

# ECG on Demand

## Inspection report

Black Barn, Cornwells Farm  
Sheephurst Lane, Marden  
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Kent  
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This report describes our judgement of the quality of care at this service. It is based on a combination of what we found when we inspected, information from our ongoing monitoring of data about services and information given to us from the provider, patients, the public and other organisations.

## Ratings

### Overall rating for this location

Good 

Are services safe?

Good 

Are services effective?

Good 

Are services responsive?

Good 

Are services well-led?

Outstanding 

# Overall summary

## **This service is rated as Good overall.**

The key questions are rated as:

Are services safe? – Good

Are services effective? – Good

Are services responsive? – Good

Are services well-led? – Outstanding

We carried out an announced comprehensive inspection at ECG on Demand on 9 July 2019 as part of our inspection and rating of independent healthcare services. Overall the practice is rated good with four outstanding qualities within the caring, responsive and well led domains. The practice was found to be outstanding in well led. We did not rate the caring domain as the provider does not have contact with patients or the public.

The Cardiology service provides remote interpretation of 12-lead ECG and ambulatory ECG Holter analysis (recording heart rate, rhythm and morphology over a period of time) at the point of care. These are conducted for medical centres, hospitals and GP practices in both the NHS and private sector.

This service is registered with CQC under the Health and Social Care Act 2008 in respect of all the services they provide. They operate from two locations in Kent and Bradford.

The principal cardiac physiologist is the registered manager. A registered manager is a person who is registered with the Care Quality Commission to manage the service. Like registered providers, they are 'registered persons'. Registered persons have legal responsibility for meeting the requirements in the Health and Social Care Act 2008 and associated Regulations about how the service is run.

Our key findings across all the areas we inspected were as follows:

- Staff understood and fulfilled their responsibilities to raise concerns and report incidents. All opportunities for learning from internal and external incidents were maximised.
- The practice used innovative and proactive methods to improve their assessments of data, working with colleagues and external specialists to identify, develop and embed best practice.

- The provider implemented suggestions for improvements and made changes to the way it delivered services, in response to feedback from staff, clients and external specialists.
- Staff told us they were treated with compassion, dignity and respect. Their professional opinion was valued and they were involved in the development and refinement of services.
- The provider had good facilities and issued, monitored and maintained the integrity of the recording equipment including training staff in its use.
- Information about how to complain was available and easy to understand. Complaints were welcomed, investigated and a detailed explanation provided in response including acknowledging improvements and actions taken.
- Clients reported receiving an excellent service, fast analysis of results and accessible and informed customer and staff support.
- The provider and their staff shared the same clear vision to improve the timeliness and accuracy of clinical assessments. There was a business plan, which was monitored and regularly reviewed and discussed with all staff. High standards were promoted and owned by all practice staff with evidence of team working across all roles.

We saw four areas of outstanding practice:

- The provider offered immediate real-time telephone access for any clinician who was concerned about either an ECG recording or the clinical wellbeing of a patient who was being assessed using this technology.
- The provider had developed a comprehensive continuous rolling Quality Improvement process. This provided the service with peer review and quality assurance of the cardiac physiologists who were responsible for first line reporting on each recording.
- The provider's in-house developed decision assistance software has been continuously developed from feedback received from consultant cardiologists and cardiac physiologists.
- The provider had reduced the risk of mismatching test results to the wrong patient by harvesting patient identifiers (NHS Number) directly from the most commonly used primary care electronic patient record systems using its own in-house developed API enabled

# Overall summary

application. The provider had developed its own API enabled electronic record import tool that checked for a match on NHS number when attempting to attach an ECG report back into the patient record.

**Dr Rosie Benneyworth BM BS BMedSci MRCGP**  
Chief Inspector of Primary Medical Services and Integrated Care

## Our inspection team

The inspection team consisted on a CQC lead inspector and CQC GP specialist advisor.

## Background to ECG on Demand

ECG on Demand is located at Black Barn, Cornwells Farm, Sheephurst Lane, Marsden, Tonbridge, Kent TN12 9NS [www.ecg-od.com](http://www.ecg-od.com). They operate 9am to 5pm Monday to Friday. They are registered to provide;

- Diagnostic and screening procedures
- Transport services triage and medical advice provided remotely.

The services are delivered by a team of four cardiac physiologists, IT and infrastructure lead, web designer, technical solutions specialist, compliance and administrator and overseen by a managing director and GMC registered medical director, leading on clinical governance.

The provider developed their own in- 12-lead ECG reporting software system, workflow management software system, quality assurance application and patient Apps. These are licenced to NHS and private sector primary and secondary care providers.

The service was inspected on 9 July 2019 by a CQC lead inspector. Members of the management and clinical team were interviewed by telephone on 10 July 2019 by a CQC GP specialist advisor.

Prior to the inspection we reviewed the providers website, spoke to the Director of ECG on Demand, reviewed information held on the service. We interviewed staff, conducted observations reviewed documents and received feedback from clients of ECG on Demand.

To get to the heart of patients' experiences of care and treatment, we asked the following four questions:

- Is it safe?
- Is it effective?
- Is it responsive to people's needs?
- Is it well-led?

# Are services safe?

## We rated safe as Good because:

**The provider had reduced the risk of mismatching test results to the wrong patient by harvesting patient identifiers (NHS Number) directly from the most commonly used primary care electronic patient record systems using its own in-house developed API enabled application. The provider had developed its own API enabled electronic record import tool that checked for a match on NHS number when attempting to attach an ECG report back into the patient record.**

### Safety systems and processes

**The service had clear systems to keep people safe and safeguarded from abuse.**

- The provider conducted risk (clinical and organisational) assessments. They held appropriate policies, which were regularly reviewed and communicated to staff.
- Staff received safety information from the service as part of their induction and refresher training.
- The provider carried out staff checks on their clinicians at the time of recruitment and on an ongoing basis where appropriate. Disclosure and Barring Service (DBS) checks were undertaken where required. (DBS checks identify whether a person has a criminal record or is on an official list of people barred from working in roles where they may have contact with children or adults who may be vulnerable).
- The provider ensured that facilities and equipment (on-site and remotely) were safe and that equipment was maintained according to the manufacturers' instructions. The service tracked the use of their equipment and the data quality of the device.
- The provider carried out appropriate environmental risk assessments, which considered the role and individual needs of their staff.

### Risks to patients

**There were systems to assess, monitor and manage risks to patient safety.**

- There were arrangements for planning and monitoring the number and mix of staff needed. This included a daily designated Cardiac Physiologist to respond to immediate requests.
- When there were changes to services or staff, the service assessed and monitored the impact on the quality of service.

- There were appropriate indemnity arrangements in place to cover all potential liabilities.
- The provider had implemented a continuous rolling quality assurance sampling system (a minimum of 5% of physiologist reports were checked by a consultant cardiologist) whereby the quality of reporting by its clinicians was systematically monitored using blind auditing techniques to remove any bias. Performance data was generated and reviewed on a monthly basis so that any underperformance could be detected and corrected with the minimum of delay. Past audit reports were readily available for inspection as evidence.
- When patients were deemed to be judged at serious risk, there was a clear escalation policy that mandated that the customer was immediately informed by telephone call so that the risk could be appropriately managed by the local clinician.
- All clinical physiologists were able, to access and share the worklist, and were able to contact and confer with each other, using encrypted screen sharing, to reach a consensus on the correct interpretation of an image/tracing.

### Information to deliver safe care and treatment

**Staff had information they needed to deliver safe care and treatment to patients.**

- Individual assessments of images and clinical judgements were recorded and managed to ensure accuracy.
- The service had systems for sharing information with staff and securely with other agencies. They developed software to ensure their assessments were compatible with clinical systems and could integrate into the correct patient record.
- The service had a system to retain the patient images (data) in line with Department of Health and Social Care (DHSC) guidance if they cease trading.
- All clinical physiologists were able, to access the central worklist, and were able to contact each other to reach a consensus on the correct interpretation of an image/tracing using encrypted screen sharing.

### Track record on safety and incidents

**The service had a good safety record.**

- There were comprehensive risk assessments in relation to safety issues.

## Are services safe?

- The service monitored and reviewed their activities to inform their understanding of risks and gave a clear, accurate and current picture that led to quality improvements.

### Lessons learned and improvements made

#### The service learned and made improvements when things went wrong.

- There was a system for recording and acting on feedback. Staff understood their duty to raise concerns and report incidents. Leaders and managers supported them when they did so and they maintained transparent operating systems to demonstrate integrity in decision making.
- There were systems for reviewing and investigating when things went wrong. The service learned and shared lessons, identified themes and acted to improve safety and efficiency of the service. We saw concerns were investigated and opportunities were taken to strengthen their governance systems. For example, a monthly audit was conducted by an external supervising consultant cardiologist of 5% of all recordings. Any variations in judgements were discussed with the clinical team leaders, and then with the individual physiologists. The service told us, they had found the system effective as it had resulted in a reduction in clinical differences between the supervising cardiologist and reporting physiologist over time.

- The provider was aware of and complied with the requirements of the Duty of Candour. The provider encouraged a culture of openness and honesty. The service had systems in place for knowing about notifiable incidents.

When there were concerns raised:

- The service recorded all verbal and written concerns. We found complainants were thanked for bringing the matter to their attention, supported and provided with an evidenced explanation acknowledging where improvements could be made and demonstrating how they had learnt and strengthened processes, where appropriate.
- They kept written records of verbal interactions as well as written correspondence.

# Are services effective?

## We rated effective as Good because:

**The clinical team received all data electronically and could interrogate it in great depth to inform their assessments. The clinical team benefitted from access to immediate peer and clinical supervision. Their clinical assessments were reviewed against benchmarked data to identify outlining judgements and independently audited by an external Consultant Cardiologist to provide additional scrutiny and assurance.**

### Effective needs assessment, care and treatment

**The provider had systems to keep clinicians up to date with current evidence based practice. We saw evidence that cardiologist and clinicians assessed ECGs and in line with current legislation, standards and guidance.**

- The clinical team held regular clinical meetings where they discussed judgements and the findings of the external Consultant Cardiologist to promote understanding and learning.
- The clinical team were able to interrogate the digital data in detail, focusing on single periods of time or periods of abnormality when conducting their assessment.
- Changes to standards or guidance were embedded within the clinical software to inform assessments.
- The service provided detailed reports to assist a clinician to make a clinical judgement.
- The service could redact personal identifiable information when reviewing patient data. We saw no evidence of discrimination.

### Monitoring care and treatment

**The service was actively involved in quality improvement activity.**

- The provider interrogated their data systems to monitor clinical performance of individuals and the team to ensure consistency. Where clinical judgements were made these were audited to ensure consistency and defensible decisions. This information was then used to inform amendments to the software to improve future efficiency of the software. Staff were told of the amendments, sharing learning and embedding best practice.

- The service monitored all clinicians' assessments against benchmarked data to identify inconsistencies or outlier performance.

### Effective staffing

**Staff had the skills, knowledge and experience to carry out their roles.**

- All staff were appropriately qualified.
- The provider had an induction programme for all newly appointed staff.
- Relevant professionals were registered with their appropriate professional bodies and voluntary bodies for example the Lead Cardiac Physiologist was registered with the Registration Council for Clinical Physiologists.
- The provider identified and understood the learning needs of staff and provided protected time and training to meet them. The services maintained up to date records of skills, qualifications and training.
- The management team held development interviews with all staff and provided staff with time and funding to pursue additional training for their personal development.
- Clinical advice was available from senior clinicians daily and supplemented with monthly and quarterly clinical meetings where external advice was also discussed.
- The service attended, supplied and trained all contracting services in the full use of their equipment.

### Coordinating patient care and information sharing

**Staff worked together, and worked well with other organisations, to deliver effective assessments.**

- The service referred to, and communicated effectively with, other services when appropriate.
- Priority tasks were marked appropriately and overseen to ensure they were brought to the attention of appropriate persons for actioning.

### Consent to care and treatment

**The service obtained consent to review patient data via their commissioning, data sharing agreement.**

- The practice had a Caldicott guardian to oversee the management of data.
- The service ensured appropriate data management agreements were in place with their clients to support the sharing of information.

# Are services responsive to people's needs?

**We rated responsive as Good because:**

**The service operated a paperless system, delivering remote timely analysis of ECG tracing 12 lead and Holter data immediately where requested. The service provided patients with a diary application to record contemporaneously their symptoms and were assessed with their data. ECG on Demand demonstrated one in four patients were submitting electronic diaries to be assessed with their clinical data. Their data showed a growth in usage since its introduction in November 2018. The use of IT systems had also reduced the administrative burden on both patients and the service enabling them to capture legible information improving the quality of their assessments.**

**Clients of ECG on Demand told us they received ECG assessments within 15-20 minutes and within two hours for 24hour ECG monitoring. Clients were sent notification emails that their assessment was available to access via NHS encrypted data systems. Each assessment was colour coded to alert the clients to those requiring priority actioning. Assessments indicating the greatest risks were also centrally recorded and individually monitored to ensure clients are made aware of them. Enabling the service to communicate risks to patient's often that day and before the end of their clinic. This was also reported to be invaluable for informing onward decision making for patients into secondary care, where appropriate.**

**The provider remotely monitored the use of their recording equipment, to ensure the integrity of the data. Encouraging clients to provide feedback on the use of their system and value of their assessments. They recorded all comments, investigating each incident and sharing their concluding report with the client, demonstrating openness and transparency. The providers governance systems showed they valued all feedback as an opportunity to refine their operating systems, equipment and identify evolving market needs to improve client experience of their service.**

**We also found an outstanding quality because:**

**The provider offered immediate real-time telephone access for any clinician who was concerned about either an ECG recording or the clinical wellbeing of a patient who was being assessed using this technology.**

Responding to and meeting people's needs

- The facilities and premises were appropriate for the services delivered.
- The service provided their clients with all monitoring equipment, this self-calibrated and transmitted information on the service user, identifiable data source and aided the investigation and elimination of issues.
- All ECG reports were colour coded according to clinical need to assist in the prioritisation of clinical care to those patients in greatest need.
- The provider remotely monitored the use of their recording equipment. This was to ensure the integrity and quality of the data. They encouraged clients to provide feedback on the use of their system and valued their assessments. They recorded all comments, investigating each incident and sharing their concluding report with the client, demonstrating openness and transparency.

**Timely access to the service**

**Clients could access their specialist service within an appropriate timescale for their needs.**

- Clients had access to timely assessments, within the day and often within hours of the data being electronically transmitted.
- We reviewed the services performance data for January to March 2019 and saw they had achieved 100% on the promised and contracted delivery of their ECG reporting service within their NHS Client base.
- Patients had access to an online diary application to transmit corresponding symptoms accurately to improve the diagnostic value of the resulting report. The Holter Diary application available in search engines had been downloaded and used by several hundred patients.
- Patients with the most urgent needs can have their assessments reviewed immediately, on request. To ensure equality of access, this service was included within the providers standard service level agreement as a no cost feature.

The service organised and delivered services to meet their client's needs.



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### **Listening and learning from concerns and complaints**

The service took complaints and concerns seriously and responded to them appropriately to improve the quality of care.

- Information about how to make a complaint or raise concerns was available. Staff acknowledged and escalated concerns brought to their attention recording them centrally on a shared system.
- The service acknowledged the complaint, thanking them for bringing it to their attention, providing a detailed explanation of their investigation and any learning identified.
- The service had complaint policies and procedures. The service identified learning from all feedback and discussed and shared it with all members of their team. Where appropriate, changes were made to software or operating practices to mitigate against a reoccurrence of error and system checks run to ensure the changes were operating effectively. For example, the service increased the external auditing of their newly recruited physiologists to provide additional assurance of the accuracy and quality of their work.

# Are services well-led?

**We rated well led as Outstanding because:**

**The service had established and effective governance systems to deliver sustainable high-quality ECG tracing and Holter assessments with minimal notice. They employed operational resilience within their clinical team and IT systems. Clinicians operated a duty system for all clinicians to respond to urgent requests. Peer and clinical supervision was readily accessible to all staff and they commissioned external Cardiac consultants to audit 5% of their judgements on a rolling cycle. Any disparities were discussed monthly at clinical meetings, judgements and rationales recorded and where appropriate processes and clinical software amended to reflect the decisions and ensure consistently precise future clinical assessments.**

**The providers in-house developed decision assistance software has been continuously developed from feedback received from consultant cardiologists and cardiac physiologists.**

**The service also benefitted from access to a bank of consultant cardiologists, on an e-consultation basis, for clarification of physiologist reports and to provide advice and guidance for the management of patients.**

**Staff spoke of the warm and inclusive culture of the organisation. That they had confidence in the professional leadership of the organisation and provided examples of where they had been supported financially and given time to access welfare services. Staff were awarded for the clinical accuracy of their assessments.**

**The provider maintained comprehensive records of all verbal and written questions and concerns raised by clients, demonstrating honesty and a commitment to improving the quality of the service and experience for their clients. This was reflected in feedback we received from their clients who reported receiving an excellent service, fast analysis of results and accessible and informed customer and staff support.**

**Leadership capacity and capability;**

**Leaders had the capacity and skills to deliver high-quality, sustainable care.**

- Leaders were knowledgeable about issues and priorities relating to the quality and future of services. They maintained a comprehensive risk document demonstrating a great understanding of their potential challenges and detailed mitigation strategies where appropriate.
- Leaders at all levels were visible and approachable. They worked closely with staff to ensure a consistently, timely, accurate and professional product.
- The provider had effective processes to develop leadership capacity and skills, including appointing staff lead on the planning and development of new commercial workstreams.
- They operated off site backup IT data systems, and encrypted software to mitigate against data lost or damage.

## Vision and strategy

**The service had a clear vision and credible strategy to deliver high quality assessments to assist clinicians to make timely clinical judgements.**

- There was a clear vision and set of values. The service had a realistic strategy and supporting business plans to achieve priorities.
- The service developed its vision, values and strategy jointly with staff.
- Staff were aware of and understood the vision, values and strategy and their role in achieving them
- The service maintained a continual focus on consistently delivering a timely and accurate product. Reviewing clinicians and the team's performance throughout the day to ensure they deliver their strategy.

## Culture

- Structures, processes and systems to support good governance and management were clearly set out, understood and effective.
- Staff were clear on their roles and accountabilities. They told us they were trusted and respected in performing their roles and supported to make judgements.
- Leaders had established policies, procedures and activities to ensure safety and assured themselves that they were operating as intended. All were accessible to all staff including being fully auditable, highlighting changes to the documents. All changes were communicated through regular individual and team meetings.

# Are services well-led?

## Managing risks, issues and performance

### There were clear and effective processes for managing risks, issues and performance.

- There was an effective, process to identify, understand, mitigate, monitor and address current and future risks. This was documented within an overarching risk framework and colour coded according to significance.
- The service had processes to manage current and future performance. Performance of clinical staff was individually monitored daily and captured through the internal and additional external auditing of their assessments.
- Leaders had oversight of staff performance, including client feedback and complaints.
- Clinical audit had a positive impact on the quality of service provided to their clients. There was clear evidence of action to change services to improve quality.
- The provider had plans in place and had trained staff to deal with disruption to the service. The provider had practiced their disaster recovery system, shutting down their primary server and having all staff working remotely. This was found to be effective and did not interfere with the service.

## Appropriate and accurate information

### The service acted on appropriate and accurate information.

- Quality and operational information was used to ensure and improve performance. Performance information was combined with the views of clients.
- Quality and sustainability were discussed in relevant meetings where all staff had good access to information.
- The service used performance information which was reported and monitored daily and management and staff were held to account.
- The information used to monitor performance and the delivery of quality care was accurate and useful. Any changes to the performance of the team were addressed that day.

- The service submitted data or notifications to external organisations as required.
- There were robust arrangements in line with data security standards for the availability, integrity and confidentiality of patient identifiable data, records and data management systems.

## Engagement with staff and external partners

### The service involved staff and external partners to support high-quality sustainable services.

- The service encouraged, heard and acted on views and concerns from their staff and clients who commission their specialist service.
- Staff could describe to us the systems to give feedback. We saw evidence of feedback opportunities for staff and how the findings were fed back to staff. We also saw staff engagement in responding to these findings.
- The service was transparent, collaborative and open with stakeholders about performance.

## Continuous improvement and innovation

### There were systems and processes for learning, continuous improvement and innovation.

- There was a focus on continuous learning and improvement. The provider won the “Innovators of the Year” in 2012 at the general practice awards for their work with a Clinical Commissioning Group for reducing onward referrals.
- The service made use of internal and external clinical resources to inform the training of their staff and development of their data systems. This included contributing to academic studies and were working with Swansea University on the publication of an article by the American Heart Association.
- Leaders and managers encouraged staff to take time out to review individual and team processes and performance.