

“Accident Investigation: Root Cause Analysis”



**Patricia J. Boyer, MSM, RN, NHA
President/Operations Consultant**



Boyer & Associates, LLC
16655 W. Bluemound Rd. Ste. 170
Brookfield, WI 53005
Ph.: 262-754-0525 Fax: 262-754-0528

What is Root Cause Analysis?

- Root Cause Analysis is a method that is used to address a problem or non-conformance, in order to get to the “root cause” of the problem. It is used so we can correct or eliminate the cause, and prevent the problem from recurring

Adapted from NASA Root Cause Analysis

What is Root Cause?

- **Root Cause** is the fundamental breakdown or failure of a process which, when resolved, prevents a recurrence of the problem.
Or, in other words
- **Root Cause** is the factor that, when you fix it, the problem goes away and doesn't come back.
- **Root Cause Analysis** is a systematic approach to get to the true root causes of our process problems.

Adapted from NASA Root Cause Analysis

Philosophy of Root Cause Analysis

- Each problem is an opportunity because it can tell a story about why and how it occurred.
- It is critical that everyone take a personal and active role in improving quality.
- The **"true"** problem must be understood **before** action is taken.
- To do this well, you must be
 - Both focused and open-minded
 - Both patient and quick

Adapted from NASA Root Cause Analysis

Symptom Approach vs Root Cause

- | | |
|---|--|
| <ul style="list-style-type: none">• Symptom Approach<ul style="list-style-type: none">– Errors are a result of worker carelessness– Training to motivate people to be more careful– Don't get to the bottom of the problem | <ul style="list-style-type: none">• Root Cause<ul style="list-style-type: none">– Errors are a result of process failure. People are only part of the process– Find out why it happened & implement processes so it won't happen again– Fix it for good |
|---|--|



Adapted from NASA Root Cause Analysis

How do we do Root Cause Analysis?

- **Ask the Why**
 - Why did the problem occur?
 - They ask **why** *that* happened until you reach the process element that failed.

Adapted from NASA Root Cause Analysis

Types of Tools Used in Root Cause Analysis

- Brainstorming
- Fishbone Diagram
- Flowchart

Brainstorming



WHAT IS IT?

Brainstorming is a process in which a group quickly generates as many ideas as it can on a particular problem and/or subject.

WHY IS IT USEFUL?

Brainstorming is useful because it can help a group of people utilize its collective brainpower to generate many ideas in a short period of time. It stimulates creativity and promotes involvement and participation.

WHEN IS IT USED?

To help clarify mutual expectations and devise ground rules related to a team's way of operating.

HOW IS IT DONE?

- Identify a topic, problem or issue and make sure there is mutual understanding of the task and objective. Write the topic on a flip chart.
- Each person presents one idea going in sequence (Round Robin). If a person doesn't have an idea, pass and move on to the next person.
- All ideas are recorded on a flipchart.
- There is no evaluation or discussion during the session.
- Focus is on quantity of ideas, not the quality.
- When all ideas are exhausted, take a break. When you come back, people may have more ideas to add to the list.
- Keep the idea generation separate from the evaluation or analysis of ideas.

BRAINSTORMING GUIDELINES:

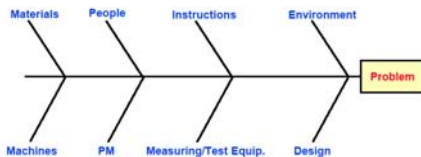
- Generate as many ideas as possible.
- Encourage free-wheeling.
- No criticism is allowed, either positive or negative.
- Equal opportunity to participate.
- Record all ideas.
- Let the ideas incubate.

During analysis ideas should be evaluated, further analyzed and refined prior to taking further action.

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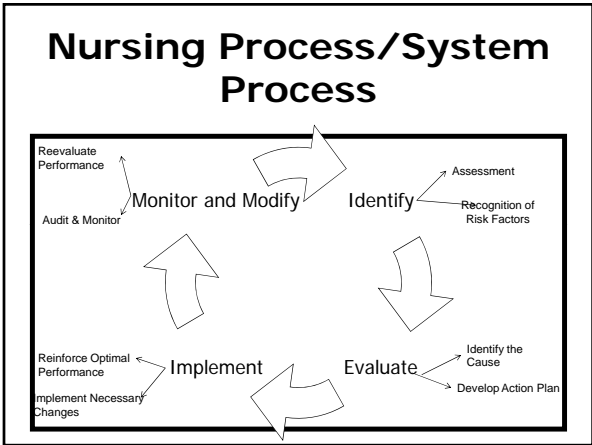
Fishbone Diagram - A Useful Tool

- Using a fishbone diagram while brainstorming possible causes helps you to focus on the various possibilities. Some useful categories:



9

Applying the Nursing Process-The biggest "clue" of success



Measuring/Evaluation of Facility Standards of Clinical Practice

Evidence Based

- What is "Evidence-Based Practice"
The use of current best evidence in making decisions about the care of individual residents.
- What is "Evidence-Based Facility Practice"
The integration of the clinician's expertise with values, resident preferences and available evidence.

Sackett, Gray, Haynes & Richardson, 1996

Standardized Approach

- Use an organized approach
- Emphasize the basic process: prevention, assessment, documentation and treatment

"One of the tests of leadership is the ability to recognize a problem before it becomes an emergency."

Arnold Glasgow

Status Reviews

Review Systems:

- Flow chart/graph/data collect processes
- Review and tweak policy/procedures as you go-not as overwhelming
- Review compliance with practice standards
- Audit-at minimum 10% monthly

Strategies for Facility Improvement: Evaluate Risk Factors

- Target Resident and interview
- Family interviews
- Resident Satisfaction Surveys
- Staff Satisfaction Surveys
- Interview Staff for Suggestions/changes/improvements

Assessments

Admission, Quarterly, Significant Change minimally include:

- Fall Risk
- Smoking ability
- Elopement risk
- Pain assessment
- Behavioral assessment
- Skin assessment
- Bowel, bladder assessment
- Quality of Life- Restorative

Facility Action Steps


Develop a plan

- **Seek guidance**
 - **Regulatory language**
 - **Medical Director and Physicians**
 - **Employees**
 - **Peers**
 - **Professional organizations**
 - **Consultants**

Facility Action Steps

Implementation


- **Set goal date**
- **Develop an Action plan**
- **Monitor progress frequently**
- **Educate staff**
- **Implement the plan**



Facility Action Steps

Evaluate

- **Has the goal been met?**
- **Are there any adjustments needed?**
 - **Seek input from residents, family and staff**
 - **Make adjustments and/or redefine the plan**



Facility Action Steps

Monitor

- Set up a routine timeframe
- Assign responsibilities
- Enforce accountability
- Re-evaluate systems regularly



**"If you don't know
where you are going, you
will probably end up
someplace else."**

**Someplace Else
Pop. 215**



Accidents + Incidents

Regulatory Language

Accidents and Supervision F323

The facility must ensure that:

- The resident environment remains as free of accident hazards as is possible; and
- Each resident receives adequate supervision and assistance devices to prevent avoidable accidents.

Methods to Meet Intent

- Identifying hazards and risks;
- Evaluating and analyzing hazards and risks;
- Implementing interventions to reduce hazards and risks; and
- Monitoring for effectiveness and modifying interventions as indicated.

Overview: Commitment to Safety

A facility with a commitment to safety:

- Identifies risk
- Reports risk
- Involves all staff
- Utilizes resources
- Commitment to safety demonstrated at all levels of organization

**A Systems Approach
Identification of Hazards and
Risks**

Sources for identifying hazards
may include:

Quality assurance activities

- Environmental rounds
- MDS/RAPS data
- Medical history and physical
exam
- Individual observation

**A Systems Approach
Evaluation and Analysis**

- The facility examines data
gathered through identification
of hazards and risks and applies
it to the development of
interventions to reduce the
potential for accidents.

- Interdisciplinary involvement is a
critical component of this
process.

**A Systems Approach
Implementation of
Interventions**

- Communicating the interventions
to all relevant staff
- Assigning responsibility
- Providing training as needed
- Implementing and documenting
interventions
- Ensuring that interventions are
implemented

Systems Approach of Monitoring and Modification

- Ensuring that interventions are implemented correctly and consistently
- Evaluating the effectiveness of interventions
- Modifying or replacing interventions as needed
- Evaluating the effectiveness of new interventions

Resident to Resident Altercations

Situations that may increase the potential for resident to resident altercations include:

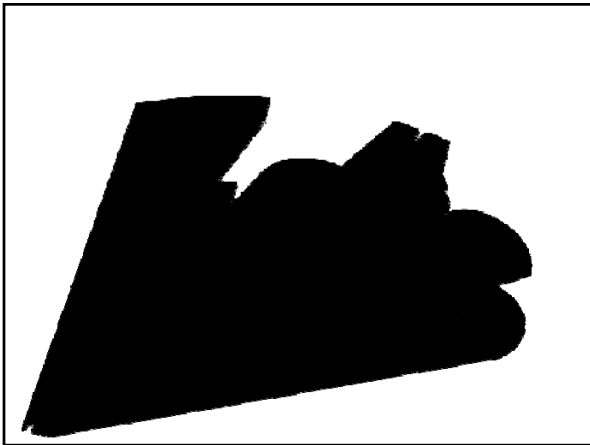
- History of aggressive behavior
- Negative interactions with other residents
- Disruptive or annoying behavior
- History of inappropriate behavior

Supervision Resident-to-Resident Altercations

- Facilities need to take reasonable precautions to prevent resident-to-resident altercations.
- Certain situations or conditions may increase potential for resident-to-resident altercations:
 - History of aggressive behavior
 - Negative interactions with another resident
 - Disruptive or annoying behavior

**Definition:
Supervision/Adequate
Supervision**

- "Supervision/Adequate Supervision" refers to an intervention and means of mitigating the risk of an accident.
- Adequate supervision is defined by the type and frequency of supervision, based on the individual resident's assessed needs and identified hazards in the resident environment.



Prevention of Falls

- Teamwork
- Systems Approach
- Patient specific causes
- Seating and Positioning
- Falls and Medications

Cost of Falls

- 5.3% of hospital admissions of individuals over 65 are due to falls
- Mean LOS 8-15 days
- 42% of fallers reduce activity after falling
- 40-73% of fallers have "fear of falling"

Good News

- Falls can be successfully managed
- Must develop a passionate focus
- Understand and use your QI's
 - QI's provide a "Sneak Peek at the Test before the surveyors get there"
- Trend your falls
- Develop comprehensive team approach

Bad News - If they're not well managed

- Facility
 - Fines
 - Loss of reputation
 - Loss of revenue
 - Increased cost of care
 - Potential for lawsuits
- Patient
 - Fear of ambulating, falling again

Response to Falls

- Immediate response
 - Assess patient
 - *Identify cause of fall*
 - Medical care for resident
 - Establish temporary “keep safe” plan
 - Document intervention
 - Complete incident report

How to do it well

- Ideal Outcome
 - Maintain the health of the patient
 - Maintain the health of the facility’s systems

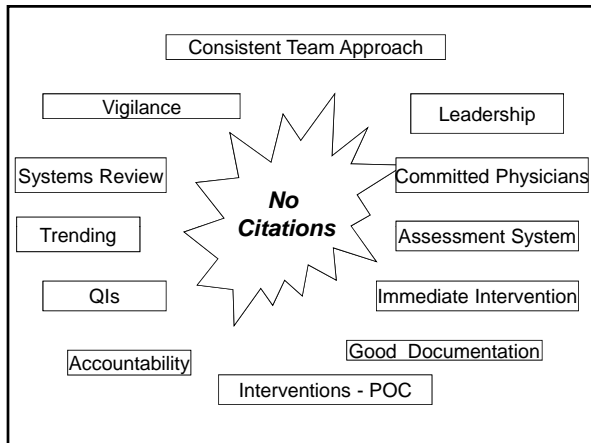
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Systems





Systems that work - Teams

- A team is only as good as its weakest link
- The keys to creating an effective team are:
 - Mutual respect
 - Communication
 - Focus and passion toward prevention
 - A genuine concern for the safety of all residents.

Teams

- **Administrator's role:**
 - Sets the expectations
 - Sets Environmental standards
 - *Establishes accountability*
 - Responsible for Regulatory Compliance and quality of life for the residents
 - Financing - Equipment, Maintenance, Staff
 - *Facilitates consistent CQI*

Teams

- **DON - Coordinates team's efforts**
 - Establishes standards and *accountability*
 - Establishes system for Falls Management
 - Trends incidents and establishes patterns
 - Coordinates team efforts to assess system failures resulting in identified trends
 - *Holds staff accountable*

Teams

- **Unit Manager = clinical case manager**
 - Understands all aspects of the individual patient's needs, habits and deficits
 - Identifies patient specific risks and contributing factors
 - Is responsible for the quality of her unit's focus on falls prevention
 - Monitors potential Medical and Polypharmacy risks for her patients

Teams

- **Managing Physician**
 - Often not included -
 - Due to lack of time, respect, or responsiveness
 - Nursing tries to solve all problems in-house without involving the MD
 - Must have comprehensive understanding of Geriatric Medicine
 - *Must strongly support intervention to prevent functional loss and maintain quality of life for the resident*

Teams

- **Medical Director**
 - *Responsible for the quality of Medical Care available in the building*
 - Intervenes as an advocate for the facility when managing physicians need mentoring
 - Takes an aggressive approach to Quality Assurance

Teams

- **Medical Director**
 - Reviews incidents and accident trends
 - Assists the DON in identifying system wide or patient specific causes
 - Assists in modification of policies and procedures resulting from QA process
 - Communicates with and *holds managing physicians accountable for following facility policies*

Teams

- Physical Therapist
 - *Triage patients into appropriate activity or restorative programs through quarterly screens and evaluations as needed*
 - Assists the team to identify system wide and patient specific causes for falls
 - Evaluates specific patients for *balance, coordination, strength and perceptual* deficits
 - Provides rehab treatment as **appropriate**

Teams

- Occupational Therapist
 - Assists the team to identify system wide and patient specific causes for falls
 - Evaluates specific patients for *safety judgment, problem solving and perceptual skill deficits as they pertain to late loss ADLs*
 - Evaluates and modifies seating and positioning systems to meet needs of patients
 - Provides rehab treatment as **appropriate**

Teams

- Speech and Language Pathologists
 - Assists the team to identify system wide and patient specific causes for falls
 - Evaluates specific patients for *safety judgment, problem solving, cognitive and communication deficits* as they pertain to falls
 - Consults and provides remedial equipment for audiological needs of the patient
 - Provides rehab treatment as **appropriate**

Teams

- **Activity Directors and Staff**
 - Assists the team to identify system wide and patient specific causes for falls
 - Assists with assessment of social, emotional and physical deficits as they relate to falls
 - Assists the resident to maintain feeling of self worth through appropriate activities
 - *Are key to assisting the resident to maintain their optimal level of physical fitness*

Teams

- **Nursing Assistants**
 - Assists the team to identify system wide and patient specific causes for falls
 - *Are key to accurate information regarding environmental, behavioral and physical risks to the safety of residents*
 - Ensure safety of the resident through *vigilance, common sense and a strong commitment to the well being of the resident*

Teams

- **Maintenance and Housekeeping**
 - Assists the team to identify system wide and patient specific causes for falls
 - Are key to the environmental safety of the residents
 - *Provide prompt repair of brakes on beds, wheelchairs and other equipment used by patient*
 - *Prevent clutter and other environmental hazards that imperil safety of staff/residents*

Accountability

- **Accountability**
 - Without accountability, all plans and interventions are useless
 - Each team member must understand what they are accountable to do
 - Each manager must hold each team member accountable for results, not just process

Team review

- Next morning stand-up meeting review
- Review contributing factors
- Plan should address each factor
- Modify intervention if needed
- Document changes in POC/nurses notes
- Refer to PT, OT, ST if appropriate

Team Review

- Each week - Falls Committee
 - All falls are reviewed in-depth
 - Causes
 - Interventions
 - Effectiveness
 - Modifications if needed
 - All modifications are recorded on the POC
 - Minutes of the meeting are kept

Team Review

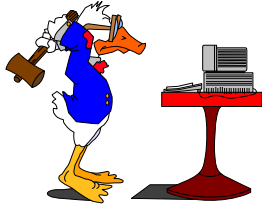
- Each month Quality Assurance Committee
 - Trends are examined to identify any patterns
 - Systems are reviewed for potential modification
 - Individual patient issues are reviewed if unresolved

Trends help identify cause

- If most falls occur during change of shift
- If most falls occur between 5pm and 7pm
- If most falls occur on one particular unit during the midnight shift and only when nurse Jane is working
- If most falls occur during the first 48 hours of admission

Analyzing Information

Garbage in equals garbage out



Outcomes Analysis

- Requires accurate data collection, analysis and trending
- Analysis of trends results in identification of system failures
- An acceptable standard must be identified
- Outcomes compared to that standard
- Progress toward team goals needs to be communicated to entire team (NAs too!)

Prevention

- Predict greatest risk
 - Shifts
 - Units
 - New or lower quality staff
- Dedication of staff
 - Attitude shift - "It's a job" to "I'm fond of my residents"
 - Stabilize staffing pattern - Know habits of residents

Prevention - Staffing

- Staffing Pattern
 - Match staffing pattern to identified trends
 - Volunteer role
 - Family member's role
 - Dual Hats - Multiple roles of all staff
 - Sundowner's hours
 - Group patients to allow lower ratio staff:patient

DON or Unit Manager

- Notify physician
- Notify family
- Review incident report and documentation
- Follow-up intervention plan
 - Is equipment in place?
 - Have Nurses aides been informed?
 - Is staff implementing plan?
 - Is plan working?

Follow up by Therapy

- Equipment reviewed
 - If equipment must be ordered, Therapy must also implement a temporary keep safe plan equipment arrives
 - Therapy must document “keep safe plan”, and equipment that has been ordered, expected arrival date
 - Therapy to track equipment order and document in medical chart

Physical Fitness

- Inactivity -
 - Loss of balance
 - Loss of endurance
 - Loss of postural reflexes
 - Loss of strength
 - Loss of speed of reaction
 - Loss of coordination
 - *Loss of confidence*



Physical Fitness

- **Strong Activity program**
 - Triage all patients into activity categories
 - Walking for distance (walkie talkie)
 - Walk across America or your state
 - Walk to dine, walk to toilet, walk to shower
 - Transfer to dining room chairs (six additional sit to stand opportunities to strengthen muscles)

Success

- **Decrease in incidence of falls**
- **Improvement in resident safety**
- **Decreased risk of citations**
- **Improved customer satisfaction**

Washington State Dept of Health Root Cause Analysis

- **The Adverse Event Occurs**
 - Your Policy Explains:**
 - How to report an event
 - How to care for the patient
 - How to secure equipment or articles
 - How to secure original documents
 - When to obtain photos
 - Responsibility for Disclosure & Notifications—
Attending MD's, Client/Patient, Internal & External Notifications
 - How to conduct staff discussions

Root Cause Analysis

- Root Cause Analysis
 - Step 1 Identify the Adverse Event
 - Step 2 Identify the RCA Team
 - Step 3 Conduct the RCA
 - Step 4 Develop an Action Plan
 - Step 5 Measure the Effectiveness of Plan
 - Step 6 Communicate the Findings

Root Cause Analysis

- Step 1 Identify the Adverse Event
 - Receive the Adverse Event Report
 - Triage the Adverse Event Using Experts
 - VA National Center for Patient Safety—Safety Assessment Code
 - Joint Commission Sentinel Events
 - American Medical Director Association (AMDA)
 - Determine Events Not Eligible for RCA's
 - Receive Organizational Endorsement

Root Cause Analysis

- Step 2 Identify the RCA Team
 - Identify Content Experts—Those most familiar with situation
 - Interdisciplinary-Physicians, Pharmacy, Operations
 - This is an opportunity to teach staff how to utilize an RCA methodology

Root Cause Analysis

- Step 3 Conduct the RCA
 - Short Inservice on Conducting RCA's (15 minutes)
 - Establish Confidentiality
 - Ground Rules for Team Management
 - Assign Tasks

Root Cause Analysis

- Step 3 Conduct the RCA
 - Meeting 1: Present the Event, Flow Chart or Time Sequence the Events Known, Assign Tasks to Members
 - Meeting 2: Review Findings from Tasks, Edit the Flow Chart or Time Sequence, Identify Causal Statements, and Develop an Action Plan
 - Meeting 3: Establish Effectiveness Measures and Communication Plan

Root Cause Analysis

- Step 4 Develop an Action Plan
 - Literature Review
 - Review Findings From: Policy & Procedures, Interviews, Site Visits, Equipment Investigations,
 - Determine Contributing Factors and Root Causes
 - Formulate Causal Statements
 - Identify System Changes with Prevention Plan
 - Assign Responsibilities

Root Cause Analysis

- Step 5 Measure the Effectiveness of Plan
 - How will you know success when you see it?
 - Develop strategy for culture change
 - Strategy must impact the root cause
 - Education, policy & procedure changes least effective
 - Plan concurrent reviews to determine effectiveness

Root Cause Analysis

- Step 6 Communicate the Findings
 - Plan For Staff Feedback
 - Patient Safety Walkrounds
 - Newsletters
 - Develop a "Press Release"

Compliance Rounds

- Routine environmental rounds
 - Water Temps, call-lights, room management, infection control, bed device management etc.
- Preventative Maintenance
- Proper drug storage
 - Medication Pass
 - Medication Rooms

Guardian Angel Program

Use of Clinical Round Auditors:

- **Advocacy for facility resident (s)**
- **Regularly randomized reviews**
- **Selection of a cross spectrum of key staff from all disciplines**
- **Documented process for QA/QI**
- **Performance Improvement through all staff trained**

Case Study

Other Resources

Advancing Excellence

How to get involved:

- Facilities are encouraged to join the campaign and can sign up for at:
www.nhqualitycampaign.org
- Quality Materials are available on the Web: www.MedQIC.org

Advancing Excellence

- State QIOs also can provide facility support. All QIOs names, addresses and other contract information are listed on the MedQIC Web site.
- CMS access to data is through Nursing Home Compare as previously available along with aggregate data results posted to the campaign on a quarterly basis.

Advancing Excellence Campaign Eight Goals:

- Reduce Pressure Ulcers
- Reduce Restraint Use
- Improve Pain Management
- Set STAR Targets
- Conduct Satisfaction Surveys
- Improve Retention of Staff
- Increase/use Consistent Assignments

**Best Practice Examples
That ARE Practical:**

- AT Risk Clinical Meeting
- Photographic Evidence
- Monitoring of Hazards through Compliance Rounds
- Use of Refusal of Treatment
- Abuse Prevention
- Focus on Resident
- Auditing Documents
- Always BE READY
- Build and Maintain The BEST TEAM

**Patient At RISK (PAR)
Clinical Meetings
"Best Practice"**

Interdisciplinary team meeting once per week to identify at-risk residents:

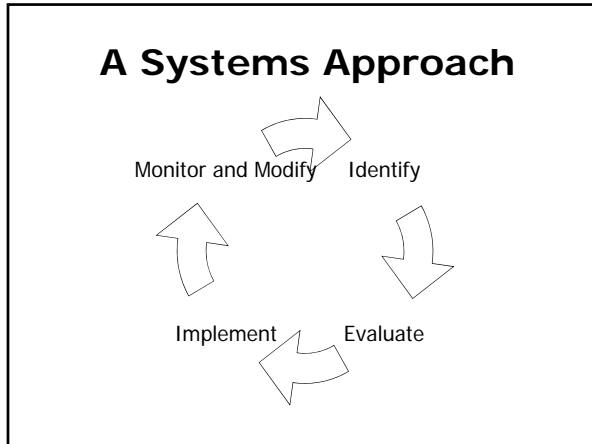
WHO: NHA, DON, RD, Rehab, Pharmacy, Medical Director, Social Worker, Activity Director, Hospice

What: At risk issues that have occurred over the course of past week:
falls, investigations, new behaviors, new open areas, weight changes, restraint/devices in use, and end of life changes etc.

Why: Communication of events, interventions put in place, evaluation of significant change of condition, and care plan changes made

What measures will be put into place or systemic changes made to ensure that the deficient practice will not occur.

- Random audits will be completed weekly by the unit manager to ensure that.....Any concerns identified will have immediate corrective action and will be forwarded to the DON and CQI/PI Committee for further resolution.
- The policy and procedure has been revised to ensure that.....
- The DON or designee will review 10% of the records weekly. Any issues identified will have immediate follow up for corrective action. All results will be forwarded to the CQI/PI Committee.



Lastly Create a Culture Demonstrating The "Home" We'd All Want to Live and Work In

- Focus on effective systems
- Teamwork to accomplish the mutual goals
- Create a culture of high quality performance
- Make the facility the type of home your residents want to live in.

