Transforming Clinical Coding with AI Clinical Coding

Humber Health Partnership Case Study
Northern Lincolnshire and Goole NHS Foundation Trust

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Partnership

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Insight for better healthcare

Transforming Clinical Coding with AI for Northern Lincolnshire and Goole NHS Foundation Trust

CHKS clinical coding services is working with Humber Health Partnership (HUTH and NLAG) to transform the way clinical coding can work. Using its unique AI Coding solution underpinned by their clinical coding team CHKS is transforming the way coding can be done.

In 2019, Northern Lincolnshire and Goole NHS Foundation Trust (NLAG) faced a significant challenge. **Their clinical coding team was shrinking due to retirements, competition from neighbouring Trusts, and a lack of new trainee coders**.

To address this, NLAG's IT team developed an autocoder to handle zero-length-of-stay cases (both medical and surgical) to improve coding consistency and quality. **However, the autocoder quickly became unreliable, failing to meet the necessary standards for accurate coding.**

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> **"The CHKS AI Clincial Coding gives Humber the confidence that the coding at NLAG is completed on time with high accuracy rates, releasing valuable in-house coder time to focus on more complex activity."**
>
> George Britchford, Head of Information at Humber Health Partnership

An internal coding audit revealed **significant data quality issues,** which posed a major problem as elective activity was moving back to the NHS Payment Scheme Tariff. This heightened the **urgency for accurate clinical coding, prompting NLAG to seek a more robust, long-term solution**.

The Solution

NLAG partnered with CHKS to **deploy an AI-powered clinical coding solution** aimed at improving **coding accuracy** and efficiency while **mitigating the ongoing challenges of coder recruitment**. CHKS leveraged its AI Clinical Coding system, supported by a team of expert coders and auditors, to ensure that coding quality **met NHS Payment Scheme and Tariff requirements**.

The solution was implemented in two phases:

- ### Manual Coding Support

  CHKS' experienced team provided remote clinical coding services to **meet immediate coding deadlines** and establish a **high-quality data baseline**. This step ensured a smooth transition to AI-assisted coding.

- ### AI Coding Deployment

  CHKS deployed its AI-driven coding solution, which uses deterministic programming to handle structured data with plans to incorporate small language models for extracting information from unstructured data. The system was integrated over an 8-week period, during which NLAG's IT team managed data extraction and system integration, despite the concurrent implementation of the Lorenzo system and a new data warehouse.

Initially, the AI clinical coder is being rolled out for endoscopy cases, which is fully delivered and chemotherapy cases, which is being developed now; with plans for expansion into other areas such as Cataracts in 2025.

The operational deployment is closely monitored by CHKS, with coders and auditors routinely verifying the AI's output to ensure accuracy, and coding records that the system has not yet learnt to code..

Outcome

The **CHKS AI Clinical Coding system now automates 2,000 to 2,500 cases per month for NLAG,** consistently delivering accuracy levels that exceed those previously achieved through manual coding.

The system has freed up in-house coders to focus on more complex cases, improving overall team efficiency.

1. Efficiency Gains

The AI Clinical Coding system significantly supports the clinical coding team by **automating high-volume, low-complexity tasks,** allowing coders to focus on more complex cases.

2. Improved Accuracy

The AI Clinical Coding solution delivers **over 95% coding accuracy,** reducing errors and ensuring compliance with NHS Digital Service Provider Toolkit (DSPT) standards.

3. Cost Reduction

The use of AI Clinical Coding has significantly **reduced costs compared to contractor spend** and **long-term coder recruitment,** providing a demonstrable return on investment (ROI).

4. Sustainability

With a 24/7, year-round service, the AI Clinical Coding solution **mitigates risks associated** with **coder shortages, sickness, or leave,** offering a long-term, sustainable solution.

Return on Investment (ROI)

The ROI of CHKS' AI Clinical Coding system is clear from the outset. By automating high-volume, low-complexity tasks such as endoscopy and chemotherapy coding, the system enhances the capacity of existing coding teams, allowing them to **handle larger workloads without the need for additional resources**. The AI Clinical Coding system also supports training by validating trainee coding accuracy and offers a long-term solution to the ongoing demographic challenge of an ageing workforce.

As the system matures, the total cost of ownership continues to decrease, leading to greater ROI over time. T**he reduction in recruitment, training, and contractor costs**, along with the AI system's **accuracy** and **24/7 availability**, make it a cost-effective and scalable solution for healthcare organisations. The AI Clinical Coding system is able to seamlessly manage an increase in demand and discharges.

The table below gives more information on the potential ROI savings a trust can make when they use the CHKS AI Coding solution.

Clinical Coder Cost Vs AI Coding	Band 3 FTE	Band 4 FTE
Entry Point Salary[1]	£22,816	£25,147
Coder Cost - *Inclusive of national insurance and pension at 20%*	£25,941	£30,176
Cost Per Day - *Based on a standard 260 working days per year minus typical allowance for holidays, staff development, training and sickness = 200 days* [2]	£129.71	£150.89
FCE's Per Coder - Benchmark per day [3]	32	32
Coder Cost Per Case	£4.05 ▲	£4.72 ▲
AI Coding Year 1 & 2 - *Average cost per case*[4]	£3.76 ▽	£3.76 ▽
AI Coding Year 2 Onwards - *Average cost per case*[5]	£2.90 ▽	£2.90 ▽
Targeted Year 2 Saving Per Case	28% ★	39% ★

Our Clinical Coding Experience

Since 1989, CHKS have been delivering solutions for healthcare organisations in over 20 countries and have worked with over 300 healthcare providers throughout the world. We are the largest and most experienced private provider of clinical coding services for the NHS and independent sector, offering a range of services to deliver high quality clinical coding, including:

- **Clinical coding services** – all our coders are highly experienced and ACC qualified and will code activity on site or remotely

- **Clinical coding training and mentoring** – led by our TAP certified trainer we develop and deliver bespoke training and mentoring ranging from individual sessions to multi-year programmes

- **Clinical coding audit** – as part of our financial assurance services we provide coding audits to support DSPT requirements and to ensure payment accuracy

- **Improvement reviews** – our data quality consultants work with coding departments to ensure processes in place support efficient and accurate coding and provide innovative ideas on delivery

What Next?

Join the growing community of healthcare providers who are embracing CHKS's AI Clinical Coding to stay ahead in the ever-evolving healthcare landscape.

Contact CHKS today:

✉ info@chks.co.uk

🌐 www.chks.co.uk

📞 0330 122 7200

References

1. (2023, May 2). **Pay scales for 2023/24**. NHS Employers. Retrieved 5th August 2024, from https://www.nhsemployers.org/articles/pay-scales-202324
2. **Humber Health Partnership** (HUTH and NLAG)
3. **Humber Health Partnership** (HUTH and NLAG)
4. (2022, November 9). **G-Cloud 13**. Crown Commercial Service. Retrieved 5th August 5, 2024, from https://www.crowncommercial.gov.uk/agreements/RM1557.13
5. (2022, November 9). **G-Cloud 13**. Crown Commercial Service. Retrieved 5th August 5, 2024, from https://www.crowncommercial.gov.uk/agreements/RM1557.13