
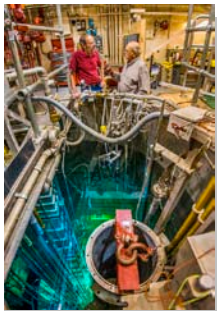


Sandia National Laboratories

Exceptional service in the national interest

Worksite Depression Screening and Treatment: An Innovative, Integrated Program

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Sandia National Laboratories

Livermore, CA/Albuquerque, NM

Silicon Valley Leadership Group

4th Annual Workplace Wellness Summit

U.S. DEPARTMENT OF ENERGY

NNSA National Nuclear Security Administration

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Sandia Depression Program

- Who Are We?
- Why Did We Decide to Initiate this?
- What Do We Do?
- How Did We Implement the Program?
- Where Does the Program Occur?
- What Are Our Outcomes?

Who We Are

- **Sandia National Laboratories:**
  - Major National Research & Development Laboratory
  - Part of the U.S. Department of Energy Nuclear Weapons Complex
  - Headquarters – Albuquerque, New Mexico, with second lab in Livermore, California and other sites in the U.S. and abroad
  - FY 2013 operating costs $2.6 billion
  - 9,500 regular employees – 5,400 hold advanced degrees
  - Major responsibilities: nuclear weapons, defense systems, energy & climate, international, homeland and nuclear security
  - History: Inception in 1945 as a division of Los Alamos (“Z” Division) and became Sandia Laboratory in 1948. California site opened in 1956

Who We Are

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- Unique Population
  - High levels of stress, routine work burnout
  - Highly educated workforce, over 50% with advanced degrees
  - Majority of workforce are required to hold DOE Security Clearances for their jobs. This requirement has ongoing implications for seeking mental health services although as a general rule encouraged by the clearance issuers
  - A majority of the workforce is involved in jobs that impact national security. They work in complex environments and are subject to frequent changes in conditions and demand
  - Other National Laboratories include Los Alamos, Oak Ridge (Y-12), Hanford, Pantex, Lawrence Livermore

Sandia HBE Health Services

OCC MED	UCC	HMC	EAP	PH
Special Programs	X-Ray Lab PT	Diabetes Hypertension Hyperlipidemia Depression Sleep	Short-term Counseling/Referral Recovery Program Crisis Intervention Management Consultation FFD	Wellness Stress-Management Nutrition Exercise Conditioning

The Scope of the Problem

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- Major Depressive Disorder is the leading cause of disability in the US for ages 15-44
- MDD affects approximately 15 million adults (6.7 %) age 18 and older annually
- Median age of onset is 32
- Suicide is the 10th ranking cause of death in US
- Average of 1 person every 14 minutes dies by suicide, over 1 million attempts annually
- Services Gap – only 22% of those diagnosed receive adequate treatment

» NIMH, 2012; JAMA, 2003

Depression & Chronic Disease

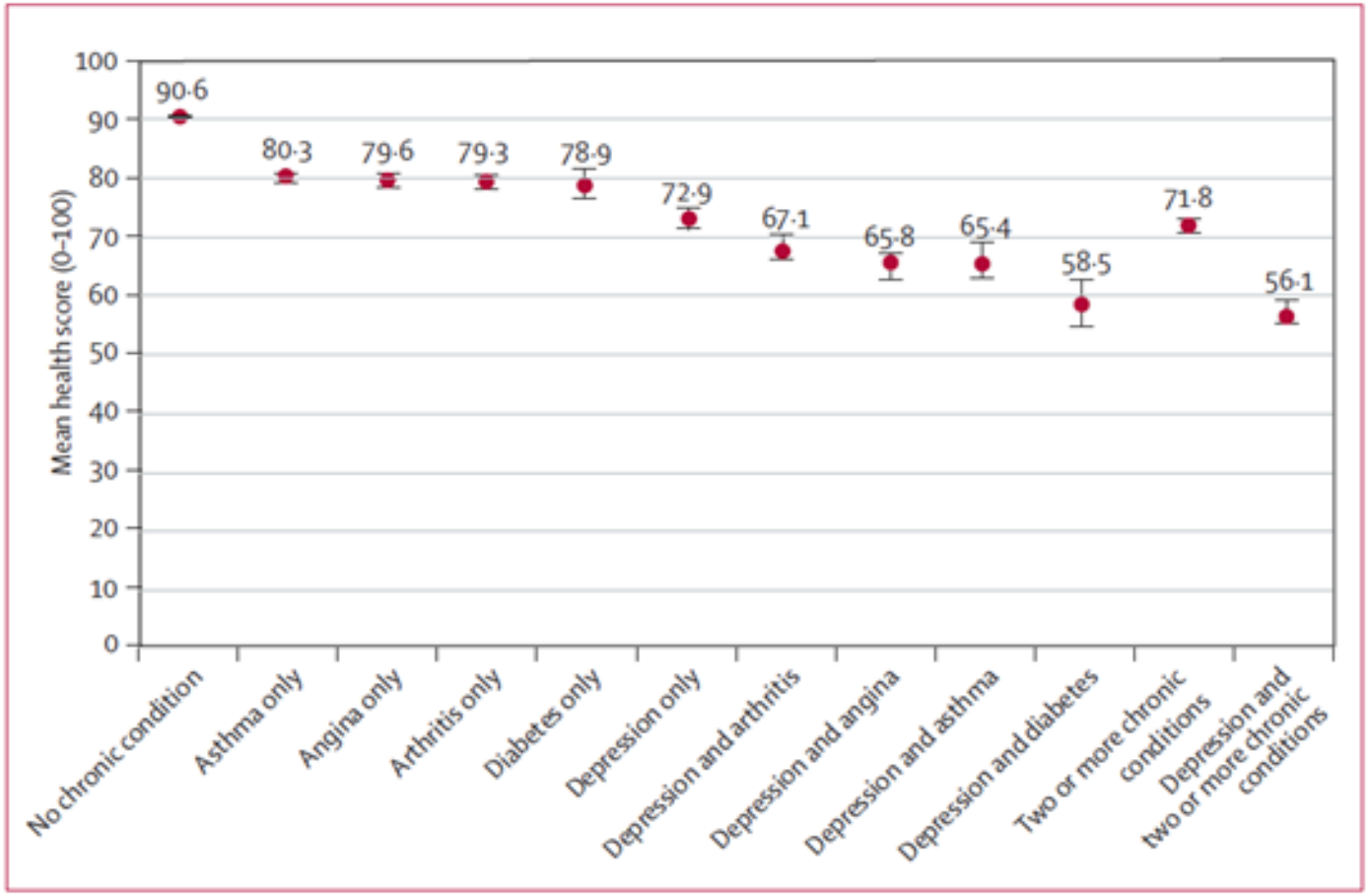

Figure: Global mean health by disease status
Data from WHS 2003.

In **2008**, we asked ourselves these **questions**:
“Is it possible to develop and implement a comprehensive, **multidisciplinary screening and treatment program for depression** for our employees?”
“Is there an **organizational need** for this?”
“Do the **benefits** outweigh the **risks**?”
“Can we **model** it after other comprehensive worksite based healthcare programs?”
“How do **we** do it?”

Groundwork – Organizational Need?

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- Reviewed proposal with key stakeholders
  - Management, Legal, HR
- Assessment of average wait times for mental health appointment in the area
  - Albuquerque = 5-6 weeks
  - Bay Area = 6-8 weeks
- Self-study regarding internal capabilities
  - Also – ability to address needs of our unique population
- Anticipated cost-benefit
  - Improved access
  - Time savings
  - Expense: health plan vs. onsite providers
- The Answer - YES

Health & Productivity Questionnaire

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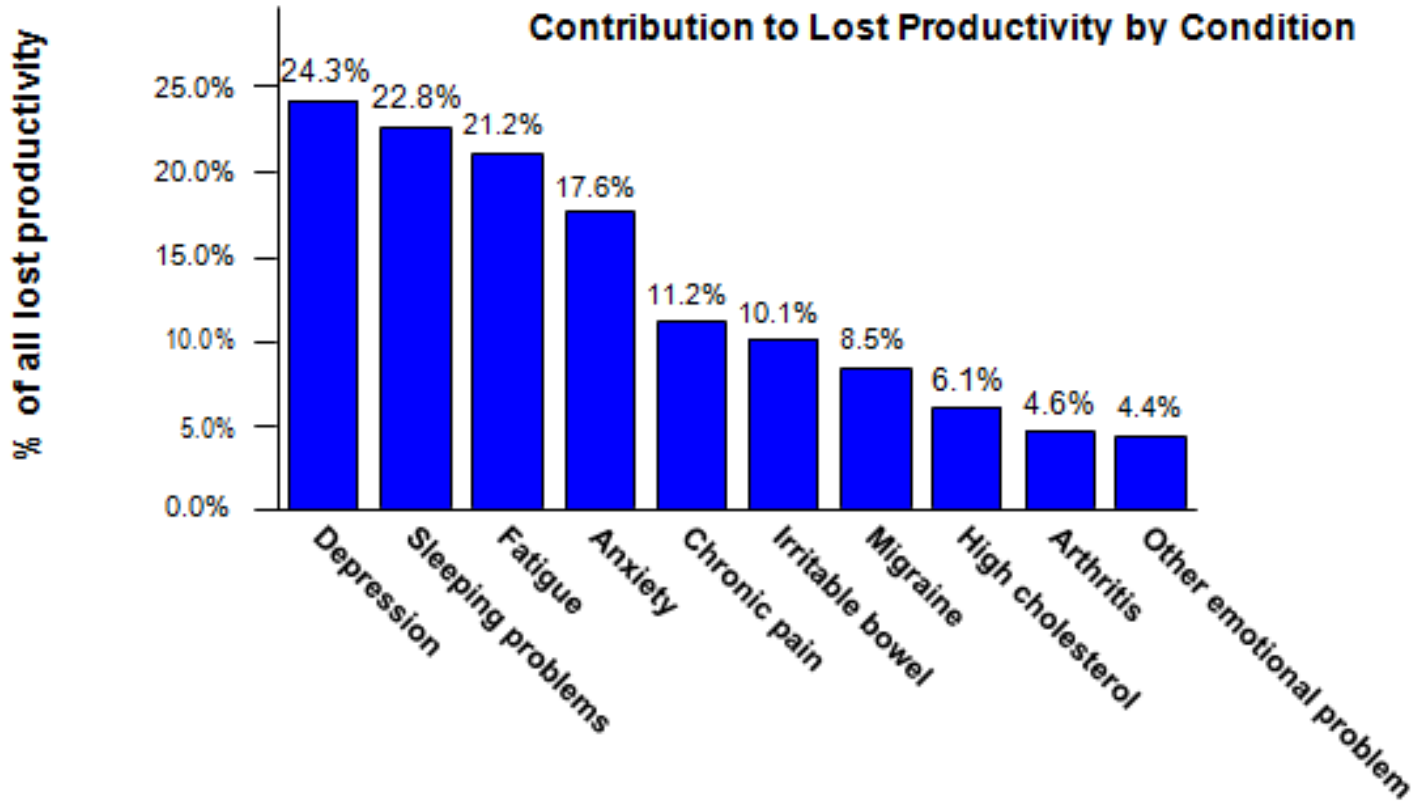
- Completed in 2011 (HPQ-Select)
- Study completed by the University of Maryland with IBI evaluated and broadly summarized the health and productivity of Sandia's workforce

  - $12,860,263 in health related **lost productivity**, of which 24.3% is a direct impact from depression

  - Also – **health plan costs** associated with depressive disorders = $372,198 (medication cost)

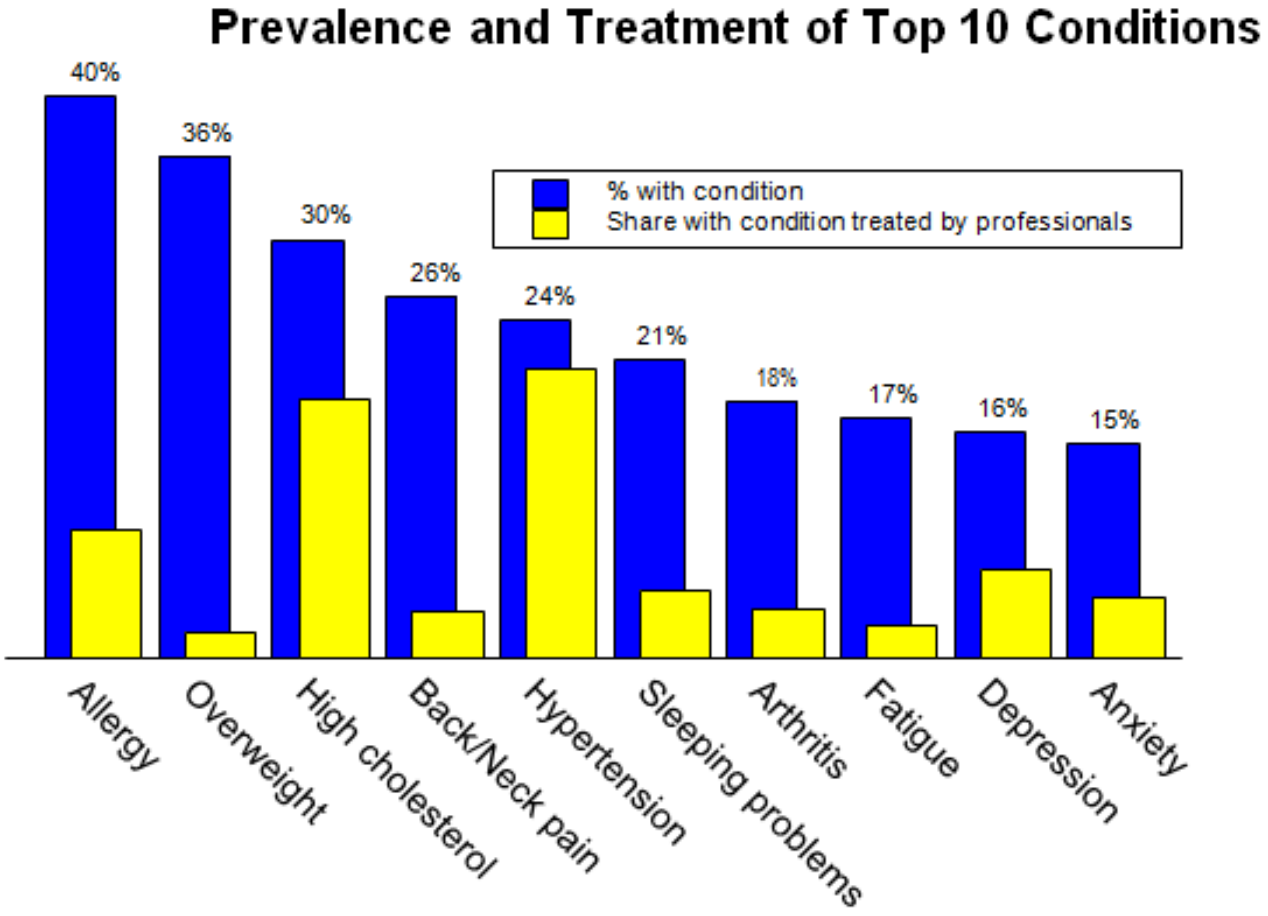
Publication of the Health and Productivity Questionnaire (HPQ) Survey Report - November 2012

Health & Productivity Questionnaire (HPQ-Select)



Publication of the Health and Productivity Questionnaire (HPQ) Survey Report - November 2012

Health & Productivity Questionnaire (HPQ-Select)



Publication of the Health and Productivity Questionnaire (HPQ) Survey Report - November 2012

Depression Program Overview

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- **Comprehensive and Integrated Program**
  - HMC, EAP, Clinic, PH all work together for program success
  - Communication is vital – cross referral/use of EHR
  - Independent Psychiatric Case Review

- **We reviewed guidelines for programs similar to what we wanted to do:**
  - DIAMOND Initiative ("Depression Improvement Across Minnesota")
  - ICSI – Institute for Clinical Systems Improvement
  - TMAP – Texas Medication Algorithm Project
  - APA – American Psychiatric Association Guidelines
  - Institute of Medicine (IOM) 2001 – *convenience, timeliness, interdisciplinary coordination of care*

Collaborative Care Model

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- Critical Features of the Collaborative Care Model for treatment of depression:
  - Standard and reliable use of a **validated screening tool** for, screening, assessment and ongoing management:
    - Patient Health Questionnaire – 2 (PHQ-2)
    - Patient Health Questionnaire – 9 (PHQ-9)
  - **Systematic** patient follow-up **tracking and monitoring**, based on repeat PHQ9 results
  - Use of **evidence-based approaches** to depression care
  - Use of **EAP** for counseling and case management
  - Use of the **Care Manager** for ongoing education, support and monitoring of treatment response
  - **Relapse prevention** plan
  - Monthly **psychiatric consultation**

How Do We Train the Care Managers?

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- Rationale for training
- Live group training model
- Six sections
- Trainers include staff psychologists, physician, consulting psychiatrist
- Clinic physicians and mid-level providers also attend
- Didactic, case studies and small group discussions
- Pre-test/Post-test format for mastery
- Special section for unique concerns associated with depression treatment in a high security environment

Screening Process

- **Step 1 Initial Screening** – occurs through our Clinics and is embedded within the Physical Examination process
  - (U.S. Preventive Services Task Force (USPSTF) recommends regular screening of adults when staff-assisted depression care support is in place)
  - The PHQ-2 is embedded in these initial medical examinations
  - The PHQ-2 is administered by the clinic support staff as the patient is being roomed
  - Total score of 3 or more is considered to be a positive screen and reflects a 75% likelihood that the individual has a depressive disorder
  - A positive PHQ-2 score is reviewed by the support staff with the patient

Assessment

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- **<u>Step 2 Clinical Assessment of Depression by EAP</u>**
  - Results of PHQ-2 discussed and positive score explained
  - Administer PHQ-9
  - Positive results trigger follow-up assessment by a **clinician**
  - If patient meets diagnostic criteria for either Major Depressive Disorder or Dysthymic Disorder (DSMV) then treatment options are discussed and referral is made as appropriate (note: a positive PHQ9 by itself does not constitute a diagnosis)
    - Assess potential medical causes of symptoms
      - Thyroid disease, diabetes, CAD, neurological disorders, cancer, chronic fatigue
    - Assess substance abuse potential
    - Assess for psychiatric co-morbidity
      - Anxiety, OCD, mood/bipolar disorder, eating disorder
    - Evaluate patient safety: suicide risk, risk to others, self-care

Enrollment & Referral

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- **Steps 3 & 4 Enrollment/Initiation of Treatment**
  - Onsite or Offsite options – patient choice regarding treatment
    - HMC or Clinic physician, EAP for onsite
    - External PCP, community therapist for offsite
  - Review the Depression Program with patient
  - Care Manager assigned and orders entered into the system
    - Patient Education regarding depression and treatment
    - Contact schedule clarified – more frequent in early phases
    - Review of planned follow-up
    - Review of goals – remission and return to prior level of functioning

Treatment

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- **Treatment – Acute Phase (6 to 12 weeks)**

- **Goals: remission, return to prior level of functioning**
- **Choice of treatment:**
  - **Psychotherapy**
    - **As solo treatment for mild-moderate MDD**
    - **CBT, Interpersonal, Problem-solving, Psychodynamic are evidence-based**
    - **Onsite or offsite – patient choice, needs, convenience and financial considerations**
  - **Pharmacotherapy**
    - **Indicated with severe MDD**
    - **Can also be used in mild – moderate MDD**
  - **Combination Therapy (Pharmacotherapy and pscychotherapy)**
    - **Indicated with moderate to severe MDD**
    - **Can also be used in mild MDD**

Treatment

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- **Monitoring – Acute Phase**
  - Provider meets with patient every 1-2 weeks
  - Care manager contacts weekly and notify provider of any issues that need to be addressed
    - Items for monitoring throughout treatment: *symptoms, quality of life, functional status, manic "switch", co-occurring disorder including SA, medical status, treatment response, medication side effects, adherence*

- **Education**
  - Causes, symptoms, natural history
  - Expectations during treatment – duration, medications, therapy
  - Self-management
  - Role of family
  - Role of exercise, sleep, nutrition

Treatment

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- **Non-Response During Acute Phase**
  - **After 4-8 weeks of therapy, consider the following:**
    - **Is the diagnosis correct?**
    - **Complicating conditions (medical, psychosocial)?**
    - **Adherence to therapy?**
    - **Side effect issues?**
    - **Are therapy sessions at appropriate level of frequency?**
    - **Does there need to be a medication change or dose adjustment?**
  - **If response to treatment has not occurred in 4-8 weeks then review with psychiatric consultant**

Treatment

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- **Continuation Phase (4 to 9 month period beyond Acute Treatment Phase)**
  - **Goals: maintain remission, continue improved functional level**
  - **Treatment:**
    - Continue psychotherapy
    - Continue medication 4-9 months at therapeutic dose
    - Depression-focused CBT has best support
  - **Monitoring**
    - Appropriate follow-up interval agreed on by patient and provider
    - Monitor for relapse – common in first 6 months following remission
      - 50% after 1 episode, 70% after 2, 90% after 3
    - Educate patient/family re: relapse and seek care early
    - PHQ9 repeated 6 months after remission achieved

Treatment

- **Maintenance Phase: Period Beyond the Continuation Phase**
  - **Goals: maintain remission, continue improved functional level**
  - **Maintenance Phase:**
    - **Individuals who have had 3 or more episodes or chronic depression**
    - **Consider if there are risk factors: early age of onset, psychosocial factors**
    - **Some individuals may prefer to remain on maintenance in the absence of risk factors**
  - **Treatment**
    - **Maintenance of medications – consider dose reduction as appropriate**
    - **Psychotherapy at a reduced level of frequency**

What Are Our Outcomes?

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- **Program initiation late 2009**
- As of June 30, 2014:
- Total Enrollees = **235**

- Total Enrollees with validated positive PHQ9/diagnosis = **210**

- Total Enrollees completing program = **161**
  - **49** did not complete due to voluntary discontinuation, premature disenrollment due to retirement, moving, changing jobs

What Are Our Outcomes?

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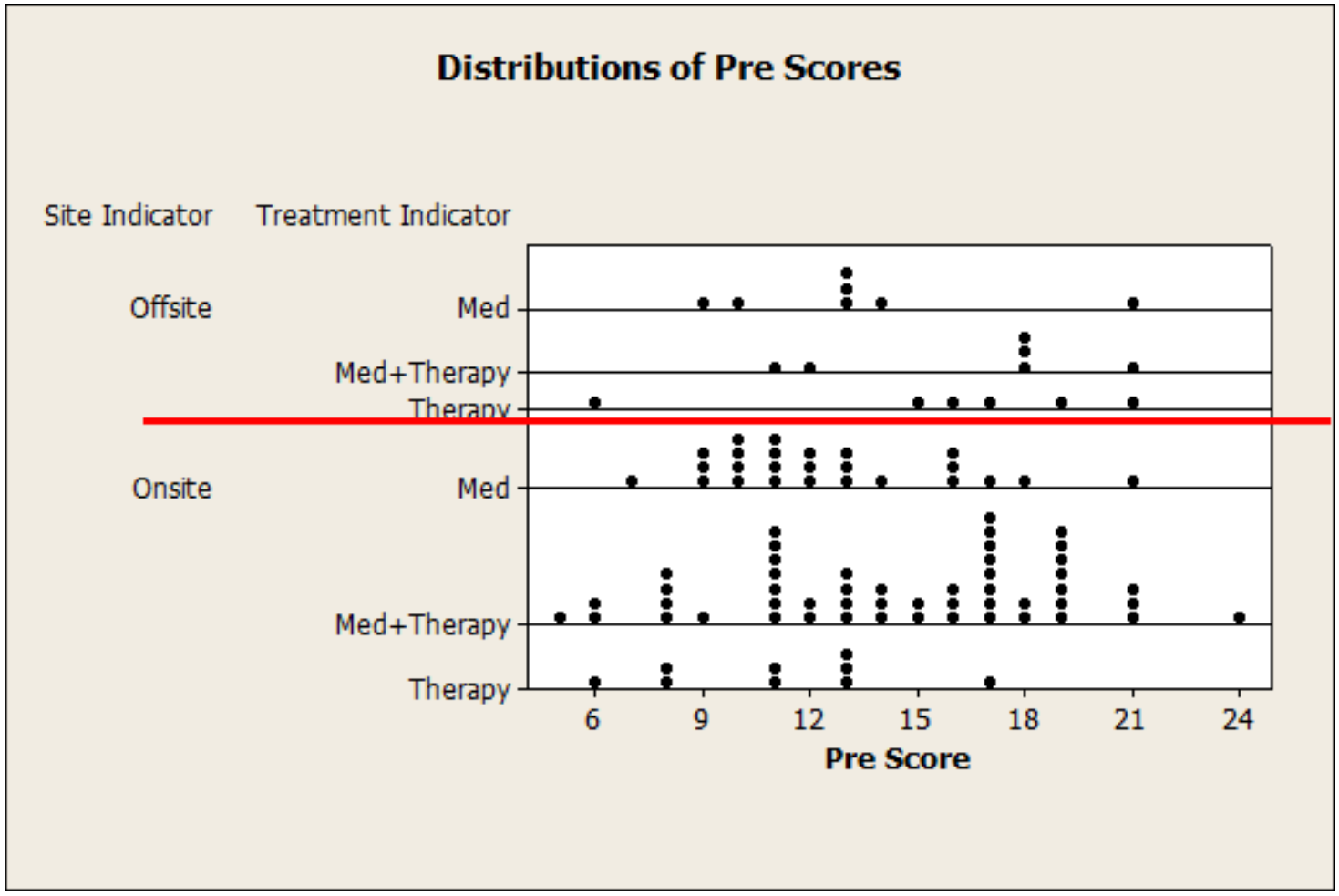
- Of the 161 completing program we were able to analyze **103** cases, with 58 rejected due to missing information

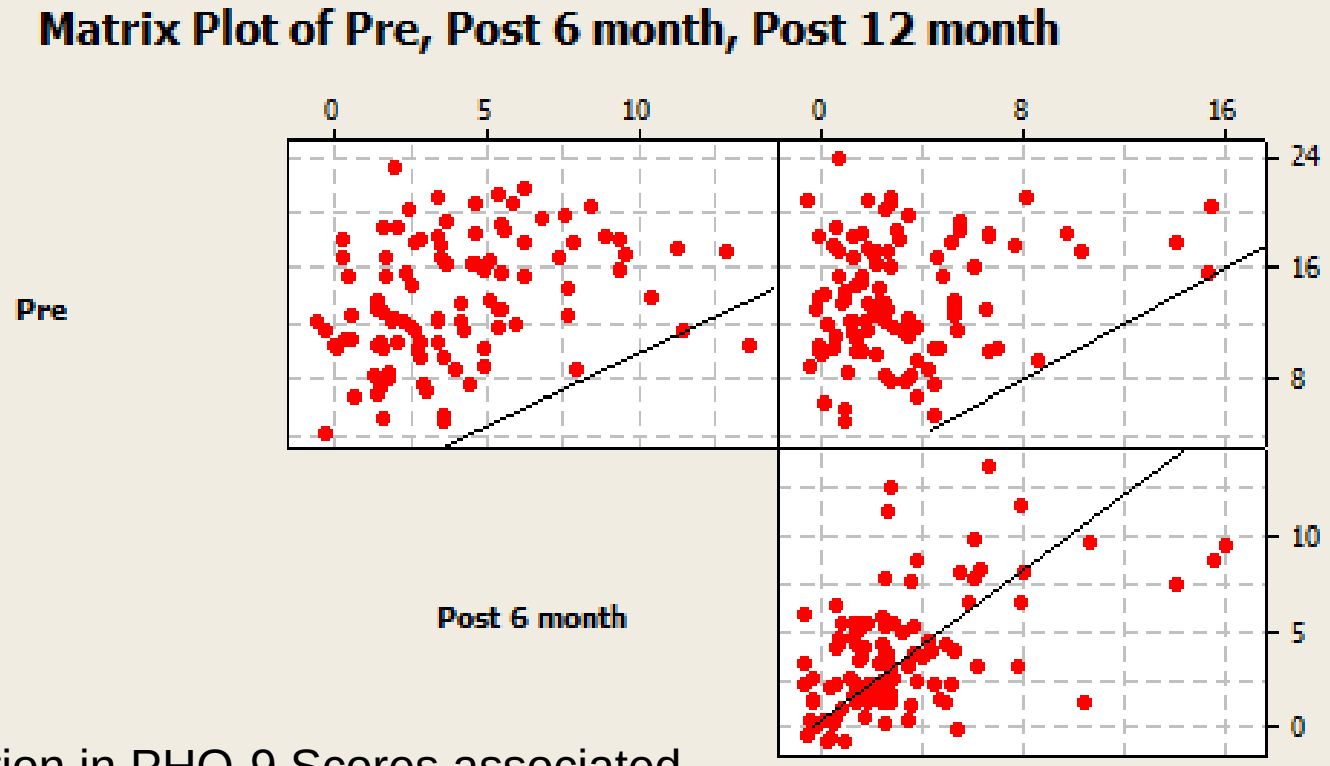
- **Remission**
  - Cases maintaining full remission @ 12 months, as defined by a PHQ9 score of less than 5 and Case Manager verification = **82**

  - **79%** remission rate @ 12 months (as compared with typical published rates of 47% to 65%)
    - » *Journal of Clinical Psychiatry (2005) – meta-analysis*

Distributions of Pre PHQ-9 Scores



Comparison of Pre and Post PHQ-9 Scores (cont'd)



Clear reduction in PHQ-9 Scores associated with treatment Note: Post (12 month) scores tended to be lower than Post (6 month) scores

Note: Jitter added to reveal all observations

Outcomes Summary

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- Distribution of PHQ-9 (Pre) scores are similar across treatment sites(locations)
- Treatment offsite placed somewhat more (proportionately) subjects into “therapy only” treatment and somewhat fewer subjects into “med+therapy” treatment
- Level of depression (measured by PHQ-9 score) is reduced by treatment
  - No evidence that level of reduction in PHQ-9 scores is preferentially affected by age, gender, treatment, or treatment location

Presentation Summary

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- We have been able to successfully implement a comprehensive, integrated, worksite screening and intervention program for depression

- Positive outcomes demonstrated with high rate of remission and PHQ9 data

- The comprehensive nature of the program appears to enhance effectiveness – variables such as age, gender, type of treatment or location of treatment are not significant factors

Questions?

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