

Full Narrative NCHEMS History

NCHEMS: Turning Data into Strategy for Over Half a Century

The Beginning of An Idea (1965–1979)

NCHEMS was born out of a practical need.

In the late 1960s, higher education institutions and state agencies in the Western U.S. recognized the need for coordinated efforts to research and develop data to support decision-making. The Western Interstate Commission for Higher Education (WICHE) identified a lack of standardization in the terminology used higher education management information systems as a major deterrent to policymaking, prompting discussions on improving data exchange across the WICHE region. To solve this, the [Western Interstate Commission for Higher Education](#) (WICHE) established a **Management Information Systems (MIS)** program, funded by the U.S. Office of Education, to bring structure and consistency to higher education data.

The MIS program aimed to:

- Develop a **Data Element Dictionary** to standardize how data were defined.
- Create a **Program Classification Structure (PCS)** for categorizing the functions performed by higher education institutions.
- Created a **Classification of Instructional Programs** for categorizing academic programs.
- Build a **Resource Requirements Prediction Model (RRPM)** to forecast staffing needs, enrollments, and costs.

By 1970, more than 650 institutions and agencies were involved. In 1971, the project officially became the [National Center for Higher Education Management Systems \(NCHEMS\)](#) within WICHE.

Building the Knowledge Base

During the early 1970s, NCHEMS developed a comprehensive set of manuals that would define approaches to data collection and how higher education management was described for decades, including:

- The **Program Classification Structure** for categorizing functions — the conceptual base and common thread that links all the other manuals.
- **Higher Education Finance Manuals** for analyzing costs and expenditures.





- **Higher Education Facilities Inventory Manuals** for tracking institutional physical assets.
- **Higher Education Personnel Manuals** for consistent staffing and faculty data.
- **Classification of Instructional Programs (CIP)** for categorizing instructional offerings and collecting data on degrees and certificates awarded.

Together, these created a common data language that became the foundation for the [Integrated Postsecondary Education Data System \(IPEDS\)](#), still used by the federal government today.

Analytical Frameworks and Models

NCHEMS also developed early analytical models employing concepts that are still being utilized today, such as:

- **Student Flow Models** for tracking enrollment patterns and student progression.
- **Cost-Finding Principles** that shaped how institutions calculate instructional and program costs.
- **Resource Requirements Prediction Model** for projecting future costs, enrollment, and faculty needs.
- The Management **Triangle**, a conceptual framework connecting **goals** (at the apex), **finance and other implementation strategies (one base point)** and **assessment** (the other base point), emphasizing that effective management requires alignment across these three dimensions.

Independence and Growth

In 1977, NCHEMS became an independent 501(c)(3) nonprofit organization. The move gave it the freedom to grow nationally while maintaining its mission to improve strategic decision-making for higher education institutions, systems, and states.

From Data to Information (1980s)

By the early 1980s, NCHEMS had evolved from defining data to translating data into information and from measuring resources to improving outcomes.

A major grant from the **W.K. Kellogg Foundation** in 1981 accelerated this shift. Led by **Peter Ewell**, the project demonstrated how using outcomes data could drive institutional improvement. This established NCHEMS as a leader in student learning assessment and outcomes-based planning.

In the mid-1980s, NCHEMS underwent significant organizational restructuring. **Dennis Jones** became president as the organization dealt with changes to federal funding; he led NCHEMS through a transformation. The organization pivoted from a federally funded research center to an





entrepreneurial technical assistance and applied research organization focused on helping institutions and states solve real-world problems through technical assistance focused on policy development.

This redirection also clarified a crucial insight: institutional improvement is impossible without supportive state policy. NCHEMS began helping states align governance, finance, and accountability systems to their educational goals — work that would define the organization's work and influence for decades.

National and State Leadership (1990s)

The 1990s marked a new era for NCHEMS as it became a central player in shaping state higher education systems. The work of **Aims McGuinness** strengthened NCHEMS's expertise in state policy and governance, giving the organization a deeper foothold in systemic reform.

During this period, NCHEMS also played a national role in the accountability landscape. As part of the 1992 reauthorization of the Higher Education Act, NCHEMS worked with a consortium of states to develop draft standards for the newly proposed State Postsecondary Review Entities (SPREs), which were intended to strengthen oversight of institutional performance. Although Congress repealed the SPRE requirements in 1995 before they could be fully implemented, NCHEMS's work left a lasting mark. It positioned the organization as a trusted source for practical, evidence-based approaches to evaluating quality and performance.

Creating Western Governors University

NCHEMS played a role in designing [Western Governors University \(WGU\)](#). **Dennis Jones** and **Sally Johnstone** developed the blueprint for this first-of-its-kind competency-based institution, which was endorsed by the Western Governors Association. With the leadership of Peter Ewell, NCHEMS helped refine WGU's mission, degree structures, and assessment approaches, and supported the institution through its complex, multi-accreditor approval process, laying the groundwork for what would become one of the nation's most widely recognized competency-based universities.

Reshaping State Systems

A core tenet of NCHEMS' approach to governance work is that organizational structures should be designed to support clearly defined goals and functions, not the other way around. Rather than beginning with questions about organizational charts or reporting lines, NCHEMS consistently encouraged states to first clarify what they wanted to accomplish and then develop recommendations to fit the goals accordingly. Notable efforts included:

- **Kentucky:** Creation of a new statewide community and technical college system.
- **Louisiana:** Formation of a unified community and technical college system.
- **North Dakota:** System reform that earned the state national recognition for innovation.





- **West Virginia:** Major restructuring of state higher education governance.
- American Association of State Colleges and Universities: While not directly a state system project, NCHEMS' work with AASCU in developing Stewardship of Place, helped clarify the roles and strategies for public comprehensive universities seeking to more effectively fulfill their missions.

Advancing Accountability and Learning

NCHEMS helped build the foundation for modern assessment and quality improvement. **Peter Ewell** chaired the design of the [National Survey of Student Engagement \(NSSE\)](#) and later helped create the [Community College Survey of Student Engagement \(CCSSE\)](#).

NCHEMS's influence also extended internationally, partnering with the [Organization for Economic Co-operation and Development \(OECD\)](#), The World Bank, and European higher education policy centers to assist countries in higher education reform. Including work in Russia and other eastern European countries following the fall of the Soviet Union.

The Public Agenda Era (2000s)

In the 2000s, states began to place a greater emphasis on public agendas and viewing higher education as a public investment in institutions that were expected to respond to state priorities. NCHEMS played a leading role in reshaping how states planned and funded higher education.

Measuring Up and Changing Direction

NCHEMS served as the data engine and design thought partner for [Measuring Up](#), the nation's first higher education report card, produced by the National Center for Public Policy and Higher Education. The reports redefined state accountability, evaluating access, affordability, and performance.

At the same time, NCHEMS partnered with WICHE and the [Lumina Foundation](#) on [Changing Direction](#), a project that reshaped understanding of how appropriations, tuition, and financial aid interact. Its influential **Flow of Funds** model continues to shape state funding discussions today.

Developing Statewide Public Agendas

NCHEMS worked with states such as **Illinois, Kentucky, North Dakota, and Tennessee** to create state plans linking higher education to workforce, equity, and economic goals. These efforts helped shift policy from inputs to outcomes.





Building Collaboration

In 2005, NCHEMS, SHEEO, and WICHE co-founded the [State Higher Education Policy Center \(SHEPC\)](#) in Boulder, Colorado, with support from the Ford Foundation. The shared space strengthened collaboration among the nation's leading higher education policy organizations.

Adapting to New Realities (2010s)

After the Great Recession, NCHEMS worked with states and systems to respond to shifting demographics, economic uncertainty, and emerging technologies. This on-the-ground work has led to NCHEMS developing concepts and strategies for responding to a changing environment through collaborative action, and to a rethinking of the role of higher education systems.

Data and Equity Leadership

NCHEMS remained a trusted source of data and analysis for state, national, and foundation partners. Some highlights from NCHEMS' work in this area include:

- Developing the **statistical model** for the [Aspen Prize for Community College Excellence](#) (2011).
- Serving as the **data engine** for [Lumina Foundation's Stronger Nation](#) report on educational attainment.
- Helping states design and implement **performance-based funding** systems.

In 2016, NCHEMS became the home of the [Foundation for Student Success \(FSS\)](#), which supported colleges in reducing equity gaps and improving student outcomes through transforming campus culture. Through a grant with the National Science Foundation, FSS developed tools for campus leaders to reduce graduation gaps for Hispanic students in STEM programs.

Leadership Transition

The NCHEMS Board conducted its first national presidential search, selecting **Sally Johnstone, Ph.D.**, as the organization's first woman president in 2016.

Her tenure was defined by modernization and transition. She strengthened board engagement, oversaw a major digital and operational overhaul, and led NCHEMS through the COVID-19 pandemic, maintaining stability during a time of upheaval.

Under her leadership, NCHEMS:

- Guided **Pennsylvania's State System (PASSHE)** through restructuring and consolidation.
- Supported **Connecticut** with strategic assistance of system restructuring, demonstrating the organization's ability to help states navigate complex implementation challenges.





- Designed [Calbright College](#) in California, a competency-based online institution focused on working adults.

Johnstone's presidency (2016-2022) modernized the organization while reaffirming its data-driven approach to solving systemic problems.

Strategic Growth and Renewal (2020s–Present)

In 2022, [Brian Prescott, Ph.D.](#), became NCHEMS President after serving as Vice President since 2018. [Sarah Pingel, Ed.D.](#), joined as Vice President in 2023, bringing expanded expertise in state policy, higher education finance, and affordability. Together, they have renewed NCHEMS's strategy and expanded its partnerships with states and foundations. Specifically, the support of philanthropic grants has provided NCHEMS with opportunities to focus on issues facing rural students and institutions, as well as other future-focused topics.

Recent Initiatives

- [Data for the American Dream \(D4AD\)](#): A multi-state project connecting education and workforce data, supported by Schmidt Futures, Lumina Foundation, and others.
- [Serving Rural America through Land-Grant Colleges and Universities](#): A multiyear project funded by **Ascendium Education Group** to reimagine the role of Cooperative Extension in rural workforce development.
- [Institutional Funding Adequacy Framework](#): Providing states with a model for equitable and sustainable higher education funding, implemented in **Missouri, Mississippi, New Mexico, and Virginia**.
- [Designing State Funding Models That Sustain Rural Colleges & Universities](#), helping states modernize funding approaches to support rural access and institutional viability, with the support of ECMC Foundation.
- [Mississippi IHL Funding Model Review](#), developing a refreshed allocation model to guide statewide resource distribution.
- [New Mexico Higher Education Sustainability Study](#), assessing long-term institutional viability and guiding systemwide restructuring decisions.
- [Minnesota–Wisconsin Tuition Reciprocity Analysis](#), evaluating one of the nation's most complex cross-state policy agreements to inform future tuition and enrollment strategy.
- [American Association of Community Colleges Futures Study](#), shaping national conversations about community college innovation and long-term sector strategy.





- [**Financial-Programmatic Analysis and Stress Testing for South Dakota Board of Regents**](#), building models to evaluate program costs, institutional health, and future sustainability across South Dakota's public universities.
- [**States of Opportunity**](#), a Strada-funded project intended to support meaningful engagement and collaboration between state and federal financial aid policies and processes.

Under Prescott's leadership, NCHEMS has also supported structural and governance reforms in **Oregon, Utah, Vermont, Pennsylvania**, and other states — helping institutions evolve to meet 21st-century challenges.

Across nearly six decades, NCHEMS has remained true to its [purpose](#): to effectively use evidence to improve strategic decision-making in postsecondary education.

