Worksite Depression Screening and Treatment: An Innovative, Integrated Program

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Silicon Valley Leadership Group
4th Annual Workplace Wellness Summit
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

- 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
The Scope of the Problem

- 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

![Graph showing mean health scores](image)

*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?

- 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

- 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)
Health & Productivity Questionnaire (HPQ-Select)

Contribution to Lost Productivity by Condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>% of all lost productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>24.3%</td>
</tr>
<tr>
<td>Sleeping problems</td>
<td>22.8%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>21.2%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>17.6%</td>
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<tr>
<td>Chronic pain</td>
<td>11.2%</td>
</tr>
<tr>
<td>Irritable bowel</td>
<td>10.1%</td>
</tr>
<tr>
<td>Migraine</td>
<td>8.5%</td>
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<tr>
<td>High cholesterol</td>
<td>6.1%</td>
</tr>
<tr>
<td>Arthritis</td>
<td>4.6%</td>
</tr>
<tr>
<td>Other emotional problem</td>
<td>4.4%</td>
</tr>
</tbody>
</table>
Prevalence and Treatment of Top 10 Conditions

- Allergy: 40%, % with condition
- Overweight: 36%, % with condition
- High cholesterol: 30%, % with condition
- Back/Neck pain: 26%, % with condition
- Hypertension: 24%, % with condition
- Sleeping problems: 21%, % with condition
- Arthritis: 18%, % with condition
- Fatigue: 17%, % with condition
- Depression: 16%, % with condition
- Anxiety: 15%, % with condition

% Share with condition treated by professionals
Depression Program Overview

- 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

- 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?

- 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

- **Step 2 Clinical Assessment of Depression by EAP**
  - 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 PHQ-9 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

**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

- **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 psychotherapy)**
      - Indicated with moderate to severe MDD
      - Can also be used in mild MDD
Treatment

- **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

- **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

- **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
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?

- **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?

- 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
Outcomes Summary

- 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

- 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?