

# Case Study: Decision-Making Dashboards: Ingleside's Data-Driven Transformation

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## Categories:

◆ Cost of care and return on Investment (ROI) to:

- » Providers
- » Payers
- » Consumers

## Project Description

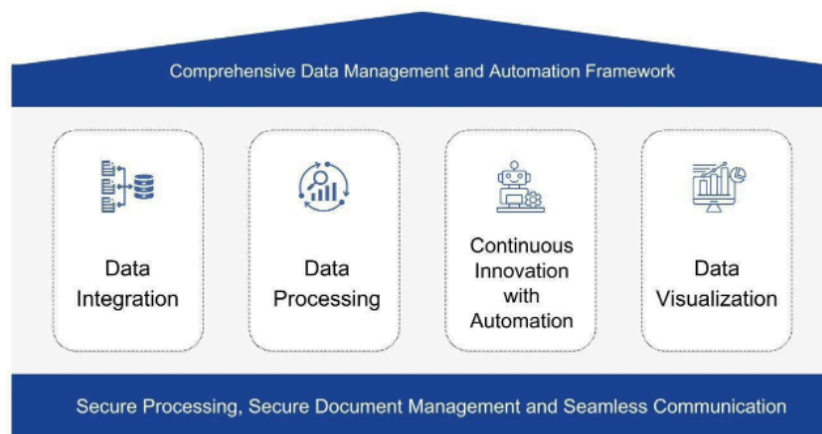
Ingleside partnered with NuAIg to spearhead a digital transformation initiative aimed at revolutionizing the nonprofit's data analytics capabilities. The project commenced with an exhaustive analysis of diverse data sources coupled with in-depth stakeholder consultations to identify critical challenges and key performance indicators (KPIs). Leveraging these insights, NuAIg developed dashboards designed to meet various business functions' specific needs, significantly enhancing data accessibility and enabling informed, data-driven decision-making across the organization.

The data analytics platform was central to this transformation, offering real-time analytical insights to facilitate faster and more accurate decision-making processes. This platform integrated data from PointClickCare, Excel, and the Raiser's Edge application programming interface (API), creating a unified and coherent view of vital metrics across the organization.

## System Type

Databases: SQL Server  
 Cloud Services: Azure Virtual Desktop  
 Automation Tools: Power Automate, Power Apps  
 Document Management: SharePoint, OneDrive  
 Communication Tools: Microsoft Outlook  
 Data Integration: PointClickCare's Data Relay, Redgate  
 API Integration: Raiser's Edge API  
 Data Visualization: Power BI

## Describe System Embodiment



### About the Organization

#### Organization Name:

Ingleside

#### Main Contributor:

Dusanka Delovska-Traikova,  
chief information officer

#### Organization Type:

Continuing Care Retirement Communities (CCRC)

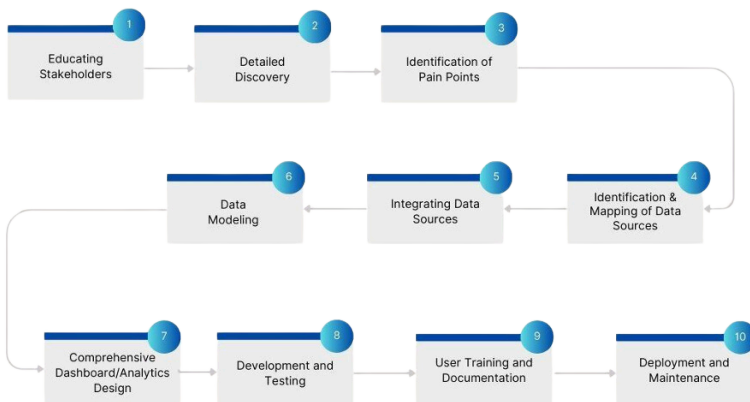
#### Organization Description:

Ingleside is the nonprofit parent organization of three premier continuing care retirement communities, a home care organization, and a foundation in the Washington, DC, metropolitan area. Committed to engaged living, Ingleside offers a vibrant array of senior living options, providing residents with access to a full continuum of care. This includes independent living, assisted living, memory care, skilled nursing, rehabilitation, and home care services, ensuring that residents' needs are met as they change over time. Ingleside continually enhances the quality of life for its residents through innovative and compassionate care.

- **Data integration:** The system integrates data from PointClickCare's Data Relay and Raiser's Edge API, ensuring comprehensive and accurate data collection for census, financial metrics, and donor information.
- **Data processing:** Redgate is used to import PointClickCare Data Relay files, with the processed data securely stored in SQL Server.
- **Automation:** Power Automate manages workflows, automating data extraction from Excel files, approval processes, and report circulation.
- **Data visualization:** Real-time analytical insights are delivered through Microsoft Power BI dashboards, offering intuitive and interactive data visualizations tailored to various business functions.
- **Data security:** All development and processing is conducted on a virtual machine within Ingleside's server environment, ensuring secure and controlled access.
- **Secured document management:** SharePoint and OneDrive are used for document management, ensuring secure and organized storage of all documents.
- **Alerts and notifications:** Automated alerts and notifications are managed through Microsoft Outlook and Teams, ensuring timely and effective communication among team members and stakeholders.

## Implementation Approach

To educate stakeholders and ensure a smooth implementation process, NuAIg follows a meticulous approach. Starting with **Detailed Discovery** to understand organizational needs, NuAIg then identifies pain points and maps data sources. After integrating these sources, **Data Modeling** is conducted to structure the data effectively. **Comprehensive Dashboard/Analytics Design** visualizes insights clearly, followed by **Development and Testing** to ensure reliability. NuAIg provides **User Training and Documentation** to empower stakeholders and concludes with **Deployment and Maintenance** for seamless integration and long-term support.



### 1. Census and Financial Metrics Dashboard:

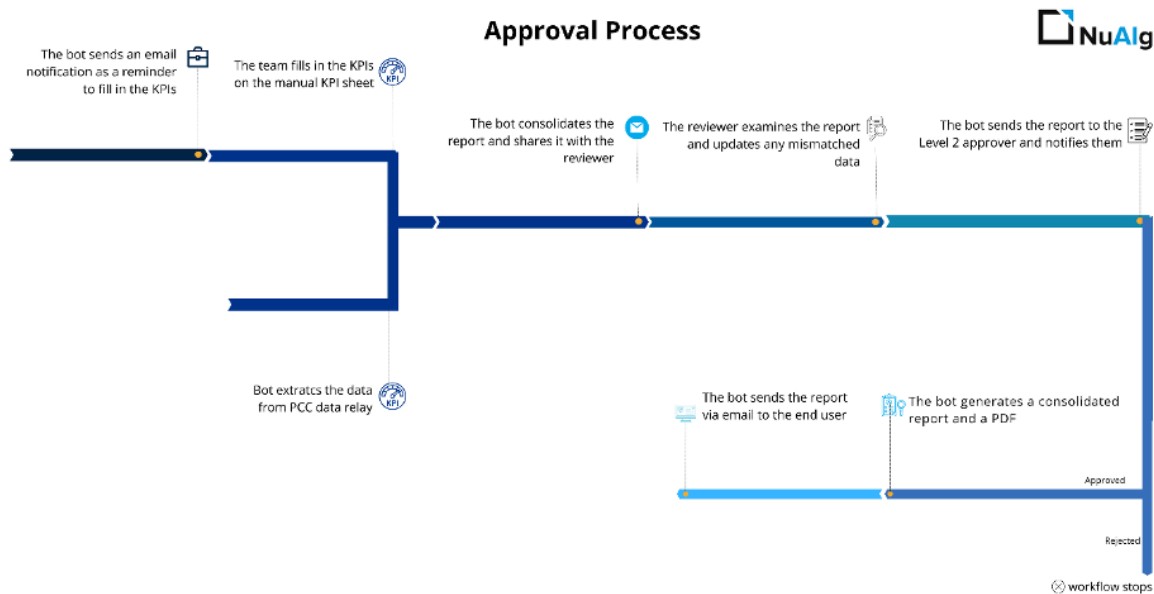
NuAIg's solution integrates real-time census data and monthly financial metrics using PointClickCare's Data Relay, complemented by custom automation bots that extract and store data securely in a SQL database. The processed data is visualized in a Power BI dashboard, offering interactive, real-time insights into key metrics such as occupancy rates, admissions and discharges, budget vs. actual variance, and essential financial health indicators.

- **Data integration:** Leveraging PointClickCare's Data Relay, this dashboard integrates real-time census data and monthly financial metrics, ensuring comprehensive and accurate data collection.
- **Automation:** Custom automation bots extract data from Excel files, which is then securely stored in a SQL database.
- **Visualization:** The processed data is visualized through an intuitive Power BI dashboard, providing real-time analytical insights. Users can interact with the data, drill down into specifics, and generate reports as needed.
- **Key metrics:**
  - **Occupancy rates:** Tracks the percentage of occupied units versus available units across different communities and care levels.
  - **Admissions and discharges:** Monitors the number of new admissions and discharges over specified periods.
  - **Budget vs. actual variance:** Compares budgeted financial figures with actual performance to identify variances.
  - **Financial metrics:** Includes net operating margin, days cash on hand, and debt service coverage ratio, providing insights into financial health.

### 2. Healthcare Metrics Dashboard:

The Healthcare Metrics Dashboard integrates data from PointClickCare and manually tracked metrics to provide a comprehensive view of healthcare performance across independent living, assisted living, and skilled nursing communities. By consolidating data into a single platform, the data collection process is streamlined, administrative workload is reduced, and consistent, accurate reporting across the organization is ensured.

With real-time insights into key metrics such as readmissions, falls incidents, and antipsychotic medication usage, the dashboard enables proactive care management that can improve resident outcomes. Additionally, the dashboard promotes data democratization by giving all stakeholders easy access to crucial information, enhancing decision-making and operational efficiency.



This improved data quality at the point of service ensures that healthcare providers have the information they need to deliver better care while optimizing resource use.

- **Data sources:** This dashboard integrates data from PointClickCare, complemented by manually tracked metrics via a shared template, to provide a holistic view of healthcare metrics across the organization.
- **Consolidated reporting:** The dashboard provides consolidated reports that span various communities and levels of care, such as independent living, assisted living, and skilled nursing.
- **Streamlined data collection:** The dashboard simplifies data collection processes, reducing the administrative burden on healthcare providers and ensuring data consistency.
- **Real-time insights:** Healthcare and community management professionals can access real-time insights into key health metrics, enabling proactive care and community management and improving resident outcomes.
- **Key metrics:**
  - **Readmissions:** Tracks the rate of residents readmitted to hospitals within a specified period.
  - **Falls and other incidents:** Monitors the occurrence of falls, bruises, skin tears, and other incidents.
  - **Antipsychotic medications:** Measures the usage rate of antipsychotic medications among residents.
  - **Nutrition:** Tracks resident weight loss over specific time frames: 5% weight loss in 30 days and over 10% weight loss in 180 days.
  - **Medication/pharmacy issues:** Tracks total number of medication errors reported and number of incidents with incident types.
  - **Grievances:** Tracks the total number of grievances received from residents or their families.

### 3. Foundation Department Dashboard:

The Foundation Department dashboard leverages the Raiser's Edge API to track donor information and donations, ensuring accurate fundraising data. It provides real-time insights into donor behavior, automates notifications for significant donations, and tracks the financial performance of fundraising campaigns, including key metrics like gifts by community, donor contributions, and fund types.

- **Data integration:** Utilizing the Raiser's Edge API, this dashboard tracks donor information and donations, ensuring comprehensive and accurate fundraising data.
- **Automated notifications:** An automated workflow notifies management of significant donations, such as those exceeding \$1,000, ensuring prompt acknowledgment and engagement.
- **Donor insights:** The dashboard provides detailed insights into donor behavior and trends, helping the foundation team to tailor their engagement strategies.
- **Financial tracking:** The dashboard tracks fundraising campaigns' financial performance, providing visibility into goals, progress, and areas needing attention.
- **Key metrics:**
  - **Gifts by community:** Tracks the total amount of gifts received from each community.
  - **Gifts by donor:** Monitors contributions made by individual donors.
  - **Number of donors:** Measures the number of active donors within a specified period.
  - **Gifts by fund type:** Analyzes donations by fund type to understand donor preferences.
  - **Action detail report:** Delivers detailed actions and follow-ups related to donor engagements.

## Advantages to the Approach

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- Enhanced data accuracy and real-time updates through automated data extraction and integration.
- Comprehensive data visualization using Power BI, enabling intuitive and interactive insights.
- Secure processing with Azure Virtual Desktop and local Virtual Machine, ensuring controlled access, and data security.
- Improved efficiency with automated workflows managed by Power Automate.

## Outcomes

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- **Healthcare outcomes:**
  - Improved tracking and management of key health indicators such as readmissions, falls, and medication adherence.
  - Enhanced care plan compliance and proactive incident management.
- **Staff efficiencies:**
  - Significant reduction in time spent on manual data entry and reporting.
  - Improved data collection at the place of service by enhancing workflows and education of staff providing direct care.
- **Quality of life/satisfaction with care:**
  - Better resource allocation and timely interventions improve resident satisfaction.
  - Increased engagement with care plans and health monitoring enhances overall well-being.
- **Hospitalization and hospital readmissions:**
  - Reduced rates of hospital readmissions through better monitoring and preventive care measures.
- **Cost of care and return on investment (ROI):**
  - **Providers:** Improved operational efficiency and cost savings through data-driven decision-making.
  - **Payers:** More efficient use of resources and potentially reduced overall healthcare expenditures.
  - **Consumers:** Better value through enhanced care quality and improved living conditions.

## Challenges and Pitfalls to Avoid

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- **Data integration pitfalls:** Failing to ensure data integrity and compatibility during the integration process with tools like Redgate and SQL Server can lead to inaccurate and unreliable datasets.
- **System maintenance challenges:** Overlooking regular maintenance of automation bots and data connections can result in system failures and an inability to adapt to changes in data sources or systems.

## Lessons Learned

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- **Stakeholder involvement:** Early and continuous involvement of end-users in the design and implementation process helps create more effective and user-friendly solutions.
- **Continuous training:** Ongoing training and support are crucial for the successful adoption of new technologies.
- **Feedback loops:** Establishing regular feedback loops with stakeholders enhances system functionality and user satisfaction.
- **Scalability:** Designing systems with scalability in mind ensures they can grow and adapt with the organization's needs.

## Advice to Share with Others

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- **Invest in robust tools:** Utilize robust data integration and automation tools to enhance operational efficiency.
- **Prioritize user-friendly interfaces:** Ensure the systems are easy to use to encourage high adoption rates among staff.
- **Plan for continuous improvement:** Regularly review and update systems to keep pace with changing operational needs and to incorporate user feedback.
- **Engage stakeholders early:** Involve all relevant stakeholders early in the project to understand their needs and ensure the system meets their requirements.
- **Focus on security:** Implement strong security measures to protect sensitive data and ensure compliance with regulations.