

# Cathy J. H. Bolton

## **AREAS OF EXPERTISE**

Program Evaluation in healthcare, supportive housing, and government-based social services  
Design of performance metrics for financial and clinical outcomes  
Development of Quality Assurance and Cost Effectiveness Programs  
Leadership for moving organizations toward decision making that is data informed  
Management of Analytic and Performance Improvement Teams in Healthcare  
Administration, Quality Improvement, MIS, Market Research and Strategic Planning  
Implementing Systems and Change Leadership to sustain Compliance with Regulatory Bodies  
Advocacy for the Creation of Integrated Information that brings information together to drive development of best practices for specialized populations and cohorts of healthcare users

## **EDUCATION**

**Drexel University**, Philadelphia, Pennsylvania  
Ph.D. Clinical Psychology, 2005  
M.A. in Clinical Psychology, 1997; Hahnemann

**La Salle University**, Philadelphia, Pennsylvania  
M.A. Human Services Psychology, 1994

**Samford University**, Birmingham, Alabama  
B.S. in Mathematics, 1977, Minors in Computer Science and English, Teaching certificate for Secondary Education in Math

## **EXPERIENCE**

**Department of Behavioral Health/CBH**, Philadelphia, PA (2005-2014)  
DBHIDS Director of Analytics, Research, and Evaluation/Chief Analytic Officer/Continuous Quality Improvement Director:

Primary responsibilities included supervision of design, development, analyses, and dissemination of results of program evaluations at the system, level of care, provider, and individual levels for service population of 450,000 + , having 100,000 users per year.

Provided leadership and direction for developing system-wide performance and quality metrics (approximately 60 across 16 levels of care) for oversight of \$800 million dollars and 200 healthcare providers. Developed a collaborative strategy over a seven year time frame with CEO, Medical Directors, Quality Improvement Directors, and County Leadership to vet statistically sound metrics that resulted in a pay for performance system for financing for behavioral healthcare providers. Outcomes of this incentive program resulted in improvements in continuity of care, reduction in recidivism to inpatient mental health and inpatient substance abuse.

Designed and implemented an incentive program for 60 behavioral health outpatient providers and 20 school-based provides to design their own improvement strategies to better facilitate recovery/resilience, to include use of families and individual's voices in participating in program and service design.

Serves as Senior Analytic person for use of integrated data for 4 divisions of Behavioral Health and Intellectual Disabilities to determine clinical effectiveness and cost effectiveness of various system-wide and pilot programs. Serves as point person to blend

in other city data such as child welfare, housing/shelter, and jail information on projects as directed by various City Leaders. This position served as point person for data exchange and developing with legal counsel agreements for data sharing as well as supporting IRB applications using behavioral health data. Served on Data Governance for the department to assure that both current and future directions for information use.

Developed a system of predictive analytic programs based on regression and cluster analyses to determine risk factors that predicts high acuity and potential unmet need for behavioral health service users.

Served in a leadership position for demonstration of contract compliance for Community Behavioral Health for 10 years to assess and provide written reports on progress on approximately 50 standards and sub standards, following NCQA based standards and methodology. This included integrating all activities of DBH into a cohesive plan and annual outcome report. Studies included failure mode analysis, root cause, and development of control charts as recommended under six sigma. Interfaced with state oversight vendors, Mercer and IPRO, on various intervention projects and development of measurement methodology.

Served as departmental point on specific projects based on sound methodology and statistical principles that measure statistical differences and change over time; transformation of partial programs, early evaluation of implementation of evidence-based therapies, determining impact of behavioral health services in school-based, determining clinical stability and cost effectiveness of moving formerly homeless individuals with behavioral health needs into federally supportive housing.

Interfaced and provided support and direction for development/maintenance of data warehouses at both DBH and for the City of Philadelphia for Social Services. Worked in an advisory capacity to specify needs and evaluate effectiveness for use by researchers and analysts. Served as DBH representative for development and evaluation of projects lead by the Deputy Mayor for Health and Opportunity in the current and prior administrations.

Supervised directly or indirectly a team of up to a max of 40 analyst and technical specialist to support the analytic projects. Senior members of this team held PhDs in Psychology, Demography, Social Work as well as Master's in Public Health.

**University of Pennsylvania, Philadelphia, Pennsylvania (2009- 2014)**

Served as clinical associate to Center for Mental Health Policy and Services Research (CMHPSR) under the Department of Psychiatry to provide oversight and direction to post-doctoral students in psychology to develop analytic projects and publications for evaluations of mental health programs and services. Worked collaboratively with team from the CMHPSR to develop collaborative studies in forensics, school-based services, and collateral behavioral health and physical health service use.

**Friends Hospital, Philadelphia, PA (2002 - 2004)**

Director of Performance Improvement, Licensing/Accreditation, and Strategic Planning:  
This position reported to the CEO and involved interaction with Hospital and Board

personnel at multiple levels on a continuing basis. Development and monitoring of quality improvement indicators for board-level reports and presentations. Supported Board-level and Hospital wide committees for Quality Oversight and Strategic Planning.

Developed and provided monthly updates for a Hospital Scorecard that integrated indicators for Quality, Finance, Marketing, Development, and Customer Satisfaction.

Coordinated and facilitated preparation and management of Joint Commission, Department of Welfare, Medicare, and other insurance surveys.

Developed and monitored implementation of Strategic Plan and Performance Improvement Plans and Action Plans as required.

Risk management activities included coordination of peer review committees for adverse incidents, interface with legal counsel, resolution/reporting for clinical and claims complaints.

**PENN-Friends Behavioral Health Services, Ft. Washington, PA (2000-2002)**

- Director of Quality Improvement: Development and monitoring of quality improvement indicators for access to treatment, utilization management, network adequacy, and compliance reviews of NCQA standards.
- Initiated multi-departmental task forces to improve triage, outreach, and after-care monitoring. Initiated improvements in financial reporting that involved both clinical and financial procedures for management of higher levels of care. Developed customized audit reports of financial expenditures for inpatient and outpatient services.
- Risk management activities included coordination of peer review committees for adverse incidents, interface with legal counsel, consultation for release of medical records, resolution/reporting for clinical and claims complaints.
- Coordinated corporate-wide Quality Improvement Committee (QIC) where Medical Director and COO served as chairs. Coordinated the development/revisions of corporate procedures through the QIC. Served as committee member for Research Initiatives in Mental Health with PENN-Friends, University of Pennsylvania and Friends Hospital. Served as behavioral managed care representative to industry wide HIPAA task force that is reviewing and recommending billing/reporting codes to be incorporated into HIPAA legislation.

**Friends Hospital; APA Accredited Internship in Clinical Psychology,**  
Philadelphia, PA (9/99- 9/00)

- Clinical Rotations for Inpatient Geriatric, Adult (Including Partial and Dual-Dx); Adolescent; and General Outpatient Services. Treatment Modalities included Individual, Group, and Family Therapies; Assessments included personality projectives, behavioral, and cognitive abilities; Conducted In-service Training for Adult Unit in Cognitive Behavioral Treatment

**MCP-HU (Allegheny University of the Health Sciences), Philadelphia, PA (2/97-9/99)**

- Co-principal Investigator and supervisor of 12 graduate students conducting clinical

assessments, chart reviews and monitoring services as part of a program evaluation study for Supportive Housing for 100 Homeless, Severely Mentally Ill clients being treated at three mental health agencies. Developed evaluation parameters with agency personnel. Conducted orientation and training for graduate students and agency personnel. Provided supervision for client assessments as well as seeing and assessing individual clients.

**The Sachs Group, Philadelphia, PA (1988-1990)**

- Integrated main-framed-based medical, financial, and demographic databases into a PC accessible, utilization analyses by disease type (ICD9 & DRG) for strategic planning for approximately 30 hospitals. Databases included: inpatient/outpatient discharge databases and cost files as well as US Census with updates from Donnelly & NPDC. Worked with hospital data processing staff to develop specifications and processing parameters. Developed data sufficiency analyses to ensure accuracy of critical variables used in hospital inpatient and outpatient projections.
- Coordinated consolidation of quality of care assessment, with disease staging, and outcomes measures for a medical system of 14 hospitals.
- Conceptualized and developed a research proposal on the study of access to health care in rural Arkansas. Worked with HFCA's research staff to obtain permission to use and ensure confidentiality of HCFA's Medicare Database.
- Worked with Chief Financial Officer to develop comparative report card for financial profile of hospitals.

**The University of Alabama at Birmingham, (1986-1987)**

Worked as a consultant to review literature on uses and applications for artificial intelligence and neural networks for the Chair of the Computer Science Department. The goal was to survey the literature from engineering, cognitive science, and computer science to both define the current status of the technology, and to define the potential applications for the future. The work was ultimately presented to Bell Labs by the Department Chair, as well as the department using the information to support grant/contract applications.

**Alabama Power Company, Birmingham, AL (1978-1985)**

- Supervisor of Research & Statistics: Directed the company's compliance and research efforts to assure equal opportunity in hiring, promotions, and salary and compliance with Title VII, EEOC, and OFCCP. Supervised a staff of three research analyst and coordinated with a staff of 40 computer analysts. Managed research/litigation support in class-action law suits for certified classes of 3,000 African Americans and 2,500 women. Helped to draft responses to interrogatories and consent decrees; prepared calculations for back-pay. Responsible for determining records retention for all employment records. Rewrote administrative procedures for Employment Department's Hiring Procedure. Served as company's expert witness in federal court regarding measurements of adverse impact by sex, race, and age in several cases. Served on the planning committee for a National Conference for Companies working with OFCCP & Co-led the workshop for the Utilities Division at this conference.
- Worked over four years in first a research capacity and then a supervisory capacity to develop and validate a multi-stage testing and interview process for hiring and then a promotion system. Studies included, job analyses, criterion validity, content validity,

predictive validity, and multiple reliability indices. Database of 1 Million records. Designed forms, databases, and procedures for on-going computerized monitoring and validation of the testing/promotion system.

- Served as research liaison with team consisting of (industrial psychologists, labor relations management, EEOC attorneys and psychologists, union officials, and company attorneys), to win Federal Court approval of job-related, pencil & paper testing procedures for 44 job classifications.
- Human Resources System Analyst. In addition to research areas listed above: worked with management personnel in multiple departments including Career Planning, Labor Relations, Salary Administration, Construction, and Management Information Systems to analyze departmental needs for computerized reporting systems, and to design and program systems as well as maintain and train personnel on existing systems.
- Coordinated and processed a manpower planning model using multiple linear regression to define departments or functions that could be trimmed in one of many corporate restructuring efforts for employment base of 10,000 employees.
- Supervisor of Construction Cost Accounting: For a 3-unit, fossil-fuel power plant construction project, supervised the cost accounting and ledger reconciliation for a multi-million dollar budget.
- Supervisor Construction Data Processing: Supervised a construction data processing department of 6 employees in the maintenance of approximately 20 database systems including: Payroll, Man-hour Projections, Document Control, Batch Concrete, Cylinder Concrete, Quality Control, Cable Routing, Equipment/Vehicle Tracking, Warehouse Requisition and Tracking, and Cost Engineering.

### **RESEARCH: Professional Presentations & Publications**

- 1) **Department of Behavioral Health, City of Philadelphia:** Invited presentation to Pennsylvania Psychological Association to present methodology and implementation for behavioral health incentive programs. Additional Internal working papers for cross agency studies: Children in Out-of-Home Placements in Philadelphia by Sungeun Lee, PhD, Cathy Bolton, PhD, and Patrick Kutzler; Cohort Study of a SMI Prison Population and Cross-system Resources by Sungeun Lee, PhD, Patricia Griffin, PhD, Cathy Bolton, PhD, and Amanda Zelechowski, M.S., J.D; Profiling Involuntary Commitments in Philadelphia by Sungeun Lee, PhD & Cathy Bolton, PhD.
- 2) **MCP-Hahnemann University:** Co-Principal Investigator for Research Grant - Program Evaluation of Supportive Housing; Extra-mural Funding: \$263,985. (2/97 - 1/2002). Program Evaluation of Supportive Housing Program for Homeless, Severely Mentally Ill individuals residing in the streets and shelters of Philadelphia. Funding provided by HUD to a Philadelphia-based non-profit housing corporation who has contracted with three mental health agencies in Philadelphia to provide services to clients. Program evaluation of this project includes monitoring outreach, intake, services, and outcome evaluation.  
2005 Dissertation Topic: Outcome Monitoring of Philadelphia Supportive Housing Program for Homeless, Severely Mentally Ill at the end of the first year of operation. Outcomes being monitored are: a) attain residential stability, b) maintain or improve psychiatric functioning, c) to reduce drug and alcohol abuse, d) to improve independent living skills, e) to increase capacity to work, and f) to maintain or improve quality of life.
- 3) Hartfield, C.R. **Bolton, C.**, Chapman, J.E., Turner R.M. (Nov, 99) A Measure of

Independent Functioning among the Seriously Mentally Ill. Poster presented at the annual meeting of the *American Evaluation Association*, Orlando, FL.

- 4) Brookes, C.A., **Bolton, C.**, Dudek, P., Brown, J.G., Hartfield, C.R., Turner, R. M. (1999, November). Participant Evaluation of a Supportive Housing Program for the Mentally ill: A Qualitative Study. Poster presented at the annual meeting of the *American Evaluation Association*, Orlando, FL.
- 5) Paper presentation at the Allegheny University Research Conference, Philadelphia, Oct., 1996. Social Phobia: Assessment and treatment by Herbert, J.D., Kadish, D.A., Nordmann, J.E., Best, M., Goldstein, S., **Bolton, C.**, Christian, R., Hartfield, C., Kaplan, M., & Habboushe, D.
- 6) In collaboration with both Psychology and Mathematics Chairs of LaSalle University, continued to focus on interest in neural networks, by completing an independent research project. The project completed with a joint paper, Training Your Spreadsheet, Neural Nets for the Undergraduate Classroom, being accepted for presentation at the 1994 Mathematical Society of America Annual Workshop, Cincinnati, Ohio.
- 7) Participated in Graduate Education Symposia Series, Eastern Psychological Association, The Graduate Program at LaSalle, with Rooney, J.J., Watson, M., Clarke, A.M., Bolton, C.H., and Austin, E., March, 1996.
- 8) Program Evaluation of Practicum Training for Masters-level Clinicians: Through survey research developed content validity indices for items that are essential for learning either before or during practicum training. Evaluated program's level of preparation on essential tasks according to both faculty and students. Factor Analyzed results for purposes of preparing Evaluation Form for performance during practicum training. Paper presentation of Clinical skills development through the practicum by Bolton, C.H., Herbert, J.D., Rooney, J.J., & Watson, M.A. at Eastern Psychological Association, Washington, D.C., April 1997.
- 9) University of Alabama in Birmingham, Birmingham, Al (1986-87): In collaboration with the department chair of Computer Science at UAB, conducted extensive literature research and drafted written reports for two industry-funded evaluations for BellSouth: Review of Telecommunications Industry's Use and Potential Use of Artificial Intelligence; Review of Neural Network Technology and Potential for the Telecommunication Industry. Both reports were considered proprietary property of BellSouth.

## **ADDITIONAL CLINICAL & TEACHING EXPERIENCE**

### **La Salle University, Philadelphia, PA**

Adjunct Professor for Graduate Courses in Research & Statistics, Theories of Personality & Counseling, Psychological Assessment, and Practicum Coordinator

### **Biohealth, Philadelphia, PA**

Cognitive Behavioral Therapist, practicum position, in a chronic pain clinic; treated adults, couples and families. Clinic operated within a team treatment approach that included a Licensed Psychologist, Psychiatrist, and Biofeedback Therapist. Clients presenting problems were primarily pain related with accompanying depression, sleep disturbance, anxiety, identity disturbance, suicidal ideation, marital and financial difficulties. Additionally treated clients with PTSD, sexual harassment, and OCD. Conducted vocational assessments and career retraining counseling. Obtained familiarity

with workmen's compensation cases and reimbursement procedures. Conducted management-level tasks analyses of clinic and worked with staff to develop and document procedures.

**MCP-HU, (Allegheny University of the Health Sciences), Philadelphia, PA**

Teaching Assistant for Graduate Statistics

Teaching Assistant for Advanced Graduate Statistics

**M.C.P-HU (Allegheny University of the Health Sciences), Philadelphia, PA**

Served as team member and co-therapist for cognitive behavioral group treatment for clients with Social Phobia. Followed a manualized treatment protocol and assessment battery which included administering SCIDs, behavioral role-plays pre and post treatment.

**University Counseling Center, La Salle University, Philadelphia, PA**

Served as practicum student in providing individual counseling to college undergraduates. Client issues included diagnosis/assessment of psychopathology, treatments for depression, relationship issues, adjustment disorders, sexual abuse, identity problems, suicidal ideation, social avoidance, career decision making, learning disability assessment, and personality assessment. Involved in Freshman Orientation with students and parents; Group Meetings with Residential Assistants.

**Jewish Community Center, Philadelphia, PA**

Developed two courses for psycho-educational groups for the Senior Adult Studies Program at this Community Center. Courses were Cognitive Behavioral Therapy Techniques and Stress Management.