

Provider Data Integration For Quality Measurement & Value-Based Care

Best practices and opportunities
for health plans

April 2023

An abstract graphic composed of various geometric shapes in shades of teal and purple. It includes several rectangles, a large circle, and a jagged line. Some shapes contain smaller teal circles or lines, suggesting a data visualization or network diagram.

Astrata

INTRODUCTION

Health plans use clinical data to manage population health, reduce costs, improve outcomes, and address health disparities. NCQA is making substantial and ongoing changes to the HEDIS® Quality Measurement program, encouraging the use of clinical data to produce more timely, automated, and actionable information. NCQA’s “Digital Quality” strategy will be an important enabler of value-based care programs and has prompted many payers to accelerate their efforts to aggregate and analyze clinical data.

This white paper identifies some of the immediate steps a health plan can take in preparing to use clinical data at scale, outlines the challenges health plans may encounter, and offers strategies for overcoming them.

DEVELOPING A CLINICAL DATA AGGREGATION STRATEGY

Clinical data aggregation is crucial for scaling and innovating health plan operations such as quality measurement and improvement, care management, and risk adjustment. A clinical data aggregation strategy lets you support multiple uses of clinical data while avoiding silos and duplicative costs. Your strategy should align with leadership priorities and be supported by business stakeholders and information technology and analytics leaders. Leadership from senior managers and directors up should be made aware of aggregated clinical data, encouraged to promote its use, and empowered to seek innovative use-cases that benefit their own (and other) teams. Elements of a clinical data strategy are shown in **Table 1**.

CLINICAL DATA AGGREGATION STRATEGIES		
INTERNAL PROCESS	Define supported use-cases	Identify appropriate use of programs and infrastructure.
	Establish governance	Determine critical decision-makers and establish a decision-making framework and process. Depending on the organization, this could be committee-based governance with multiple stakeholders, or a single ultimate owner and decision-maker.
	Prioritize provider data sources	Rank the order in which providers will be integrated based on defined criteria (e.g., value-based contracts, volume, specific quality challenges).
PROVIDER NETWORK	Build relationships	Consider your data exchange efforts as part of a holistic provider relationship.
	Align contracts	Ensure that language in provider contracts supports the use of clinical data at scale, and that the provider is required to provide medical records at no charge for quality improvement, care management, risk adjustment and audit efforts.
	Align incentives	Ensure that financial benefits of higher quality rates are shared with providers.
	Develop an outreach plan	Engage and educate providers about value, incentives, resources, and timelines.
IMPLEMENTATION	Establish methods to aggregate provider data	Determine whether you will develop a network based on direct data flow with providers, use a data aggregator such as a Health Information Exchange (HIE), or a blend of both strategies.
	Invest in centralized infrastructure	Engage your information technology partners to establish an appropriate architecture for ingesting, storing, and using clinical data by analytics software services.
	Address privacy and security concerns	Establish appropriate safeguards for use of data and obtain sign off from legal/privacy/IT teams.
	Establish processes for maintaining data quality	Determine which team will be responsible for data quality review, and on what cadence.

Table 1. Clinical Data Aggregation Strategies

DEFINE SUPPORTED USE CASES

Common use-cases for aggregated clinical data include risk adjustment, value-based care, quality measurement and improvement, and health equity initiatives. Identifying use-cases involves understanding the existing needs and usage-patterns of stake-holder groups, as well as opportunities to improve processes and workflows, tighten timelines, and collaborate on operational strategies. Identifying use-cases is important for establishing baseline requirements for the system, with the caveat that use-case definition should avoid being overly specific or narrow. In our experience, once the strategy, processes, and data infrastructure are in place, other innovative use cases will emerge.

ESTABLISH GOVERNANCE

Implementation and day-to-day governance of aggregated data infrastructure will depend on the size and complexity of the organization and the existing clinical data acquisition capacity of individual business units.

The first step is establishing a governing framework with buy-in from business stakeholders representing key health plan functions, such as risk adjustment and quality measurement. What framework is best for your organization: a committee structure with representation from multiple stakeholders, or a single owner and decision-maker?

If a single individual is responsible for governance, will they also be the "data owner" responsible for all technological decision-making, or should implementation decisions be delegated to a separate technical group? If a committee is responsible, who sits on that committee, how frequently should they meet, and what are each of their responsibilities?

If your health plan already has a successful program for acquiring clinical charts (unstructured data) for risk adjustment, you can build on its governance

structures to develop a similar program for quality measurement and improvement. Better alignment of these business functions is an important secondary benefit.

If none of your business units has developed a program for acquiring clinical data that you can use as the foundation for your approach, consider starting with one business unit and adjusting your processes and governing structure iteratively as you add other units. Choosing where to start – risk adjustment, quality measurement, etc. – can depend on factors such as return-on-investment, technical expertise, resource capacity in the unit, ease of implementation, leadership buy-in, etc.

Presenting the effort as a pilot approach that embraces incremental learning and growth can reframe a daunting organization-wide mission into a series of manageable right-sized projects and help grow enthusiasm as you demonstrate success.

PRIORITIZE PROVIDER DATA SOURCES

Prioritizing provider data sources is an important decision involving multiple stakeholders. Prioritization should be ongoing and aligned with provider education, with options for providers to decline, ask for more time, or move down in the queue.

Provider prioritization should ideally be a joint decision between all supported use cases. For example, if both risk adjustment and quality use cases are supported, risk adjustment might share their priorities with quality for review and reprioritization, so both are aligned on the groups to be targeted and the prioritization rationale. Remaining practices for integration can be prioritized yearly based on potential impact to value-based programs and overall quality ratings. Analysis of existing integrations can also uncover opportunities for provider coding optimization, which can be aligned between risk adjustment and quality.

BUILD PROVIDER RELATIONSHIPS

Developing a clinical data exchange program within your provider network requires significant relationship-building and trust.

Early in program development, senior health plan leaders should be available on-site to explain the program’s importance, the regulatory pressures behind it, and its benefits to providers and patients. This advance team should align with an executive authority in the provider’s office willing to support the initiative. The executive authority should appoint an accountable staff member to implement and manage the project, and serve as a durable point of contact and coordination between the provider’s office, the health plan, and third-party contractors, if needed.

In time, and as your network grows, you can transfer the core functions of sustaining and growing your network to mid-level project managers, program managers, and technical experts. Your provider education team is another key on-the-ground resource for establishing initial integration discussions and sharing information between provider and plan.

Successful relationship-building and engagement takes time and multiple touches, with consistent messaging and clear direction. Leave written materials for providers to refer to after your touch points. Circle back with providers to show them the results of your collaborative efforts which will help build trust and reinforce value.

ALIGN PROVIDER CONTRACTS

Your provider contracts and participation agreements are a key starting point for any discussion of data exchange. Review existing contracts and provider participation agreements with a focus on sections that describe the data-sharing duties and obligations of both the provider and payer, including records, inspections, confidentiality, data privacy, and security.

Examples of templated language include:

- *When necessary, [insert Health Plan name], [insert regulatory agency], and any other governing regulatory State or Federal agency shall have access to records, medical, financial, or otherwise, for the purpose of quality assurance, investigation of complaints or grievances, enforcement or other activities related to compliance with [insert relevant state or local statute], its implementing regulations, and any other applicable State and federal laws and regulations. Such access shall be limited to those employees and agents of the above-listed entities who have direct responsibilities under the previous provision.*
- *Provider/entity shall comply with [insert Health Plan name] record requests, at no charge or at their own expense, related to member complaints and grievances, utilization management, audits, and any other health plan initiatives and operations including but not limited to Risk Adjustment/ HCC and Quality. Compliance with this section may be accomplished by submitting electronic copies of records requested.*

The next level of contract language should involve partnership agreements to exchange medical records electronically and automatically (or, at minimum, to provide remote access to electronic medical records).

Providers often raise data interpretation issues stemming from a lack of in-house technical expertise or reliance on third-party vendors. These issues can persist throughout the request cycle and in subsequent iterations. They can be contractually and technically complex, but in most cases you can resolve them with persistence and patience. You can work directly with vendors to resolve interpretation issues, and communicate the resolution as part of your education and outreach efforts. You can also dedicate teams to combat or address these barriers.

ALIGN PROVIDER INCENTIVES

Aligning incentives with your provider network is a key success factor when developing a clinical data strategy. Incentives may be direct financial, indirect financial, or non-financial.

Direct Financial Incentives

Direct financial incentives typically have the most immediate impact. Data sharing is most compelling when contractual financial incentives for quality achievement are in place. Risk adjustment has used financial incentives for payer/provider collaboration for many years. These models are described in Table 2. Similar approaches can be used for quality and health equity measures.

Indirect Financial Incentives

Indirect financial incentives involve reducing provider friction – the time and money provider staff spend wrangling data for different health plan initiatives. Most provider offices manually enter quality data into payer portals, patient by patient, for multiple payers and other entities. A payer-provider data exchange program can reduce this burden, decreasing administrative and labor costs, freeing up time for clinical care, and eliminating the need to return to a practice multiple times a year to obtain records subject to government audits (“chart-chasing”). Depending on the number of plans an office serves, decreased operational disruption to providers and staff can save hundreds of working hours per year.

Non-Financial Incentives

Non-financial incentives address invaluable quality-of-life issues like mission-orientation, burnout, and capacity for innovation. A continuous flow of member clinical data typically improves capture of quality gaps, improving the accuracy of gap lists going back to providers. More timely and accurate gap data helps providers focus efficiently and effectively on patient care. Better quality data also helps payers implement more effective education programs for providers, and target member referrals to care management.

POPULAR INCENTIVE MODELS

Widget Payments	A set fee paid for each completed metric (e.g., HCC capture, HEDIS Gap closure, etc.).
Value Based Model	This methodology is the most flexible – can be structured based on a variety of measures and metrics and combine both risk adjustment and quality. Generally paid based on medical expense ratio (MER) and providers must hit all measures/metrics to share some portion of the savings in the bottom line.
Bonus Payments	Bonus payments can be leveraged to entice providers to increase their performance year-over-year or to collaborate on projects such as EMR integration, remote access, etc. These incentives are offered in addition to the existing incentives providers already receive.

Table 2. Common Risk Adjustment Incentive Models

All of these incentives can be socialized via provider outreach and marketing.

DEVELOP AN OUTREACH PLAN

Effective outreach and marketing are essential to engaging and educating your providers. Health plans should assign appropriate individuals or teams to engage and follow up with providers. We recommend leveraging your existing relationships within the Health Plan (e.g., Provider Network/Contracting); when colleagues in these aligned departments visit provider offices for other purposes, they can drop off materials to build interest in the program, and make initial introductions or follow up with resistant providers.

Your marketing partners should be persistent and diligent in their outreach to providers, while avoiding the impression of a hard sell. You might also consider recruiting “champions” among early-adopter providers who have direct experience with the benefits of integrating their clinical data.

Your marketing message should be comprehensive, clear, and concrete, with defined benefits and actionable next steps. Payers can focus on five key messages in their marketing campaigns to providers, as shown in **Table 3**.

A generic example marketing flyer is provided in **Appendix B**. This flyer can be made specific to your organization and distributed in advance of direct outreach.

FIVE KEY MARKETING MESSAGES:
BENEFITS TO PROVIDERS AND PATIENTS

- 1 **Reduced disruption** to the provider’s workflow while efficiently meeting regulatory requirements.
- 2 **Increased payments** through efficient gap closure for both Risk Adjustment and Quality.
- 3 **Reduced audit risk** via access to member clinical data, allowing for increased review & education around documented diagnosis codes.
- 4 **Increased security/data privacy** via HITRUST®-certified platforms or vendors that meet the strictest requirements for secure data transmission and storage, with verified protocols in place for sensitive information.
- 5 **Improved patient care outcomes** via timely electronic access to medical records, enhancing quality of care, improving coordination of treatment plans, and reducing hospital readmissions.

Table 3. Effective Marketing Messages



ESTABLISH METHODS TO AGGREGATE DATA FROM PROVIDERS

Payers can use multiple methods to aggregate clinical data from providers. Aggregation methods fall into two broad categories:

- 1. Direct integrations (potentially using an integration vendor), and
- 2. Previously aggregated data from Health Information Exchanges (HIEs) or with an EMR company that provides a data feed to payers (e.g., AthenaHealth)

Table 4 compares the pros and cons of these integration methods. Regardless of the method, you can use clinical data in many different formats for quality measurement. Most plans retrieve clinical data using a combination of CCDs (structured data) and PDFs, scanned documents, flat files, HL7s or CCDAs (unstructured data). NCQA’s [Data Aggregator Validation \(DAV\)](#) program provides a mechanism for data integration vendors and HIEs to certify CCDs as standard supplemental data, reducing the audit burden. Responsibility for data quality is the same for both direct and HIE integrations.

You can maximize clinical quality rates by including both structured and unstructured data in your clinical data strategy. Unstructured medical charts have always been an important additional source of clinical data for US payers, used for risk adjustment, HEDIS hybrid measurement, and care management.

Unstructured data provides unique value for digital quality transformation because it often captures gap closure evidence not present in standard files and supplemental feeds. Natural language processing (NLP) technologies use unstructured data to reduce abstraction effort. In our experience, both structured and unstructured data are needed for a complete and accurate picture of compliance across a measure set for a specific population.

A complete list of integration data types with benefits, challenges, and resource requirements is shown in **Appendix A**. Methods such as bulk file transfers are more manual but require fewer up-front resources, while direct HL7 feeds and application programming interfaces (APIs) are more automated, but require more upfront resources.

AGGREGATION METHODS	PROS	CONS
Direct Integrations	<ul style="list-style-type: none">• Automated• Open standard; broadly understood by IT professionals• Direct quality control• Cost integration covers all members and use-cases; cost per member potentially much lower than HIE integration• Owning the direct integration = owning the relationship• Backloads are often available	<ul style="list-style-type: none">• Each integration requires custom development• Ongoing support is required• Relationships required with both providers and EMRs• Requires health plan to be responsible for data validation; if resources are not sufficiently allocated, may produce a higher error rate.
HIEs & other aggregators including EMR services	<ul style="list-style-type: none">• Automated• Scalable• Open standard; broadly understood by IT professionals• Does not require point-to-point relationships with providers and EMRs	<ul style="list-style-type: none">• Aggregator costs can be more expensive over time (and may be cost prohibitive)• Backloads are typically not available• Less direct quality control; you get what you get, with no recourse if the data doesn’t meet your needs; problems may take longer to resolve• Payers have responsibility for data quality, but no authority or control over aggregators

Table 4. Direct Integrations versus Health Information Exchanges

	INTERNAL PROCESS			PROVIDER NETWORK				IMPLEMENTATION			
	USE-CASES	GOVERNANCE	DATA SOURCES	RELATIONSHIPS	CONTRACTS	INCENTIVES	OUTREACH	AGGREGATION	INFRASTRUCTURE	SECURITY	QUALITY

INVEST IN CENTRALIZED INFRASTRUCTURE

Investing in a central technology infrastructure to manage clinical data is a critical strategic activity. Centralized infrastructures can help payers reduce overall data-management costs and achieve more standardized and efficient data use, gaining economies of scale at every level and vastly reducing the difficulty of data-driven innovation.

Payers should evaluate their technology needs for both structured and unstructured data. Information technology teams are often more familiar with setting up centralized infrastructure for structured clinical data (e.g., data captured via structured fields and drop downs in EHRs). But providers use a variety of documentation methods, and provider preferences should be considered in your investment decisions¹

Payers should take specific care to ensure unstructured data can be easily retrieved via complex queries, and that data analysis vendors can access application programming interfaces (APIs) to process unstructured data at scale. An example of a commercially available, HITRUST®-certified unstructured data repository with developer APIs is available [here](#).

Payers should also ensure their centralized data infrastructure will be able to adapt as regulatory changes in the interoperability landscape alter clinical data formats. Specifically, payers should make technology choices with the expectation that Fast Healthcare Interoperability Resources (FHIR) will become the predominant data transmission format over the next decade.

ADDRESS SECURITY & PRIVACY CONCERNS

With dedicated, centralized ingestion of provider data, appropriate member information will be protected and available only to Health Plan departments with a business need.

At a minimum, data should be protected at the same level expected of any Protected Health Information (PHI), under the HIPAA rule. When sourcing vendors for both data integration and analytics efforts, prioritize vendors who are [HITRUST® certified](#). HITRUST® certification ensures an organization has implemented the necessary processes, policies, and technologies to meet security standards such as HIPAA. Payers must also ensure that the data exchange filters provider data to include only eligible members.

When you approach providers to establish a data exchange mechanism, they will almost certainly raise the topic of security and privacy. Payers (or their third-party vendors) should expect to provide detailed information and documentation about how they store and safeguard data.

ESTABLISH PROCESSES FOR MAINTAINING DATA QUALITY

Payers should regularly review data received from providers for completeness, and plan for both standard testing with each new integration and periodic spot checks. EMR customizations for a specific practice can interrupt standard EMR exports, producing downstream disturbances to data flows your plan may rely on. Annual data quality checks are critical, as data elements can change via EMR upgrades, coding changes, and behind-the-scenes adjustments that occur continually and without notification. You can perform data quality checks via regular sampling with manual validation. **Table 5** lists items to consider testing on a regular basis.

1 Cohen, et al., [Variation in Physicians’ Electronic Health Record Documentation and Potential Patient Harm from That Variation](#), Journal of General Internal Medicine, 2019 Nov; 34 (11): 2355–2367. 3

ITEM & TYPE OF DATA	DESCRIPTION/ COMMON QUESTIONS	EXAMPLES
Member Matching <i>Structured & Unstructured</i>	Does the patient on the feed accurately match the health plan member?	The MRN received on the clinical record can be accurately linked to the health plan insurance identifier.
Receipt of Specialties <i>Structured & Unstructured</i>	Is the EMR outboundting all relevant clinical information or is it limited to PCPs, etc?	The health plan should pull a sample of claims from each specialty type they wish to receive from a provider and ensure the associated data is transmitted in the feed.
Document Types <i>Structured Only</i>	What documents should I receive / have any new document types been added?	The health plan and provider should review and agree on a compendium of the documents available/outbound from the EMR.
Data Changes <i>Structured Only</i>	How will data changes be communicated/ requested/ addressed?	New data elements are added to ERM forms per established requirements/processes; any changes need to be accounted for in the outbound feed.
Timing <i>Structured & Unstructured</i>	Is data transmitting as expected?	Alerts should be in place if a feed isn't received within 24 hours of expected timeframes. If feeds go down and no one knows, the data value to the health plan is lost.
Ingestion Reporting <i>Structured & Unstructured</i>	Is the data usable?	Alerts should be in place when the data isn't loading normally.

Table 5. Common data quality issues and how to address them.

CONCLUSION

Health plans are under pressure to advance their clinical data programs in response to new interoperability requirements, NCQA and state-driven changes to quality measurement programs, and new Medicare Advantage challenges. The organizational effort can seem daunting, but falling behind has its own costs. Starting with a clinical data strategy can help payers rapidly develop the technology and processes needed to achieve a centralized, scalable, and prioritized program for clinical data. This can also reduce friction within and across units, and releases staff and resources to focus on innovation, outreach, and improved health outcomes.

DIGITAL QUALITY TRANSFORMATION CONSULTING

Astrata works with health plan experts who have developed similar clinical data strategies and programs. We can arrange a one-hour meeting to provide confidential advice and guidance. Contact Chris Jones at jonesc@astrata.co to schedule a consultation.



INTERNAL PROCESS			PROVIDER NETWORK				IMPLEMENTATION			
USE-CASES	GOVERNANCE	DATA SOURCES	RELATIONSHIPS	CONTRACTS	INCENTIVES	OUTREACH	AGGREGATION	INFRASTRUCTURE	SECURITY	QUALITY

APPENDIX A - INTEGRATION OPTIONS

INTEGRATION TYPE	DESCRIPTION	BENEFITS	CHALLENGES	DATA FOCUS	RESOURCES NEEDED
<u>HL7</u>	HL7 International standard feed. Version prior to the C-CDA.	Well understood by IT teams	Each data domain is its own integration project – documents, results, medications, problems, allergies, etc.	Structured & Unstructured	Provider IT to export and schedule based on Health Plan membership Data engineer to set up ingestion/integration process
<u>CDA</u> HL7 International standard feed to share structured data	Clinical Document Architecture, an XML-based data exchange standard for clinical data.	Well understood by IT teams	Provider customization of their EMR will impact the CDA export. CDA triggers are less frequent, and data may be outdated Only contains discrete data domains.	Structured	Provider IT to export and schedule based on HP membership Data Eng to set up ingestion/integration process
<u>C-CDA</u> HL7 International Standard feed; can contain other data	<i>Consolidated</i> Clinical Document Architecture, a specific implementation guide for the CDA.	Well understood by IT teams Ability to receive unstructured and discrete clinical data in a single feed	Provider customization of EMR will impact the CCD export. CCDA triggers are less frequent, and data may be outdated.	Structured & Unstructured	Provider IT to export and schedule based on HP membership Data Eng to set up ingestion/integration process
<u>CCD</u> HL7 International standard feed to share structured data	Continuity of Care Document/template available in CCDA. includes sections such as Medications, Problem, Procedures, Results, Immunizations etc.	Industry standard feed version prior to the CCDA Well understood by IT teams	Provider customization of their EMR will impact the CCD export. Only contains discrete (structured) data domains.	Structured	Provider IT to export and schedule based on HP membership Data Eng to set up ingestion/integration process
<u>FHIR</u> HL7 International Industry data standard.	Takes an internet-based approach to connect discrete data domains.	Format is based on a readable standard that is not limited to clinical data	Providers and some IT teams are inexperienced in FHIR	Structured & Unstructured	Provider IT to export and schedule based on HP membership Data engineer to set up ingestion/integration
Flat File	Allows the provider to extract documents and associate insurance information to allow for patient to member identification when other standard integration types lack this required member identity information	Provides flexibility in your integration offerings Can reuse other batch processing or the flat file can be converted to other formats (i.e., HL7, JSON) for ingestion	All parties must agree on the custom formats The project is longer to complete due to the custom development required Often produces an incomplete data set	Structured & Unstructured	Provider IT to export, format and schedule the flat file Data engineer to set up the ingestion/integration process and error alerting

EMR Integration Initiative

BENEFITS FOR YOUR PRACTICE



Reduced disruption and abrasion
Eliminates record requests for onsite abstraction for Chart Review clients.



Increased payments
Enrolled providers may see increased payment performance with EMR integration.



Improved efficiency and accuracy
Automated processes standardize data collection and reduce human error.



Increased security
Eliminate risks associated with physically transferring records and storing them on hard drives and other local media.

Ultimately, all of these benefits can lead to better patient care.

More accurate record-keeping and reporting gives you a clearer picture of your members' health. Less time spent on data and documentation means more time for patient coaching, outreach, and care.

Medical records need to do several jobs beyond overall care support. They need to facilitate requirements for Risk Adjustment, annual audits, HEDIS + gaps in care, and other reporting.

Our tools and systems support data collection for HEDIS and other reporting using a flexible, interoperable clinical document repository that uses NLP to scan document text and efficiently validate and facilitate document curation.

To integrate with the repository, EMR documents must conform with the following data standards:

- HL7
- Flat text files
- CDA/CCDA

Not sure whether your EMR can outbound documents via one of these methods? Our EMR Integration team can help with discovery and requirements for EMR integration.

For more information or to set up a discovery meeting, contact:

- Name, Role, Email

EMR Integration can help improve quality outcomes and reduce the administrative burden of medical record documentation requests.

APPENDIX C - TOP QUESTIONS AND CONCERNS FROM PROVIDERS

PROVIDER QUESTIONS	HEALTH PLAN CONSIDERATIONS
Are there costs associated? Will my office need to pay for the integration?	Offsetting the cost of integration for providers is usually necessary in order to achieve health plan integration goals.
Will you (the payer) be contacting members? Will our patients have to approve this?	Reference your provider agreement. In most cases, and assuming an appropriate contractual relationship is in place, your organization is likely already authorized to receive these data based on the Participating Provider Agreement, and patient consent or contact is not needed.
Who will have access to member info?	Reference your provider agreement which outlines a provider's obligation to supply the data and your organization's right to this data. It may be helpful to provide a list of roles that will have access such as certified coders and HEDIS abstractors.
Will we be sending data on all our patients?	Be prepared to provide assurance that only data for your members will be sent. This typically requires use of an eligibility file to filter patients and limit the data to your members.
Why should we do this? What's the benefit to us?	Reference your provider agreement which outlines a provider's obligation to supply the data and your organization's right to this data. But also use educational and marketing materials to reinforce the messages shown in Table 3 .
Would we be able to receive data from you (the payer)?	Providers are usually eager to get data in return. A careful examination of what type of data they are looking for is usually a first step in avoiding misunderstandings. It can be useful to reinforce the idea that this process will produce better data in their gap lists. Methods for direct introduction of gap data into EMRs are now available and can be considered in the right circumstances.