

# Civil Money Penalty Aromatherapy Grant Final Report

---

## Efficacy of Aromatherapy for Use in the Elderly

### Abstract

This paper describes the collaboration of several nursing homes located in Wisconsin to expand the use of aromatherapy through the use of therapeutic grade essential oils. Participating organizations attended a workshop to learn about the history of essential oils and to receive the materials and supplies required to implement a successful program. Eleven organizations attended the workshop and received training and supplies to implement the program within their organization. Over the course of the year, two organizations dropped out of the study as a result of internal turnover or an inability to garner support for the initiative within the organization. Three organizations demonstrated significant success with the program and remain fully engaged to continue the program beyond the term of the grant. The remaining organizations, while still involved have a greater challenge to continue the program due to internal turnover of key champions and leadership.

Each organization identified the focus for their particular resident population and submitted data on a monthly basis which was tabulated for the final results. Resident participants demonstrated increased activity, joint flexibility, decreased agitation and improved quality of life.

Data was collected and submitted on a monthly basis for each person in the study that covered a 7 month period; 1 month of baseline PRN usage prior to aromatherapy and 6 months of medication use following the implementation of aromatherapy. Submission of data was voluntary in the part of the participating organizations and this proved to be a challenge for several facilities that had staff turnover in key positions, especially that of the "champion". It was also evident that if there was turnover in administrative positions or of administrative priorities changed it resulted in lackadaisical commitment and inconsistent submission of data. Three organizations demonstrated significant reductions in medication usage as a result of using aromatherapy. The remaining organizations showed some reductions but not as marked. This is attributed primarily to staff turnover of key champions within the organization and lack of engagement by staff and administration to adopt a successful program.

### Research Review of Literature

The use of essential oils is a highly under-utilized modality for addressing physiological issues in residents in the long-term care facility as well as outside the facility in the general population. The history, benefits and success of essential oil therapy is well-documented and is thousands of years old. It is referenced in the Bible and has been in use in Far Eastern and Central European cultures for centuries. Western Medicine lags far behind in fully utilizing what is commonly referred to as "God's Medicine Cabinet" with the usual mode of treatment to resort to pharmaceutical interventions to resolve evident symptoms.

Aromatherapy is one of the fastest growing therapies in the world today and is defined as the "skilled and controlled use of essential oils for physical and emotional health and well-being."<sup>1</sup> The name "aromatherapy" is deceiving in that the practice includes applications beyond olfactory stimulation and the diffusion of oils in the ambient air. Essential oils are produced by the leaves, roots,

## Civil Money Penalty Aromatherapy Grant Final Report

---

stems, fruits or flowers of aromatic plants and are extracted through a process of steam distillation or cold expression. The volatile aromatic substances contain an essence of the plant form.

Traditional Western medicine approaches to physiological issues rely significantly on pharmacologic interventions to resolve issues. Many times this process does not “peel the onion” to uncover the underlying physiological issues at hand. As a result the Western culture is one that is grossly over-medicated. This becomes very apparent when a resident is first admitted to a nursing home or assisted living facility and an inventory is taken of current medications the resident is taking. The average nursing home resident receives 8.1 medications administered 2.2 times per day or 17.8 administrations per day. <sup>ii</sup> Further, all medications, by their very nature of being created in the laboratory create side effects to the human body. This is even further compounded when multiple medications interact with each other and react in the human body. Elderly residents are especially susceptible to these reactions as their physiology changes with age and the body can no longer eliminate toxins and chemicals from the body as effectively.

Essential oils are just that, the essential oils within a particular plant that are derived through steam extraction and concentrated to a level that creates a therapeutic effect. More studies are being conducted and information is becoming available on almost a daily basis where these oils are used effectively to treat chronic issues such as headache, nausea, agitation and to manage pain. For the purposes of this research, the organizations utilized Young Living® for the therapeutic grade quality of the product and the amount of documented research to the qualities of the oils.

Consistent use of oils was important to assure that responsiveness to aroma therapy would be measured and to that end, the organizations identified the following essential oils to be effective in addressing specific physiological symptoms in the resident population:

Symptom	Oil
Anxiety	Lavender Peace & Calming Surrender
Agitation	Peace & Calming Surrender Harmony
Pain	Panaway Relieve-It Orthoease Orthosport
Lethargy, Moodiness, Anger	Purification Lemon
Arthritis/Circulatory issues	Peppermint
Mental/emotional unbalance	Valor
Respiratory	Frankincense

Staff was trained in the initial phase of the study in order to provide a deeper understanding of essential oils and to increase the consistency of the specific types of oils and frequency of application. Champions for each organization received one-day training in February 2011, prior to indentifying

# Civil Money Penalty Aromatherapy Grant Final Report

---

resident for inclusion in the study. Additional education was provided at participating organizations as requested by the nurse consultant for the grant.

The integration of essential oil therapy complements nursing practice from its' earliest days. Florence Nightingale described healing as an innate and natural process and that the purpose of nursing is to place the person in the best condition for this natural process to flourish.<sup>iii</sup>

## Research Process

Resident participants in the grant were selected by clinical staff based on the desire to address specific behaviors and conditions and to improve the individual's quality of life. In order to measure the effectiveness of the aromatherapy interventions, each organization measured the reduction in PRN medications administered, comparing the normal dose administration one month prior to administering aromatherapy and the subsequent months following.

All participants were required to have a diagnosis of dementia, or chronic pain. After the initial training in February, the Grantee (St. Paul Elder Services) was informed that grant monies would be available through the end of the calendar year. This extension allowed participating organizations to add more residents to their study through June of 2011, thereby providing six months of data to demonstrate medication reductions.

Data was collected on a monthly basis and compiled by Laura Femal, a nursing home administrator candidate as part of her practicum.

## Funding Sources and Community Support

In addition to the \$21,000 Civil Money Penalty Grant that was awarded for this study, the Grantee was also successful in obtaining donated essential oils from Young Living®, the company that produces the essential oils used in this study. The company agreed to provide each participating organization \$150 of product for a six-month period. The value of this donation came to approximately \$8,100.

This greatly enhanced the ability of the Grantee to provide more support in training and education to participating organizations throughout the term of the grant.

## Findings

At the conclusion of the study (December 31, 2011) nine organizations reported findings of varying results. All nine organizations had an overall medication reduction rate of 47%. It is interesting to note that St. Francis Home actually indicated a 18% increase in medication usage. This is explained because of a rather small sample (six residents), three of whom passed away during the course of the study. Within this sample, four of the six had significant medication increases in the initial months following implementation of aromatherapy. This pattern was also noted to occur in the initial 2009 study and is attributed to the increased diligence of staff to monitor medication use and effect and the heightened attention paid to the resident. In the initial study, this increase in medication use was temporary and did taper off. By September, the final month of data collection, there was actually a 63% medication reduction among the three remaining residents involved in the study.

Far and away the organization that had the most consistent and best outcomes was Homme Home of Wittenberg. With an overall medication reduction rate of 74%, Homme Home implemented

## Civil Money Penalty Aromatherapy Grant Final Report

---

and monitored the effectiveness of aromatherapy and their residents enjoyed significant benefits and improved quality of life. The success of the program is due directly to enthusiasm and degree of engagement that staff demonstrated to bring this to their residents. The outcomes were so positive that a benefactor purchased diffusers for each resident room in the nursing home and their story was highlighted by a Wausau newspaper. Homme Home management is now in the process of expanding the success of their program to their assisted living facility in Wausau.

Facility	% Reduction
Homme Home	0.74
Bethel Home	0.63
Pleasant View	0.54
St. Francis Home	-0.49
Sheboygan Senior	0.28
Attic Angel	0.42
Rebekah Haven	0.91
Fond du lac Lutheran	0.93
Oakwood Village	0.28
Overall Average	0.47

The nursing staff of a participating organization noted improvement in kidney function test results of residents after utilizing essential oil therapy to control pain. This outcome is the result of the ability of the kidney to function more effectively because it does not have to filter out the toxic medications or content with many of the negative side effects that many laboratory medications create. A breakdown of the kidney function as measured by the Glomerular Filtration Rate (GFR) follows:

Resident	Date of Lab 1	GFR	Date of Lab 2	GFR	Difference in GFR
4438 DF	5/14/2011	70	12/13/2011	91	+21
4287 DG	9/13/2011	98	12/28/2011	102	+4
4501 PK	5/17/2011	54	Jun-11	57	+3
1588 EM	7/12/2011	52	no additional labs		n/a
4376 NS	2/1/2011	88	8/16/2011	114	+26

Glomerular Filtration (kidney function)

Additionally, there are individual testimonials of people who experienced significant improvement in their health status after using essential oils:

Barb is a 75 year old female who had severe congestive heart failure and was admitted to a participating facility. Upon admission she had a prognosis of 2 weeks and was advised to “get her affairs in order.” In doing so, she disposed of all of furnishing and household items in the belief that she was terminally ill and dying.

At the time of admission, she was on 10L of oxygen per cannula and had severe edema in her lower extremities. Her ankles were especially swollen and red and measured approximately 5 inches in diameter. For the eight months preceding her admission she was only able to sleep in recliner.

# Civil Money Penalty Aromatherapy Grant Final Report

---

She was admitted in early June and one month later (early July) she began diffusing frankincense essential oil in her room. After several weeks she decided to discontinue using the oxygen at night as she was feeling better. She did fine without it and then decided to try walking to the dining room without her oxygen, which she also accomplished without any problems.

She eventually improved to the point where she was discharged from the hospice program and eventually from the nursing home. This took a bit longer than expected because her friends in her church had to obtain furniture and household items for her apartment as she had disposed of everything upon her move into the nursing home. She did move into her apartment in October and is now living independently.

Shirley is an 80 year old female living in an assisted living facility. She has asthma which she has successfully managed for many years using a prescription inhaler has ordered by her pulmonologist. The inhaler (Albuterol) is effective because it opens the airway, but also can cause anxiety, racing heart, redness and nausea. The inhaler cost \$250 and lasted for about one month.

In November Shirley decided to try Raven© essential oil. After her pulmonologist reviewed the oil and found nothing of concern, Shirley began using the oil (a couple of drops) by applying it directly to her chest while she dressed in the morning and again in the evening when she got ready for bed. She also carried the oil with her to have in the event she needed it during the day. A bottle of Raven© cost \$39.

By the end of December Shirley has had tremendous success with the oil. She has used her inhaler only a few times since she started using the oil and has found it to be very effective and much less costly than her inhaler.

---

## Notes

<sup>i</sup> Holistic Foundations of Aromatherapy for Nursing, Marlaire C. Smith, PhD, RN, AHN-BC, FAAN, Laraine Kyle, MS, RN, CMT, CAT

<sup>ii</sup> The Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill, Nursing Home Medication Error Quality Initiative Report: Year 3, October 1, 2005 to September 30, 2006

<sup>iii</sup> Smith and Kyle (ibid)

## APPENDIX A

Homme Home		Start Date	PRN Pain Meds Used per Month for Grant Period												% Reduction
Resident	PRN Base		March	April	May	June	July	August	Sept	Oct	Nov	Dec			
4438 DF	32	4/1/2011	X	14	12	9	12	4	4	10	8	5			
4357 GF	12	4/1/2011	X	5	1	3	4	12	0	1	6	6			
4287 DG	16	4/1/2011	X	7	0	1	2	6	4	4	7	11			
4501 PK	26	4/1/2011	X	13	8	5	5	1	4	3	4	4			
1588 EM	10	4/1/2011	X	3	0	2	2	14	6	7	5	4			
4376 NS	37	4/1/2011	X	23	9	7	2	4	4	4	4	1			
<b>TOTAL</b>	<b>133</b>		<b>65</b>	<b>30</b>	<b>27</b>	<b>27</b>	<b>27</b>	<b>41</b>	<b>22</b>	<b>29</b>	<b>34</b>	<b>32</b>	<b>74%</b>		
			<b>51%</b>	<b>77%</b>	<b>80%</b>	<b>80%</b>	<b>80%</b>	<b>69%</b>	<b>83%</b>	<b>78%</b>	<b>74%</b>	<b>76%</b>	<b>74%</b>		

Bethel Home		Start Date	PRN Pain Meds Used per Month for Grant Period												% Reduction
Resident	PRN Base		March	April	May	June	July	August	Sept	Oct	Nov				
MS	31	4/1/2011	X	17	22	14	6	10	5						
BS	20	4/1/2011	X	12	X	X	X	X	X						
GJ	17	5/1/2011	X	X	21	X	X	X	X						
CB	19	5/1/2011	X	X	8	0	0	2	3						
<b>TOTAL</b>	<b>87</b>		<b>29</b>	<b>51</b>	<b>14</b>	<b>6</b>	<b>12</b>	<b>8</b>	<b>91%</b>				<b>77%</b>		
			<b>67%</b>	<b>41%</b>	<b>84%</b>	<b>93%</b>	<b>86%</b>								

Pleasant View		Start Date	PRN Pain Meds Used per Month for Grant Period												% Reduction
Resident	PRN Base		March	April	May	June	July	August	Sept	Oct	Nov				
RS	37	3/11/2011	34	32	33	32	6	0	0	0					
EH	5	3/11/2011	5	4	6	4	4	X	X	X					
CB	12	3/11/2011	9	8	8	9	2	1	0	3					
<b>TOTAL</b>	<b>54</b>		<b>48</b>	<b>44</b>	<b>47</b>	<b>45</b>	<b>12</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>94%</b>		<b>54%</b>		
			<b>11%</b>	<b>19%</b>	<b>13%</b>	<b>17%</b>	<b>78%</b>	<b>98%</b>	<b>100%</b>	<b>94%</b>					









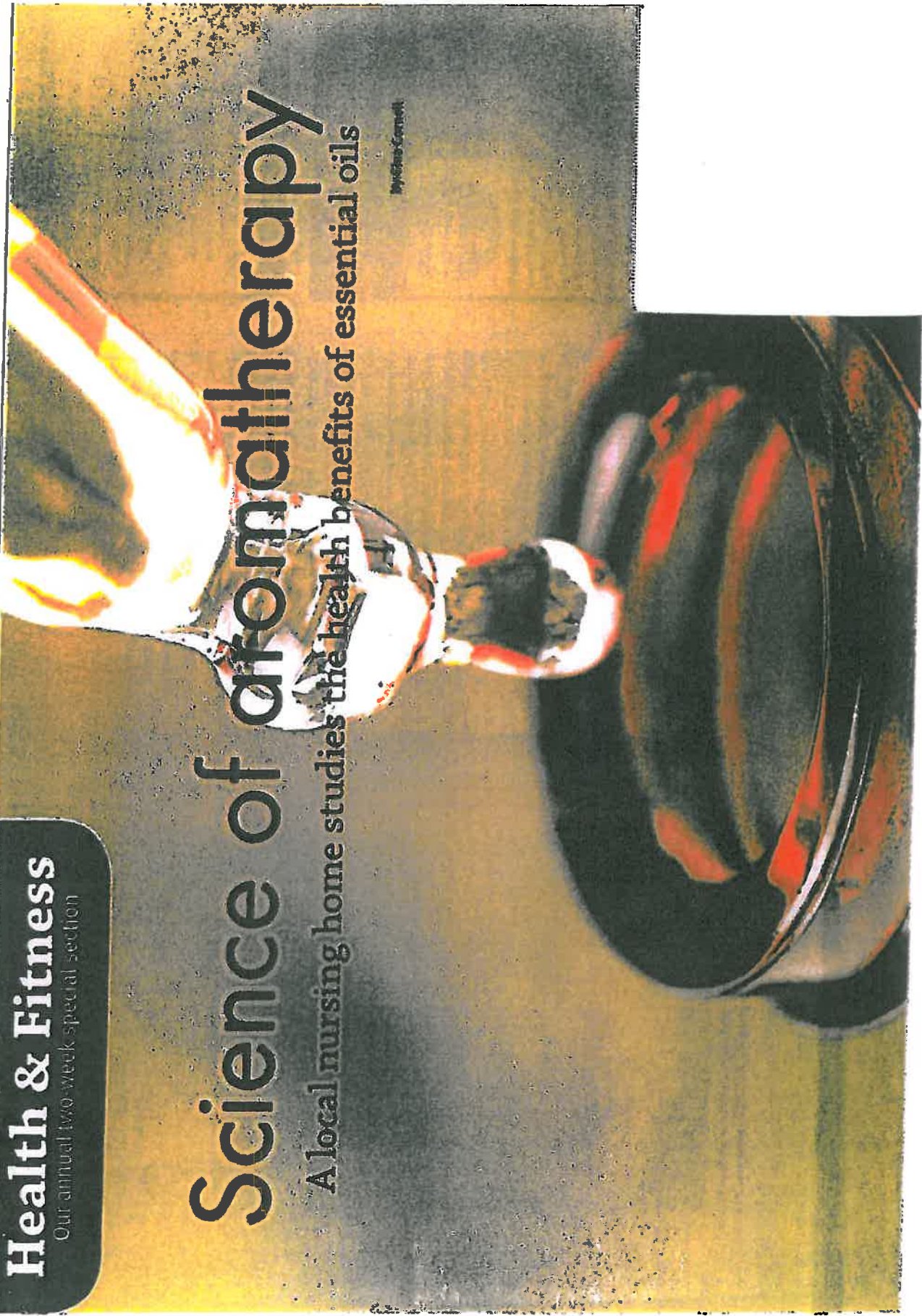
**Health & Fitness**

Our annual two-week special section

# Science of aromatherapy

A local nursing home studies the health benefits of essential oils

By Susan Corbett



**About a year ago Homme Home of Wittenberg was approached to see if they would like to be involved in a study using essential oils and their possible health benefits to dementia patients.**

"Of course we were very excited," says Justin Cieslewicz, Homme Home's administrator, though initially he was a bit skeptical. "I looked at it as the glass half full and thought we'd give it a try."

The study was run by St. Paul Elder Services out of Kaukauna. State funding for that grant ended in December, but what Homme Home has seen in the raw data as well as anecdotally has convinced Cieslewicz to keep the program going, whether the state decides to get involved again or not.

Homme Home began the essential oil study last April, focusing on six residents in their dementia unit, all of whom are on the state's Medical Assistance plan, a request of the grant. They tracked the PRN (as needed) medication usage for anxiety and pain as they used various essential oils in the clients' rooms through a vapor diffuser and in topical approaches such as oils mixed in lotion.

"We saw after the first month alone, the PRN for medications dropped in half," says Cieslewicz noting the study's numbers. "Sure there were some peaks where

we did use more PRNs, but we maintained a 75% reduction of medications for the study overall."

It all began when St. Paul took part in an initial grant in 2009 which utilized both aroma and massage therapies. "Fifteen of our residents were on it. We saw in that study some great results," says Jim Fett, president of St. Paul Elder Services.

At the end of the study he wanted to know which of the two therapies had been more effective, the oils or massage. So Fett penned another grant request for a study to look solely at the benefits of aromatherapy. The study would be paid for through the Wisconsin's Civil Money Penalty Fund. This fund consists of fines levied against nursing homes for infractions. St. Paul was awarded \$21,000 for a grant which included 11 other nursing homes in the state. Homme Home was one of them.

Homme Home has been the stellar performer out of every facility that participated this past year, says Fett. "They really have had phenomenal results," he says. All of the facilities had some degree of success, but he attributes the performance of Homme Home to the work Cieslewicz did in his facility. "You need a champion of the program in that key position. Justin was such a champion."

**Homme Home's data shows promising results for the reduction in medicine usage. A surprise came when Cieslewicz and his staff looked at lab analyses of the six patients and their liver glomerular filtration rate (GFR) over the course of the study. GFR shows how the kidneys are functioning. An elderly person should have a GFR of 60 or higher. "We were watching their labs and four out of the six residents had improved kidney function. One had a GFR of 70 [in the beginning of the study] and they went to 91," he says. Another jumped from 88 to 114.**

"We have no direct correlation why it improved, but one of the ideas is because we had been utilizing the essential oils and using less of the as-needed anxiety and pain meds, which would have side effects [on the liver]."

Appetite also has improved for the residents on the dementia unit. "What we noticed with the citrus or lemon-type oils, when we used them in the common dining area in the dementia unit, residents would eat more," Cieslewicz says. "It's a good thing since dementia patients have more of a risk for weight loss. The essential oils are giving them more of an appetite, we are not having the significant weight losses. [That] leads to a better quality of life for a longer period of time."

continues on 10 →

Brenda Wedemayer, a registered nurse and manager of the dementia unit at Homme Home says what she's seen in the past year has been "phenomenal."

"I went to the initial training and was totally skeptical that essential oils would have any benefit," she says. "It's the nurse in me, I didn't see how breathing in something which isn't a medication could help. My clinical side thought it was a hoax. But as I got into the program and saw the data, the numbers don't lie, the data doesn't lie and we've seen some behaviors decrease. It was unbelievable."

Staff has noticed a change in themselves as well. "Working on a dementia unit can be very stressful and long-term care, every day is very busy," says Wedemayer. "In the past staff was saying at the end of the day they were really stressed out. Since we've been using the diffusers, they aren't as stressed out... they aren't as exhausted as before."

The only change in the unit was the oils. Wedemayer points out. "There's not been anything different. We have the same staffing ratios we've always had. The only thing that is different is the diffusers."

**If essential oils can reduce the need for medication, it could help the state realize cost savings as some of the medications patients take are costly, says Cieslewicz.** "With residents through Medical Assistance, the state is always looking at ways to cut. If they would decide to put money toward essential oils in nursing homes, I haven't crunched all the numbers, but I would imagine it would save taxpayers money in the long run," he says. "And give residents a better quality of life."


In Fett's facility in Kaukauna, he has seen marked improvements in residents

who uses an inhaler for severe asthma, at a cost of roughly \$250 a month, he says. "She started on Raven, a blend of essential oils, in mid-November. Since she's been using Raven, she had to use her inhaler only three times. It's been virtually eliminated," he says. "Her doctor doesn't see anything wrong with the ingredients [in Raven] and is on board with it." Raven, a special blend created by the company Young Living Essential Oils, is around \$39 a bottle and lasts a month and a half, says Fett.

The grant money paying for the oils ran out at the end of December and Fett is in the final stages of submitting a new grant to the state. "So, right now we have no idea if it will be re-funded."

In the beginning of the grant, Young Living Essential Oils gave a \$150 coupon credit per month to all facilities participating in the grant to help offset the cost of the oils, says Cieslewicz. "At the end of the grant Young Living stopped providing the coupon, so we made very large orders, roughly \$600 to \$700 for the month of November and December so we can continue to use the program in the coming months."

Forest Park Village in Wausau (which is under the Homme Home umbrella) has also started to use the oils recently, he says. "Regardless of whether Wisconsin does fund the oils, Homme Home believes so strongly in the benefits, I am budgeting for them in the future," Cieslewicz says.

Homme Home is hoping to raise money to offset the cost through essential oils sales to their staff and the community at both the Homme Home of Wittenberg and Forest Park Village in Wausau. For more information contact: 715-253-2125 in Wittenberg and 715-845-1214 in Wausau. 

### Essential oil quick tips

- Because these oils are very potent — some can dissolve a hole in wood furniture varnish — many should not be applied undiluted directly on the skin. Lavender is usually an exception, but always test first. People with sensitive skin or allergies might react even to dilutions of certain oils.
- Rosemary and eucalyptus oils have pleasant aromas and anti-inflammatory qualities that can help relieve sinus congestion. Place a few drops in a large, steaming bowl of hot water, drape a towel over your head and inhale for several minutes.
- Rosemary also is a mild analgesic and a proven anti-microbial. A drop diluted with water or lotion immediately relieves bug bites and minor scrapes (which is why I always carry a small vial in the family travel bag).
- Most essential oils are anti-microbial, but tea tree oil is renowned for its anti-fungal properties. This makes it popular for use in foot lotions and homemade bathroom cleansers. For a cleaner, add several drops to some water and liquid soap or detergent (in a small bucket or spray bottle). Sprinkle the surface with a bit of baking soda and scour.
- All-in-one body-room- linen spray: Add several drops (about 8) to about 8 ounces of water in a spray bottle. Popular oils to combine include lavender, eucalyptus, lemon, rosemary and bergamot.
- As a deodorizer, peppermint, rosemary and tea tree oils are popular. Fix stinky shoes by washing or wiping with a strong mixture of water, oils and a bit of soap. A dab of lotion spiked with a few drops of oil is an effective remedy for funky feet and toes — which will just pick up the bacteria bloom of stinky shoes, so fix both at the same time.
- You'll find countless recipes and tips on the Internet. One of the best resources for beginners is [aromaweb.com](http://aromaweb.com), which also has information about the many books on the subject.

(tips by Tammy Staszniak)



Tracy Cortright prepares an aromatherapy air diffuser at Stone Crest Residence, part of Homme Home's Forest Park Village operations in Wausau

## Other aromatherapy and essential oil uses

We are just seeing a fraction of what essential oils are capable of doing, says Barbara Fett R.N., a certified aromatherapist, a distributor for Young Living Essential Oils, and the nurse consultant to the grant written by her husband, Jim.

"For example, I think there are more and more studies being done on frankincense and cancer. Even though essential oils have been used for thousands of years... people are realizing how powerful they can be," she says.

When essential oils are inhaled through the nose and enter the limbic system, they can have some powerful effects, says Fett. "The amygdala and limbic part of the brain is where we store our emotions and memories... which is why it can have powerful impact on the Alzheimer population," she says.

"Depending on the types of oils used it can calm anxiety and disruptive behaviors associated with Alzheimer's. It can make them more restful and more comfortable," she says. "And topically it can be used to help reduce pain."

But essential oils don't just benefit the elderly and those suffering from dementia. "They can be beneficial for anybody, including pets."

Essential oils are known to help with sleeplessness, stress, respiratory problems, and many are proven to be anti-bacterial and anti-fungal.

Use as pure of an oil as you can find, she says. Especially if you're inhaling it, you don't want chemical additives found in cheaper oils, but rather a therapeutic grade product, says Fett. You also don't want just a perfume grade oil. "That's one important distinction," she says. Knowing your source is important because not all essential oils are created equal. Some companies choose to adulterate their oils with chemical extenders.

Oils can be combined or stand alone to use for different ailments, says Fett. "Raven [by Young Living] is actually a blend of oils for respiratory issues," she says. The proprietary blend of Peace and Calming has been found to be beneficial to Alzheimer patients. Thieves is a blend that is highly anti-microbial and helps boost the immune system, says Fett.

Other popular oils include lavender, peppermint and melaleuca. Lavender and peppermint are used quite often to help with calmness and with breathing and pain, among many other things. "Those are the two 'Swiss Army knives' of oils."