scalable business.'

MARTIN BELL, DIRECTOR OF THE MARTIN BELL PARTNERSHIP



References

NHS England (2023a)

GP Connect: Overview and Technical Standards.
<https://digital.nhs.uk/services/gp-connect>

NHS England (2023b)

Message Exchange for Social Care and Health (MESH).
<https://digital.nhs.uk/services/message-exchange-for-social-care-and-health-mesh>

NHS England (2023c)

NHS App: Integration Guidance.
<https://digital.nhs.uk/services/nhs-app/how-to-integrate-with-the-nhs-app>

NHS England (2023d)

NHS Login: Partner Integration Toolkit.
<https://digital.nhs.uk/services/nhs-login/nhs-login-for-partners-and-developers/nhs-login-integration-toolkit>

NHS England (2023e)

Electronic Referral Service (eRS): API Integration Guidance.
<https://digital.nhs.uk/services/e-referral-service>

NHS England (2023f)

IM1 Pairing Programme: Integration Guidance.
<https://digital.nhs.uk/services/im1-pairing>

NHS England (2022)

Care Identity Service / Spine Portal.
<https://digital.nhs.uk/services/care-identity-service>

National Library of Medicine (2018)

Primary Care Patient Records in the United Kingdom: Past, Present, and Future Research Priorities.
McMillan, B., Eastham, R., Brown, S., Fitton, C., & Dickinson, D.

TPP (2023)

TPP Partner Programme – Integration Request.
<https://www.tpp-uk.com>

Optum (2023)

Optum Partner Programme: Assured Partners.
<https://www.optum.co.uk>

The Access Group (2023)

Partner Directory.
NHS England (2023a) GP Connect: Overview and Technical Standards. Available at:
<https://digital.nhs.uk/services/gp-connect>

About Digitals For Health

Digitals for Health delivers healthcare expertise in software development, interoperability, AI-enabled products, and service design. We help organisations integrate care pathways, develop digital tools, and deploy safe and scalable health technologies.

Dedicated Teams – Systems Interoperability – Service Design – Product Development – DevOps

About Martin Bell

Martin runs The Martin Bell Partnership, providing consultancy services for healthcare and healthcare technology, from strategy and market landscaping to practical support around go to market, standards and regulation, procurement and integration.

Martin is a former Board CIO of a large Acute NHS Trust and former Deputy MD of EMIS Health. He has 42+ years' experience in business, 24 of this in Healthcare and Digital Health. <https://www.tmbp.co.uk/>

Digitals for Health
+44 (0)20 3433 1452
admin@digitals.org.uk

The Martin Bell Partnership
07753 623 044
bellmarti@googlemail.com