Emerging Technology Spotlight

Nuance DAX 2021

Improved Patient-Physician Experience through Ambient Clinical Intelligence

Performance Report | December 2021
Why This Spotlight?
To increase clinical documentation quality and reduce physician burnout, provider organizations look to technology that captures physician notes or scribes who can take notes during patient appointments. Nuance’s Dragon Ambient eXperience (DAX) solution uses ambient technology to securely capture and automatically document patient encounters via a mobile app. This report seeks to validate early adopters’ experience with the solution and what outcomes they anticipate.

Key Competitors (as reported by Nuance)
3M, Augmedix, Suki

Top Reasons Selected
Advanced ambient technology, efficient and accurate documentation, organizational trust

What Does Nuance DAX Do?
(A Customer Explains)
“The solution can hear the conversation between the patient and the physician. Then that conversation goes to Nuance over the web, and a note comes back within a few hours that interprets that conversation. . . . The system does not just transcribe or dictate; it literally thinks and puts in terminology in parts of the notes that matter, so it goes a step further.”—CMO

Number of Customers Interviewed by KLAS
13 individuals from 10 unique organizations (out of 23 unique organizations provided to KLAS)

Survey Respondents—by Organization Type (n=10)

<table>
<thead>
<tr>
<th>Organization Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standalone hospitals</td>
<td>30%</td>
</tr>
<tr>
<td>Academic health systems</td>
<td>20%</td>
</tr>
<tr>
<td>Small-hospital health systems</td>
<td>40%</td>
</tr>
<tr>
<td>Large-hospital health systems</td>
<td>10%</td>
</tr>
</tbody>
</table>

Survey respondents: 100%

What Does Nuance DAX Do?
Enhanced patient engagement
Increased provider satisfaction
Reduced documentation time
Improved documentation accuracy
EMR integration (respondents use Cerner or Epic)

Survey respondents: 100%

Overall Customer Satisfaction (n=13)
84%
8%
1%
5%

Time to See Outcomes (n=9)
67%
22%
11%

Outcomes Expected by Customers
Achieved
Increased provider satisfaction
Improved documentation accuracy
Reduced documentation time
Enhanced patient engagement
Pending
No outcomes yet

Key Performance Indicators (1-9 scale)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supports integration goals</td>
<td>A</td>
</tr>
<tr>
<td>Product has needed functionality</td>
<td>A−</td>
</tr>
<tr>
<td>Executive involvement</td>
<td>A</td>
</tr>
<tr>
<td>Likely to recommend</td>
<td>A</td>
</tr>
</tbody>
</table>

Grading scale
A+ = 8.55–9.0
A = 7.92–8.18
A− = 7.65–7.91
B+ = 7.39–7.64
B = 7.02–7.38
B− = 6.75–7.10
C+ = 6.39–6.74
C = 6.02–6.38
C− = 5.65–6.01
D+ = <5.22

Would you buy again? (n=13)
Yes: 92%
No: 8%

Adoption of Key Functionality
Percentage of interviewed customers using functionality

<table>
<thead>
<tr>
<th>Functionality</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient technology to capture conversations</td>
<td>100%</td>
</tr>
<tr>
<td>Automatic clinical documentation</td>
<td>100%</td>
</tr>
<tr>
<td>EMR integration (respondents use Cerner or Epic)</td>
<td>78%</td>
</tr>
</tbody>
</table>
**KLAS’ Points to Ponder**

**The Positives:** DAX uses ambient speech capabilities to create documentation for physicians, thus reducing physician workloads and improving satisfaction. Users say they no longer have to create documentation from memory after patient encounters, which improves the accuracy and quality of the documentation. DAX is more cost effective than in-person scribes because organizations can rely on virtual scribes or simply the ambient speech technology.

Organizations should consider the following:

**Opportunities**

- **The system is not yet fully automated and relies on human review**
- **Complete implementation takes time and consistent effort**
- **Tighter integration could improve the solution’s effectiveness**

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**The Solution’s Long-Term Viability in Healthcare**

Many physicians don’t like using EMR structured templates to document patient encounters, as they feel these templates fail to accurately describe the patient’s true condition. Ambient speech technology will continue to advance as companies like Nuance (Microsoft), Google, Apple, and Amazon push the technology across industries. Over time, organizations will likely move away from scribes and use ambient speech to create documentation in real time without any human intervention. DAX is well positioned to lead this transformation.

**Impacts and Trade-Offs of the Underlying Technology**

DAX is based on common digital architecture components used in the industry. Security and data encryption use standard protocols for data transactions. The platform is HITRUST certified. The solution also uses AI to learn physician documentation patterns to drive higher levels of documentation accuracy. Nuance acquired one of the advanced ambient speech products, Saykara, which is likely being used to further drive ambient speech capabilities. DAX’s weaknesses are a lack of Android support and a lack of development around sophisticated EMR integrations, but Nuance reports more integrations are coming in 2022.

**Ambient Speech as a Component of Physician Documentation Services**

Large healthcare networks will be challenged to create one standard physician documentation process. Some physicians are EMR superusers who are comfortable using structured documentation templates. Other physicians like using scribes for their documentation processes. However, scribe functions are expensive to support. As ambient speech technology advances, organizations will pursue the technology to supplement EMR structured template documentation. Ambient speech solutions using sophisticated AI and NLP technologies are likely to supplement EMR documentation capabilities over the next three to five years.
Nuance: Company Profile at a Glance

Healthcare Executive Interview

Diana Nole,
Executive Vice President and General Manager,
Healthcare Division

How would your customers describe your solution?
Nuance Dragon Ambient eXperience (DAX) is an AI-powered, voice-enabled ambient clinical intelligence (ACI) solution that automatically documents patient encounters accurately and efficiently from natural conversation at the point of care. For use in office and telehealth settings, Nuance DAX builds on the benefits of Dragon Medical One and further enhances the quality of care and patient experience, increases provider efficiency and satisfaction, and improves financial outcomes.

What is Nuance DAX’s biggest differentiator?
DAX delivers impressive results. In a Nuance survey, DAX providers reported time savings of 7 minutes per encounter, reducing documentation time by 50%, which many organizations are using to see 3-5 more patients on average per day. And 70% reported a reduction in feelings of burnout and fatigue. In a patient survey, 83% said their physician is more personable and conversational with DAX.

The thing that makes this possible is our unique domain-specific data that fuels our AI intelligence and deep partnerships with EHR companies as we continue to progress down the path of fully automated AI notes in real time.

Is your solution integrated into a core system or is it a standalone?
Nuance DAX can be integrated with EHRs via an API or an HL7 interface. It can also be used as a standalone solution with any EHR and extends the proven power of Dragon Medical One.

Why was Nuance started?
Founded over 20 years ago, Nuance amplifies our customers’ ability to help others with technology that is designed to empower the excellence of those we serve to deliver superior outcomes. From one of the first voice recognition systems to the most advanced ACI solution ever introduced, Nuance has played a foundational role in the emergence of conversational AI.

Solution Technical Specifications (provided by Nuance)

<table>
<thead>
<tr>
<th>Cloud environment</th>
<th>Mobile application environment</th>
<th>Data encryption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azure</td>
<td>iOS</td>
<td>HITRUST compliant end-to-end encryption, at rest and in motion, including AES 256</td>
</tr>
<tr>
<td>Development platform</td>
<td>Security platform</td>
<td>Integration approach</td>
</tr>
<tr>
<td>Python, Java, Kotlin, Swift (iOS), Node.js, C++</td>
<td>HITRUST, HIPAA, OWASP, CIS, NIST SP 800-53 v5, ISO 27001</td>
<td>HL7 2.X, FHIR, APIs</td>
</tr>
<tr>
<td>Database environment</td>
<td>Confidentiality</td>
<td>HITRUST certification</td>
</tr>
<tr>
<td>MySQL, Cosmos DB, MongoDB</td>
<td>HIPAA compliant</td>
<td>Yes</td>
</tr>
</tbody>
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KLAS makes significant effort to identify all organizations within a vendor's customer base so that KLAS scores are based on a representative random sample. However, since not all vendors share complete customer lists and some customers decline to participate, KLAS cannot claim a random representative sample for each solution. Therefore, while KLAS scores should be interpreted as KLAS's best effort to quantify the customer experience for each solution measured, they may contain both quantifiable and unidentifiable variation.

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Note
Performance scores may change significantly when additional organizations are interviewed, especially when the existing sample size is limited, as in an emerging market with a small number of live clients.

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www.KLASresearch.com

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