Creativity:
Where Good Ideas Come From

Bruce L. Rollman, MD, MPH

UPMC Endowed Chair in General Internal Medicine
Director, Center for Behavioral Health and Smart Technology
Professor of Medicine, Psychiatry, Biomedical Informatics, and Clinical and Translational Science
Where Good Ideas Come From
Chance favors the prepared mind
“What is imagination? It is the Combining faculty. It brings together things, facts, ideas, conceptions in new, original, endless, ever-varying combinations....”

Ada Lovelace, 1841
Where Good Ideas Come From

1) Curiosity
2) Reading
3) Preparation
4) Environment
5) Associative thinking
6) Follow the literature
7) Serendipity
8) Networking
9) Travel
10) Community service
1) Curiosity
2) Reading

The NEW ENGLAND JOURNAL of MEDICINE

The New York Times

The WALL STREET JOURNAL

PC Magazine

medpagetoday's KevinMD.com

npr

Newsweek

Men and Depression
3) Preparation

### EDUCATION AND TRAINING

| Graduate      | 1992–1993 Johns Hopkins University School of Hygiene and Public Health Baltimore, Maryland | MPH (1993), Epidemiology |
| Postgraduate  | 1988–1991 University of Maryland Hospital Baltimore, Maryland | Intern and Resident, Department of Medicine Residency Program [Director: Frank Calia, MD] |
| Postgraduate  | 1992–1995 Johns Hopkins University School of Medicine Baltimore, Maryland | Fellow, Division of General Internal Medicine, Department of Medicine [Fellowship Director: David M. Levine, MD] |
| Postgraduate  | 1993–1995 Johns Hopkins Bayview Medical Center Baltimore, Maryland | Participant, Curriculum Development and Teaching Skills Workshop, Clinical Educator Training Program [Director: David Kern, MD] |
4) Environment

Joined DGIM July 1995
4) Environment
5) Associative Thinking

- Many different concepts
- Parallel processing of ideas
- Associations between concepts may be novel
- Similarity-based categorizations
- Reasoning is open but not always precise
My first PC - 1984
5) Associative Thinking

Diagram: 

```
   1   1   1
   ↓   ↓   ↓
   2?   1   1
   ↑   ↑   ↑
   1   1   1
```

Diagram title: Associative parallel thinking
BICYCLE SEAT

ABSTRACT

A bicycle seat of the saddle type without a nose has a foam cushion supported on a seat shell and the foam cushion has depressions on the top surface thereof which support the ischial tuberosities and aid in promoting comfort of the cyclist. Springs at the front underside of the seat are attached to struts which are pivotally attached to the rear underside of the seat shell and act as a fulcrum when the weight of the cyclist depresses the springs. The top of the seat is roughened to prevent the cyclist from slipping off.

9 Claims, 2 Drawing Sheets
My Next Patents

1991
1994
1997
I wrote an R01 grant my first year on faculty.
It was funded on 1’st submission

Depression Care Using Computerized Decision Support

AHFCPR R01 HS09421
($642,000 over 3 years)
Mentor (mĕnˈtôrˈ, -tər) n. †
1. a wise and trusted counselor or teacher.
2. an influential senior sponsor or supporter.

† Dictionary.com
Box, Sam D.
37 Year Old Male
P-10040

Problems
- Abdominal Pain
- Hosp for Anxiety
- Elbow Pain
- Major Depressive Disorder

Medications
- Prozac Cap 20mg
- Capoten Tab 25mg

New Flag
From: Brown, Jennifer J.
To: Winston M.D., Harry S.
Subject: Box, Sam D.
Due: 08/19/1997
Message: Pt. with Major Depression (see letter). Episodes remit sooner with proper Tx. Follow-up to confirm & to initiate/adjust Tx. should be scheduled within 2 wks. PLEASE REPLY:

Registration Notes
- PFO
- EF 50% L
- Not for Resuscitation
- Nuoxetine

Flowsheet

Find Pt. | Update Chart | Desktop | Chart | Appts | Reg | Reports | Flags | Help | Exit
HRS-D by Intervention

- Active Care
- Passive Care
- Usual Care

Why Didn’t This Work?

Trying is the first step towards failure.
6) Follow the Literature

• TOC list servs

ARCHIVES OF GENERAL PSYCHIATRY

Archives of General Psychiatry Table of Contents Alert

A new issue of Archives of General Psychiatry is available online:
November 2007; Vol. 64, No. 11
The below Table of Contents is available online at: http://archpsyc.ama-assn.org/content/vol64/issue11/index.dtl

• Citation alerts

Alert Results for "CABG" in MEDLINE
Your CiteTrack Alert has found 1 article in MEDLINE matching your criteria. Below are results 1 to 1.

Search Criteria:
Title/Abstract: CABG Anywhere in Article: Depression

Result:
Presence of depression and anxiety before and after coronary artery bypass graft surgery and their relation
Jens-Holger A Kramlich, Peter Weyers, Stefan Lueger, Michael Herzog, T
BMC Psychiatry. 2007; 7: 47. [MEDLINE Citation]
Wagner Chronic Care Model

Community
- Resources and Policies
  - Self-Management Support

Health Systems
- Organization of Health Care
  - Delivery System Design
  - Decision Support
  - Clinical Information Systems

Informed, Activated Patient

Productive Interactions

Prepared, Proactive Practice Team

Improved Outcomes
“Collaborative Care”

- Population perspective
- Linked to primary care
- Team approach
- Considers patient preferences
- Proactive
- Information technology

Improving Quality of Primary Care for Anxiety Disorders

NIMH R01 MH59395: 9/99-2/04

Objective:
Compare 12-month outcomes for patients with PD and/or GAD, cared for by PCPs informed of their diagnosis, and randomized to either:

1. A telephone-based collaborative care strategy for treating PD/GAD; or
2. Their PCPs’ “usual care” for PD/GAD
5 Collaborative Care Trials

2013-2018: **Hopeful Heart**

2012-2017: **Reduce Limitations from Anxiety**

2004-2010: **Bypassing the Blues**

2003-2009: **Bypassing the Blues**

1999-2004: **Improving Quality of Primary Care for Anxiety Disorders**
“Patient-Centered Medical Home”
The Bypassing the Blues Trial
Telephone-Delivered Collaborative Care for Treating Post-CABG Depression

R01 HL70000: 7/1/03-6/30/10

BL Rollman, B Herbeck Belnap, PR Houck, S Mazumdar, PJ Counihan, HC Schulberg, WN Kapoor, CF Reynolds III
Telephone treatment of depression following cardiac bypass surgery speeds recovery
19+ Years Effort

3/98: First thoughts of depression and CVD
7/98: Submit proposal to American Heart Assoc.
9/98: AHA rejects application; start raising pilot $
1/99-01: Conduct CABS pilot work
6/01: R01 submitted; 10/01 unscored
7/02: R01 resubmitted; 7/03 funded
3/04: Start recruitment
6/08: Complete 8-month f/u; open study blind
3/09: American Psychosomatic Society presentation
11/09: JAMA ‘Main Outcomes’ publication
9/14: GHP Cost-effectiveness publication
2/17: 10-Yr Mortality paper under review
7) serendipity

(n.) finding something good without looking for it
Impact of Gender on Coronary Bypass Operative Mortality

Fred H. Edwards, MD, Joseph S. Carey, MD, Frederick L. Grover, MD, Joseph W. Bero, MS, and Renee S. Hartz, MD

Division of Cardiothoracic Surgery, University of Florida Health Science Center, Jacksonville, Florida; Department of Surgery, Torrance Memorial Medical Center, Torrance, California; University of Colorado Health Science Center, Denver, Colorado; Summit Medical Systems, Minneapolis, Minnesota; and Department of Surgery, Tulane Medical School, New Orleans, Louisiana

Background. In spite of many reports investigating the influence of gender on coronary artery operations, it is still uncertain whether gender is an independent risk factor for operative mortality. A major problem of previous reports has centered around the fact that men and women constitute quite different populations, thereby making direct comparisons difficult.

Methods. The Society of Thoracic Surgeons National Cardiac Surgery Database was used to retrospectively examine 344,913 patients undergoing coronary artery bypass graft operations from 1994 through the most recent data harvest. The operative mortality of male and female patients was compared for a variety of single risk factors and combinations of risk factors. A logistic risk model was used to account for all important patient parameters so that individuals could be stratified into comparable categories allowing for direct comparisons of risk-matched male and female patients.

Results. The univariate analysis showed that the 97,153 women carried a significantly higher mortality for each of the risk factors examined. The multivariate analysis and the risk model stratification showed that women had significantly higher mortality as compared to equally matched men in the low- and medium-risk part of the spectrum, but in high-risk patients, there was no difference between male and female mortality.

Conclusions. Gender is an independent predictor of operative mortality except for patients in very high-risk categories.

7) Serendipity

Learning

Behavior

+ Stimulation

Conditions for Serendipity

{ Insights, Experiences, Relationships, Networks }

{ Curiosity, Commitment, Divergence, Generosity }

{ Events, Collisions, Reflection, Recombination }
Bruce L. Rollman, MD, MPH
Bea Herbeck Belnap, Dr Biol Hum
Kaleab Abebe, PhD
John M. Jakacic, PhD
Jordan F. Karp, MD
Matthew F. Muldoon, MD, MPH
Ravi Ramani, MD
Charles F. Reynolds III, MD
Kenneth J. Smith, MD
Reducing depression in cardiac patients

UPMC Health Plan has launched a new program to screen and treat members for depression following a myocardial infarction (MI).
“The Checklist”

A) ACE/ARB
B) Beta-blocker
C) Clotting (ASA)
C) Cholesterol (statin)
D) Depression (PHQ-2/9)
E) Exercise (cardiac rehab)
F) Financial (afford meds)
F) Follow-up (appt.)
2) Reading

5) Associative Thinking

- Diagram illustrating associative parallel thinking with three interconnected nodes labeled 1, 1, and 2.
8) Networking
9) Travel

9th Annual Conference on the Science of Dissemination and Implementation in Health
Co-hosted by the National Institutes of Health and AcademyHealth
December 14-15, 2016 | Washington, DC
Sabbatical
6/06-2/07
Computerised cognitive behaviour therapy for depression and anxiety

Review of Technology Appraisal 51
Computerized CBT (CCBT)
http://www.beatingthebluesus.com/

“J feel like a different person. I’m out and about and feel that the therapy has really helped me!”
Loona

Beating the Blues US™ – helping you to manage your emotional wellbeing

Beating the Blues US treats depression and anxiety by using Cognitive Behavioral Therapy (CBT).

Beating the Blues US offers you 8 weekly online treatment sessions of 50 minutes.

7 out of 10 people who have used Beating the Blues have been able to overcome their depression.

Beating the Blues has been validated through independent research.
5) Associative Thinking
Internet Support Groups

Social Networks a Lifeline for the Chronically Ill

By CLAIRE CAIN MILLER  MARCH 24, 2010

A former model who is now chronically ill and struggles just to shower says the people she has met online have become her family. A quadriplegic man uses the Web to share tips on which places have the best wheelchair access, and a woman with multiple sclerosis says her regular Friday night online chats are her lifeline.

For many people, social networks are part of their daily routine.

Amy Tenderich is a diabetic. She uses social networks and her blog to connect with people who share her chronic illness from her home office in Millbrae, Calif. Peter DaSilva for The New York Times
When Dave deBronkart learned he had a rare and terminal cancer, he turned to a group of fellow patients online — and found the medical treatment that saved his life. Now he calls on all patients to talk with one another, know their own health data, and make health care better one e-Patient at a time.
Internet Support Groups
Trends in Collaborative Care

“1.0”  Face-to-Face

“2.0”  Telephone-Based

“3.0”  On-Line
Bruce L. Rollman, MD, MPH
Bea Herbeck Belnap, Dr Biol Hum
Jordan F. Karp, MD
Kaleab Abebe, PhD
Armando J. Rotondi, PhD
Kenneth J. Smith, MD
Michael B. Spring, PhD
Welcome

Welcome Dr. Rollman, You might find the new comment(s) below interesting:

- 2014-10-20 7:25 AM on October Contest: Success Stories!
  I haven’t gone to church in a long time. It’s the whole set up that causes me a ton of anxiety. I am glad that you were able to go...

- 2014-10-19 10:26 PM on October Contest: Success Stories!
  Congratulations Martha! What a big achievement for you!...

- 2014-10-19 10:04 AM on October Contest: Success Stories!
  This morning I went back to church! I had attended every Sunday and found such peace and comfort going. About 2 years ago, my anxiety got so bad that I...

Welcome Mary, our Guest Moderator!

Mary0430 has been an active member of the OT community since December 2012, and has graciously volunteered to be our October Guest Moderator!

She looks forward to responding to your comments and creating new discussion boards on our "Guest Corner."

Join me in welcoming Mary!

Hello everyone! I will be the guest moderator for the next two weeks and I am looking forward to some interesting discussions.

I read a lot of self-help books and usually find something that gets me thinking in a different way. The latest is “Small Move, Big Change” by Caroline Arnold. The general idea of the book is that we all make resolutions to change things like starting to exercise or keep the house clean but we usually don’t stick with them for long. Do you have books or other resources that have given you new insight into things about yourself or your life that you would like to change? Could we use something similar to the Downward Arrow Technique described in Session 5 of Beating the Blues to take a large, wishful resolution and break it down into something we know will be easy to do?

I think we will have some great exchanges of ideas. I hope you check in a few times over the next two weeks to see what others are finding helpful.
Welcome
Welcome Chris Moderator, You might find the new comment(s) below interesting:

- 2014-10-20 7:26 AM on My own BTB journal
  I think that it does help to keep me more organized and keep doing the homework. My therapist that I see on Saturday mornings liked it. ... 
- 2014-10-20 7:25 AM on October

Recent Comments

Chris, OT Moderator
Jun 26, 2013 5:15 PM
Hi Tracy, Thank you for your post. That’s great that you took the...

Mary0430
Jun 25, 2013 11:54 PM
I’ve ordered some of these suggested books from the library. Thanks. I mostly...

Mary0430
Jun 25, 2013 11:31 PM
Well I just wanted to add that even though I hate exercising !
2) Reading
A-B Test Color

Blue vs. White background
Other A-B Tests

• Subject line

• Salutation
  - Hey, Hi, Hello, Dear…

• Altruism
  - “Help you” vs. “Help others…”

• Prize amount
  - $15 vs. $0
  - $10 gain vs. $10 loss
Participation Inequality

“The 1% Rule”

Superusers (1%)
382 Posts+Comments
(40% of postings)

Top Contributors (9%)
42 Posts+Comments
(38% of postings)

Contributors (41%)
5 Posts+Comments
(22% of postings)

Observers (27%)

No Log-Ins (22%)

Mean: 9.4 Posts + Comments per OT member
5) Associative Thinking
Recruitment is Challenging

Close to 80% of clinical trials fail to meet milestones

The process of translating lab research into potentially life-saving treatments is often severely delayed

Patient enrollment challenge is the leading cause of missed clinical trial deadlines
Epic “Best Practice Alerts” to Identify Patients

BPA Recruitment Efficiency

Waitroom-Staff

- 2.4%
  - 193 Randomized
  - 8,085 Approached

Best Practice Alert

- 24.6%
  - 329 Randomized
  - 1,337 Referred

- 24.4%
  - 704 Randomized
  - 2,884 Referred

Anxiety I
Tired of Counting Sheep?

Ask your doctor about the HUSH trial.

HUSH is a research study for patients with insomnia and high blood pressure.
- All participants receive one of three interventions for insomnia.
- Interventions do not involve new medications or stopping current medications.
- All sessions take place in the participants’ homes via the Internet and/or phone.
- Participants also will receive a home blood pressure monitor that they may keep.
- Compensation is provided for follow-up assessments.

For more information:
- Call 413-266-5530
- E-mail us at Hushtrial@upmc.edu
- Visit hushtrial.org
- Physicians: Place a consult to HUSH

RHYTHMS AND YOU (RAY)
A Clinical Trial for Bipolar Disorder In Primary Care
10) Community Service

IF I AM NOT FOR MYSELF, 
WHO WILL BE FOR ME?

IF I AM ONLY FOR MYSELF, 
WHO AM I?

IF NOT NOW, WHEN?

RABBI HILLEL
10) Community Service

- Review papers and grants
- Committees
- National organizations
- Community volunteer
10) **Community Service**

**National Service: Committees and Journals**

<table>
<thead>
<tr>
<th>Year</th>
<th>Role and Details</th>
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<tbody>
<tr>
<td>2004–2006</td>
<td>Chair, Liaison Committee, American Psychosomatic Society.</td>
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<tr>
<td>2004–2007</td>
<td>Member, Council, American Psychosomatic Society.</td>
</tr>
<tr>
<td>2006–2011</td>
<td>Member, Liaison Committee, American Psychosomatic Society.</td>
</tr>
<tr>
<td>2010–2013</td>
<td>Deputy Editor, <em>Journal of General Internal Medicine</em></td>
</tr>
<tr>
<td>2009–2013</td>
<td>Chair, Oken Fellowship Selection Committee, American Psychosomatic Society</td>
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<tr>
<td>2011–present</td>
<td>Member, Annual Meetings Program Committee, American Psychosomatic Society</td>
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<tr>
<td>2011–2015</td>
<td>Member, Behavioral Health Measurement Advisory Panel, National Committee for Quality Assurance (NCQA)</td>
</tr>
<tr>
<td>2004–present</td>
<td>Member, Editorial Board, <em>Psychosomatic Medicine</em>.</td>
</tr>
<tr>
<td>2010–present</td>
<td>Member, Scientific Advisory Board, Anxiety Disorder Association of America.</td>
</tr>
<tr>
<td>2011–present</td>
<td>Member, Editorial Board, <em>General Hospital Psychiatry</em></td>
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<tr>
<td>2015–present</td>
<td>Member, Program Committee, 2016 Annual Meeting, International Society for Research on Internet Interventions</td>
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<tr>
<td>2017</td>
<td>President-elect, American Psychosomatic Society.</td>
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<tr>
<td>Year</td>
<td>Role</td>
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<tr>
<td>1996–1997</td>
<td>Co-Chair, Leadership Development Course, Young Adult Division, United Jewish Federation of Pittsburgh.</td>
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<tr>
<td>1996–2000</td>
<td>Member, Cabinet, Young Adult Division, United Jewish Federation of Pittsburgh.</td>
</tr>
<tr>
<td>1997–1998</td>
<td>Local Chair, Washington Conference, Young Adult Division, United Jewish Federation of Pittsburgh.</td>
</tr>
<tr>
<td>1998–2000</td>
<td>Chair, Education Task Force, Young Adult Division, United Jewish Federation of Pittsburgh.</td>
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<tr>
<td>2000–2002</td>
<td>Member, Demographic Survey Committee, United Jewish Federation of Pittsburgh.</td>
</tr>
<tr>
<td>2002–2004</td>
<td>Member, Educational Affairs Committee, Community Day School, Jewish Educational Institute, Pittsburgh.</td>
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<tr>
<td>2003–2004</td>
<td>Member, Long-Term Planning Committee, Beth Shalom Synagogue, Pittsburgh.</td>
</tr>
<tr>
<td>2004–2007</td>
<td>Member, Board of Delegates, United Jewish Federation of Pittsburgh.</td>
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<tr>
<td>2005–2008</td>
<td>Chair, Physicians’ Division, Maimonides Society, United Jewish Federation of Pittsburgh.</td>
</tr>
<tr>
<td>2007–2009</td>
<td>Member, Outcomes Task Force, Community Day School, Jewish Educational Institute, Pittsburgh.</td>
</tr>
<tr>
<td>2011–present</td>
<td>Member, Adult Education Committee, Beth Shalom Synagogue, Pittsburgh.</td>
</tr>
<tr>
<td>2011-present</td>
<td>Founder and Chair, Beth Shalom Health Initiative</td>
</tr>
<tr>
<td>2014</td>
<td>Volunteer of the Year, Beth Shalom Synagogue, Pittsburgh.</td>
</tr>
</tbody>
</table>
A Few Closing Thoughts...
Chance favors the prepared mind
Hard Work

Genius is 1% inspiration and 99% perspiration
Lot of Time
Family Support
Family Support
Time Flies...
Enjoy the Journey
Thanks!
Where Good Ideas Come From

1) Curiosity 6) Follow the literature
2) Reading 7) Serendipity
3) Preparation 8) Networking
4) Environment 9) Travel
5) Associative thinking 10) Community service