

Expanding the Boundaries of Clinical Data-Mining: Recent Applications in Allied Health and Social Work in Mental Health

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Current Concerns Regarding EBP in Allied Health and in Social Work

- ◆ EBP proponents in the USA treat practitioners as mere *consumers* and *appliers* of knowledge created by research academics rather than as potential *contributors* to knowledge
- ◆ This leads to feelings of disempowerment & disrespect on the part of practitioners
- ◆ The result is further alienation from research rather than two-way collaboration and practice-research integration
- ◆ Evidence-informed Practice (EIP) is a truly collaborative form of practice-research integration in which practitioners are full participants,

What is Evidence-Informed Practice (EIP)?

- ◆ **Methodologically Pluralist**
- ◆ **Practitioners and Researchers Share Power**
- ◆ **Welcomes Practitioner-Researchers & Practice-based Research**
- ◆ **Welcomes PhD dissertations using available clinical data**

What Is Clinical Data-Mining (CDM)?

CDM is a practice-based research strategy by which practitioner-researchers and/or PhD students systematically retrieve, analyze and interpret available qualitative and/or quantitative information from their own records and reflect on the practice and policy implications of their findings



Purposes of CDM?

- ◆ To Refine & Enhance Practice Wisdom
- ◆ To Describe & Evaluate Social Work Practice
- ◆ To Promote “Evidence-Informed” Practice
- ◆ To Identify Best Practices
- ◆ To Promote Worker “Reflectiveness”



What Are the Basic Elements of CDM?

- ◆ Begins with practitioner questions
- ◆ Quantitative, Qualitative or Mixed Methods
- ◆ Retrospective (but can become prospective)
- ◆ Descriptive or Quasi-Experimental
- ◆ Primarily Formative (but can approach Summative)



Why Mine Clinical Information?

- ◆ **Current Availability of Rich Clinical Information**
- ◆ **Future Availability of Electronic Records**
- ◆ **Unintrusive**
- ◆ **Non-Reactive**
- ◆ **Relatively Inexpensive**
- ◆ **Efficient Sampling**



Why Not?

- ◆ **Dirty & Labor Intensive**
- ◆ **Missing Data & Other Ambiguities**
- ◆ **Validity and Reliability Issues**
- ◆ **Key Variables May Not Be Available**
- ◆ **Surfaces Information Systems Problems**



Who Can Do CDM?

- ◆ Individual practitioners
- ◆ Single discipline practitioner teams
- ◆ Multi-disciplinary teams (e.g., Allied Health, Physicians & Social Workers, etc.)
- ◆ Master's & PhD students



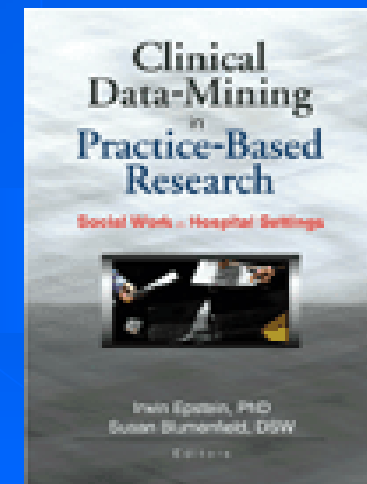
Types of CDM Studies

- ◆ **Need Studies**
- ◆ **Monitoring & Treatment Fidelity Studies**
- ◆ **Outcome Studies**
- ◆ **Intervention/Outcome Studies**



Epstein, I. & Blumenfield, S. (eds) (2001) *Clinical Data-Mining in Practice-Based Research: Social Work in Hospital Settings*, Binghamton N.Y., Haworth Press.

- ◆ Methodological principles of CDM
- ◆ 7 Peer-reviewed CDM studies conducted & written by practitioners at Mt. Sinai, Australia & Israel on pre-natal risk, juvenile diabetes, adolescent mental health, liver transplant, end-stage renal disease, etc.
- ◆ Exploration of the use of CDM for creating analogs to RCT's



Peake, K., Epstein, I. and Medeiros, D. (Eds.), (2005)
Clinical and research uses of an adolescent intake
questionnaire: What kids need to talk about.
Binghampton, N.Y.:Haworth Press

- ◆ 11 peer-reviewed studies co-authored by combinations of 25 different practitioners on adolescent mental health needs & wants by age, gender & race
- ◆ Topics include, safety & violence, mental health, sexuality, education, substance use, racism, family & friends, etc.
- ◆ Clinical significance of “Don’t Know”
- ◆ A “data-base” isn’t always a “Data-Base”



Joubert, J. & Epstein, I. (Eds) (2005). Multi-Disciplinary Data-Mining in Allied Health Practice: Another Perspective on Australian Research & Evaluation. Special Issue of J. Social Work Research & Evaluation, 6/2, Fall/Winter, pp.139-229.

- ◆ 8 peer reviewed articles by Australian Allied Health & Social Work practitioners
- ◆ Clinical to administrative practice issues
- ◆ Topics including emergency services, music therapy, polio services, rapid response teams, fetal abnormalities, young adult psychiatry, etc.

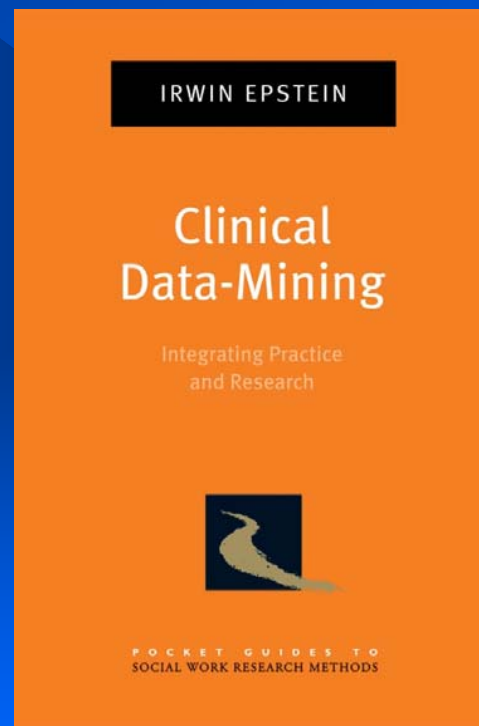


Exemplar UHK CDM/PhD Dissertations

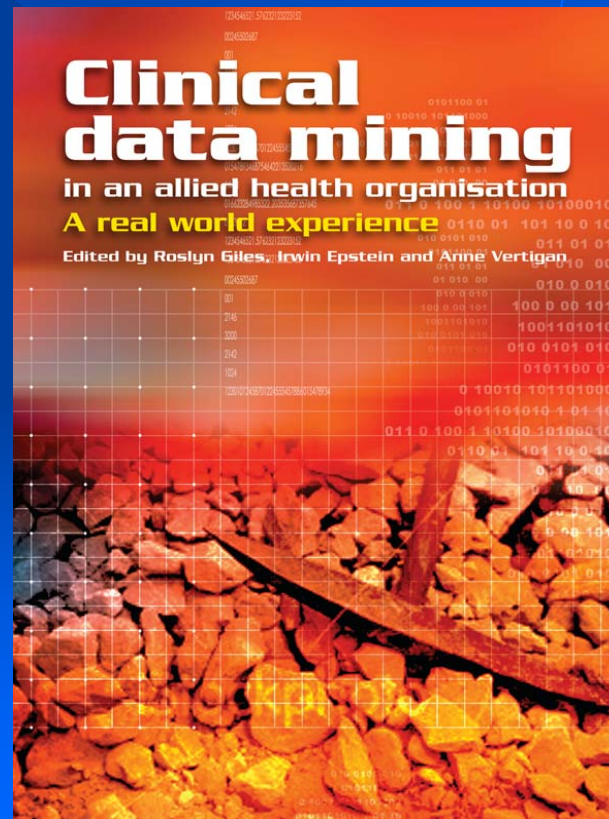
- ◆ **A. Chow (2005) Bereavement Experience of Chinese Persons in Hong Kong**
- ◆ **W. Chan (2007) A CDM study of “good death” among HK Chinese patients in a palliative care unit**
- ◆ **F. Wai (2007) A CDM study of breast cancer patients’ written narratives about treatment experiences**
- ◆ **H. Lo (2011) A CDM study of group CBT for anxiety and depression among Hong Kong Chinese**



How does one do CDM?



New CDM Book in Allied Health



What Makes this Book Different?

- ◆ **Single Allied Health organization—Hunter Valley Area Health Services in Newcastle, Australia**
- ◆ **Adopted as an organizational development strategy**
- ◆ **Written and co-edited with social workers and allied health practitioners and academics**
- ◆ **Range & types of disciplinary and multi-disciplinary teams involved – nutritionists, physicians, physiotherapists, speech pathologists, social workers, etc.**
- ◆ **Range of topics, treatment interventions & outcomes**



Selected Hunter Valley CDM Topics

- ◆ **Use of an Orthopedic Rehab Unit for Stroke Victims**
- ◆ **Climate Changes on Mental Health Presentations in Farm Families**
- ◆ **Treating Hepatitis C with Mentally Ill Patients Who Abuse Drugs & Alcohol**
- ◆ **Treating “Lost Language” in Acute Brain Injury**
- ◆ **Low back pain in an outpatient physiotherapy service**
- ◆ **Voice abnormalities in pre-operative patients with thyroid disease**



Primary Allied Health Knowledge Benefits of CDM Studies

- ◆ **Better Assessment of Patient Needs**
- ◆ **Better Information About Clinical and Program Fidelity**
- ◆ **Better Information About Patient Outcomes**
- ◆ **Better Information About Connections Between Interventions & Outcomes**
- ◆ **Better Understanding of Cultural & Contextual Influences**



Secondary Benefits of CDM Studies

- ◆ **Practitioner Mindfulness, Cultural Sensitivity & Self-Reflection**
- ◆ **Disciplinary & Inter-Disciplinary Team-Building**
- ◆ **Empowered Feeling Regarding Research Capacity**
- ◆ **Pride In Professionalism**
- ◆ **Intellectual & Emotional Replenishment**



Ultimately, CDM Helps Allied Health Practitioners

- ◆ Own what they know
- ◆ Acknowledge what they don't know
- ◆ Pursue what they need to know
- ◆ That is the true “gold standard” of professional practice



The End



My Birthday Cake

