



Applying a quality use of medicines framework to using essential oils in nursing practice

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Summary Nurses are increasingly incorporating complementary therapies into their practices. Aromatherapy is one of the most popular therapies. The basis of aromatherapy is essential oils, which are chemically active substances with a long history of safe traditional use and a growing evidence base to support their use in nursing care. In Australia, essential oils are classified and regulated under the same policies as conventional medicines such as the National Medicines Policy and the Quality Use of Medicines (QUM) framework applies. QUM is a framework for selecting and using medicines safely and effectively if medicines are indicated. The key elements of QUM are a systems-based approach to using medicines based on relevant evidence, partnerships, and informed client consent. Clients are placed at the centre of a QUM medication management process, which is consistent with holistic care. Applying a QUM approach to essential oil use, Quality Use of Essential Oils (QUEO), involves developing effective systems for managing essential oils from an holistic perspective that includes structured assessment and diagnostic processes to enable effective essential oil prescribing and outcome monitoring. In a QUEO approach, essential oils are integrated into the client's overall medication regimen and care plan rather than being used as 'add-ons'. Adopting QUEO is consistent with the current national focus on the quality use of therapeutic substances, increases the profile of aromatherapy in nursing care and provides important information to guide future aromatherapy practices.

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Introduction

Complementary therapies are increasingly being used by the general public and in nursing care.^{1,2} In Australia, the Therapeutic Goods Administration (TGA) recalled >1600 complementary medicines

from the market in 2003 because they failed to meet manufacturing standards.^{3,4} One effect of the recall was to reduce the confidence of the Australian public in complementary medicines. As a result of the recall, an expert committee was appointed to monitor confidence in complementary products, consider regulatory and industry issues and ensure complementary therapies meet the

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objectives of the National Medicines Policy (NMP). The Minister's response was announced in mid March 2005, but it is expected there will be changes in the way complementary therapies are managed in Australia. One possible change is that complementary therapists will be expected to apply Quality Use of Medicines (QUM) processes when the therapies involve 'medicines', for example, herbal therapies and essential oils.

Anecdotally, aromatherapy is one of the most popular complementary therapies nurses use⁵ and nurses consider they incorporate complementary therapies into usual nursing practice, especially in aged care, palliative care and in medical wards. Wallis et al.⁶ found that 15.5% of $n = 129$ of a convenience sample of nurses working in four hospitals in Southeast Queensland used complementary therapies. Aromatherapy was the sixth most commonly used complementary therapy after massage, music therapy, relaxation therapy, therapeutic touch and meditation. It was not clear from the results whether massage and aromatherapy were used together. Dunning⁷ found 16 of a convenience sample of 38 diabetes nurse educators (DNE) used complementary therapies regularly in their practice and aromatherapy was one of the most frequently used therapies. It was of concern that only one DNE in Dunning's study had a complementary therapy qualification.

What is aromatherapy?

Aromatherapy is often defined as the controlled use of essential oils obtained from named botanical sources to assist the body to heal itself. Inherent in this definition is the notion that essential oils are used in a systematic way (controlled) that involves assessment, diagnosis and appropriate choice of essential oils by suitably qualified practitioners to achieve safe and effective outcomes. The term "controlled" also suggests quality products are used and safety and efficacy are considered. However, an aromatherapy treatment does not only consist of essential oils.

The method used to apply (topical) or administer (inhalation and internal use) the essential oils may contribute to the treatment effect and the overall outcome is influenced by the relationship between the therapist and the client, known as the therapeutic relationship. The treatment (essential oils and the application/administration method) account for ~15% of the effect, patient factors represent ~40%, therapist factors ~30% and hope ~15%.⁸ Therefore, nurses using essential oils in

nursing care must consider all of these factors as well as any conventional therapies being used concomitantly. The most commonly used essential oil application/administration methods are inhalation and external applications such as massage, baths and compresses. Internal dosing is not standard aromatherapy practice in Australia. However, essential oils are constituents of some conventional medicines as well as over-the-counter medicines and foods and are regularly ingested in those dose forms.

Essential oils—are they medicines?

Some aromatherapists and nurses will disagree with the notion that essential oils are medicines. Likewise, "There is no internationally accepted collective term to describe the group of products regulated in Australia as medicines...".³ In Australia, the term 'medicines' encompasses herbs, vitamin and mineral supplements, homeopathic medicines and "...aromatherapy oils (where they make therapeutic claims)".^{3,4} Therefore, essential oils are clearly defined as medicines in Australia, thus when they are used in nursing care they are subject to the NMP and QUM framework. Nurses using aromatherapy therapeutically may need to ensure current policies and management processes meet these requirements.

There is international agreement that essential oils are complex chemical substances derived from plants. The chemical structure of an essential oil determines its particular therapeutic effects and has implications for potential adverse effects and interactions, hence the importance of knowing the botanical source of the essential oils being used. The chemical formulas of essential oils are similar to the formulas of conventional medicines. An essential oil may contain hundreds of chemical components; each component contributes individual properties to the essential oil. Individual components may be harmful alone, but have complementary (synergistic) and/or additive effects in a blend.⁹ In addition, some chemical components may 'quench' the potentially harmful effects of other components. Information about the main chemicals in essential oils is well documented in a number of aromatherapy texts⁹⁻¹¹ and essential oil standards and specifications.

An important aspect of the therapeutic use of essential oils is ensuring the products used are of high quality and their chemical composition is constant between batches. A number of agreed standards and specifications for the chemical

components of essential oils have been developed. However, while these standards are very important, one must remember that most were developed for the perfume and food industries, which have different requirements from therapeutic aromatherapy. These standards include:

- International Organisation for Standardisation (ISO), which covers a range of technologies and services including packaging and storing essential oils as well as their composition.
- Research Institute for Fragrance Materials (RIFM).
- International Fragrance Association (IFRA).
- Association Francaise de Normalisation (AFNOR), the French member of ISO.
- British Pharmacopoeia (BP).

A range of analytical tests are undertaken by essential oil manufacturers to determine whether an essential oil meets the relevant standard, for example, gas chromatography, mass spectrometry, infrared spectroscopy, optical rotation, refractive index and specific gravity. Even when an essential oil meets these standards there is no guarantee that the essential oil is pure and unadulterated since manufacturers can be tempted to adulterate, fractionate, extend or rectify an oil to ensure the chemical tests are within the specified ranges. Essential suppliers often carry out their own independent analytical tests to ensure the essentials they supply are pure.

Essential oil quality control and good manufacturing practice are important aspects of QUM. Reputable essential oil suppliers should be able to provide analytical data and guarantee the purity of the essential oils they sell, for example, gas chromatography or mass spectrometry traces and material safety data sheets (MDS). MDS can be likened to the package inserts and prescriber information that accompany conventional medicines and can support the appropriate, informed use of essential oils. Quality control is also an important consideration for medicines regulatory bodies.

Essential oil regulation

Most countries have legal requirements to control the import, export, manufacture and supply of medicinal products, which may or may not include essential oils. In Australia, essential oils are regulated by the Commonwealth Government through the TGA, and the *Therapeutic Goods Act* (1989). Medicines that meet Australian standards

for quality, safety and efficacy are included on The Australian Register of Therapeutic Goods (ARTG) as registered or listed products.⁴

Registered products have 'Aust R' on the label. Registered products include all prescription medicines, some vaccines, most over-the-counter medicines and a small number of complementary therapies, if the therapeutic claims can be supported by evidence. Aust R medicines are subject to extensive evaluation by the TGA before they are registered. Manufacturers submitting their products for registration must include information about the manufacturing process, dose forms, and pharmacology and toxicology in animals and humans to demonstrate the safety and efficacy of the products.

Listed products consist almost entirely of complementary therapy products including essential oils and have 'Aust L' on the label.¹² The risk of adverse events with listed medicines is generally low, and listed medicines are not subject to TGA evaluation before they are listed. However, manufacturers of Aust L products must meet the same manufacturing requirements as manufacturers of Aust R medicines and must hold evidence to support the therapeutic claims they make. The evidence for Aust L products can be subject to random audits by the TGA. The evidence for safety of Aust L products is often established through a long history of safe traditional use, that is the accumulated experience of many practitioners over a very long period of time. The majority of essential oils fit this criterion. However, traditional use is considered to be the lowest form of evidence of therapeutic benefit. Currently, 506 essential oils are listed on the ARTG and none are registered.

Some medicines compounded for *individual* clients are not regulated. Essential oil blends prepared for individual clients probably fit this category. However, each individual essential oil and carrier substance, the blend, and blends prepared by essential oil suppliers for specific *conditions* (not individuals) are subject to regulation. In the UK, essential oils are regulated through various acts and policies including *Control of Substances Hazardous to Health* (COSHH) (1994) and *Chemical Hazards Information Packaging* (CHIPS) (1996) policies.¹³

Accepting the premise that essential oils are medicines, it is now possible to examine how a QUM framework applies to using essential oils in nursing care.

Quality use of medicines

The notion of QUM arose out of an international meeting conducted by the World Health

Organisation in 1985 to discuss the role of medicines in health care and the importance of countries having national medicines policies to improve the widespread misuse, under use and overuse of medicines. By the 1990s over 80 countries, including Australia, had national medicines policies in place. QUM refers to a process of selecting medicines wisely, choosing suitable medicines if medicines are indicated and are the best management option, and using medicines safely and effectively. QUM involves partnerships between manufacturers, policy makers, governments, and medicine users—health professionals and consumers.¹⁴

QUM emphasises risk management and prevention, and encompasses the whole spectrum of medicines, that is, prescription, non-prescription and complementary medicines including essential oils. QUM is underpinned by five key principles:

1. The primacy of the consumer.
2. Partnerships.
3. Consultative, collaborative and multidisciplinary activity.
4. Systems-based approaches.
5. Supporting existing activities.

QUM is supported at practitioner level by six building blocks that are based on evidence, expert opinion and regulatory processes:

1. Policy development.
2. Co-ordinating QUM activities.
3. Providing objective, ethical information about medicines.
4. Educating and training health professionals and clients.
5. Providing appropriate interventions.
6. Research and evaluation.

QUM principles and building blocks can be incorporated into aromatherapy nursing care on all levels. The term “Quality Use of Essential Oils” (QUEO) was coined to refer to a systematic holistic approach to using essential oils based on QUM and underpinned by a thorough client assessment including physical, psychological, social and spiritual parameters.

Quality use of essential oils

QUEO encompasses *managing* essential oils rather than just *using* them. Nurses are familiar with the ‘five rights’ of conventional medicine administration traditionally used as a surrogate measure of

quality medicines use. These five rights can be applied to essential oil use. However, the ‘five rights’: right person, right medicine, right dose, right route and right time, only pertain to one small aspect of managing medicines and essential oils—the *task* of administering the dose.

QUEO emphasises a holistic client-centred process that includes:

- Prescribing or selecting essential oils for specific indications to meet defined client-agreed management goals and considering the application/administration method.
- ‘Dispensing’ or preparing a blend for immediate use and/or the client to use at home in self-care.
- Administering the appropriate dose of essential oils, using an appropriate application/administration method.
- Documenting the episode of care. Documentation encompasses communicating with and/or referring to relevant colleagues if indicated.
- Monitoring positive and negative outcomes to determine whether the management goals are met using objective as well as subjective outcome measures.
- Educating the client and other relevant carers about essential oils where appropriate.

A QUEO decision-making flow chart is shown in Fig. 1. In addition, a QUEO framework can make a significant contribution to aromatherapy professional practice by demonstrating the:

- Scope of aromatherapy nursing practice.
- Professional basis of essential oil use on both policy and individual levels.
- The value of essential oils in health care and how they can be safely integrated.
- Aromatherapy leadership and research.

Elements of a QUEO framework

The key elements of QUEO are the primacy of the client, partnerships, consultation and collaboration, documentation and communication, outcome monitoring, using a systems-based approach, education and competence, safety and evidence-based practice.

The primacy of the consumer

A key aspect of QUEO is the important, central role of the consumer, and the need to work in partnership with them to achieve effective essential oil

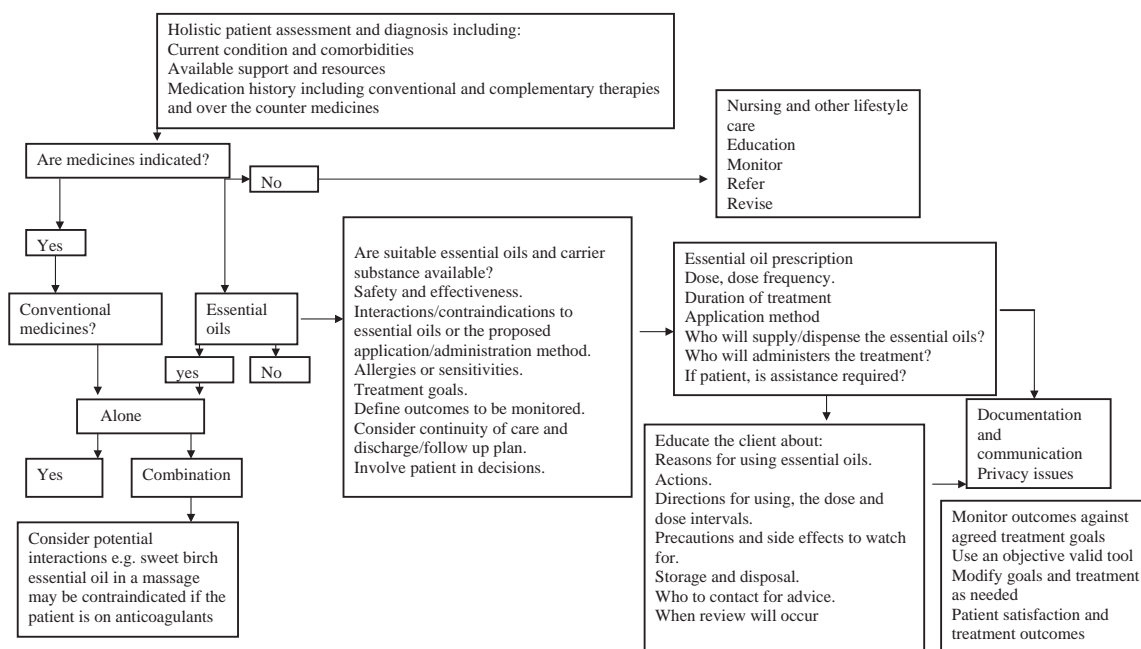


Figure 1 Flow chart illustration of how a quality use of essential oils (QEEO) decision-making can be applied to choosing essential oils.

management. The “therapeutic relationship” is well recognised by complementary and conventional health professionals including nurse- aromatherapists as being central to the healing process.

Partnerships—consultation and collaboration

At an individual level, partnerships involve consulting and collaborating with the client, and with other relevant health professionals and communicating essential oil use to them, to ensure it is integrated into the individual’s overall management plan. On a systems level, partnerships involve developing processes for integrating aromatherapy into the health system, generally and include a wider group of stakeholders such as care organisations, regulatory bodies, industry, the media and health funds. Effective communication and documentation are integral to developing cohesive management partnerships, strategic policies, research collaborations and education and training processes, which underpin therapeutic aromatherapy.

Documentation and communication

Documenting and communicating details of the goals of the treatment, the actual treatment and the outcomes, is essential QEEO practice so that informed decisions can be made about

continuing management options. Currently, at the clinical level, most aromatherapy nursing care is documented on specific forms separate from conventional care plans and other management forms, which suggests aromatherapy is separate, rather than integrated as a QEEO focus advocates. In addition, it is difficult to determine overall benefits for and risks to the client, since separate documentation means the whole care plan is not considered in an integrated way. In Wallis et al.’s⁶ study, only 9% of respondents documented complementary therapy interventions in the nursing notes. Fifteen nurses indicated there were barriers to documenting complementary therapy information and most of these believed it was not necessary to document complementary therapies because they were ‘common nursing practices’. Others felt they were not hospital policy or ‘part of the model of care’ and therefore document complementary therapy use and outcomes were not documented.

Outcome monitoring

Individual outcomes need to be monitored in a systematic way using objective measures as well as subjective measures and including positive and negative effects, which is a holistic approach in keeping with the philosophy of aromatherapy. For

example, an inhalation of *Eucalyptus globulus* for an upper respiratory tract infection might improve breathing (positive) but cause a steam burn (negative). In this example, the application method may have been inappropriate rather than the choice of essential oil.

Subjective measures are also important to help health professionals understand what the treatment means to the individual client (and health professionals), for example, satisfaction with an aromatherapy treatment. Using the *E. globulus* inhalation example, comprehensive, holistic monitoring might include subjective data, the consumer felt... and the nurse observed..., and objective information, the nurse measured oxygen saturation levels, respiratory rate, and blood pressure at defined intervals before and after the inhalation. These outcomes should be documented in the medical record, treatment sheets and any discharge plans and referral letters.

Using a systems-based approach

A number of policy statements and guidelines have been developed for using complementary therapies in nursing, which encompass essential oils.¹⁵⁻¹⁷ In addition, there are aromatherapy-specific local policies developed for use in specific health care facilities. Many of these local policies are not integrated into the same policy manuals as conventional nursing care policies, which, like separate documentation, emphasises their separateness. Under a QUEO framework, existing aromatherapy policies would be supported and extended to other relevant areas of nursing care and reviewed regularly. However, in order to achieve QUEO, local and national policies or guidelines may need to be revised to describe how essential oils can be safely integrated with conventional medicines into nursing practice. Policies or guidelines are key aspects of modern health care delivery and where possible should be evidence based.

Guidelines help promote best aromatherapy practice to the benefit of the consumer as well as to aromatherapy practice, generally. In addition, they outline parameters nurses can work within, and suggest their scope of practice. Guidelines assist practitioners to make management decisions but they do not take the place of sound clinical judgement. Having appropriate references or therapeutic guidelines for essential oils, similar to conventional medicines handbooks, readily available where essential oils are used, is a key aspect of QUEO. A number of 'directories

of essential oils' and essential oil 'desk references' are available.^{18,19}

These publications vary in quality and ease of use. Most repeat the same information and they rarely quote objective, quality evidence to support the indications for use or recommended doses they advise. It is preferable to use an objective text not compiled by an essential oil or pharmaceutical company, which may have a vested interest in promoting their products. Ideally, essential oil references should be available wherever essential oils are used in nursing care in much the same way MIMS, The Australian Medicines Handbook and the British National Formulary are consulted about conventional medicines.

Education, knowledge and competence

Nurses are responsible and accountable for their practice, including using essential oils. QUEO requires essential oils to be managed by knowledgeable and competent practitioners. A variety of aromatherapy courses, workshops and short courses are available that prepare students to practice aromatherapy at various levels. Membership of a professional association that has processes in place to ensure education courses meet relevant standards, include some form of self-regulation, and are committed to ongoing professional development, is an essential aspect of professional practice. No current aromatherapy curricula, even those developed specifically for nurses, addresses QUEO, although the safety aspects of essential oil use are covered. Appropriate education enables nurses to manage essential oils appropriately and holistically.

Education also applies to the client. Clients also need to be informed about the time it takes to deliver a treatment, the dose, dose interval, and expected duration of the treatment and education about self-care if relevant. Ensuring clients have access to quality, essential oil information is one way of supporting the primacy of the client and therapeutic partnerships. As already indicated, a careful assessment, history and diagnosis are necessary to determine the management goals, decide management options, and the outcomes to be monitored (see Fig. 1). If essential oils are indicated, the client must be advised about the benefits, risks and contraindications to essential oils and the application/administration method so they can make an informed choice about whether to use essential oils and the proposed application/administration method.

QUEO and safety

QUEO is concerned with safety and is essentially a risk management approach to managing essential oils based on the old adage ‘first do no harm’, which has been around since the time of Hippocrates. Nurses are familiar with risk management processes and preventative health care. QUEO is a structured way of managing essential oil risks to deliver holistic aromatherapy nursing care. Safety is a complex issue that involves factors relating to the practitioner, the client, the products and the environment.

The client

Factors concerning the consumer include their physical, psychological and spiritual makeup and their social situation and the environment in which essential oils will be used. Safe essential oil use is more likely to occur if the client is educated about how to select and use them and is given time to reflect about their health goals. However, clients and health professionals are likely to have different perceptions of risk. This is in turn dependent on the education and care being delivered by appropriately qualified health professionals. It can be difficult for clients to decide whether an aromatherapist is “appropriately qualified”.

Some questions clients can ask when choosing an aromatherapies are shown in Table 1.

The practitioner

The practitioner and their physical, psychological, spiritual makeup, their social situation and the context in which they work, and environmental factors such as:

- following appropriate infection control procedures,
- cleaning and maintaining equipment,
- informing people in the vicinity if essential oils are being vapourised,
- appropriate disposal of unused essential oils and used products.

The products

For the purity of the essential oils and carrier mediums and the safety of the application/administration method, nurses need to be aware of essential oil quality control procedures and select essential oils that meet these requirements. Some manufacturers indicate their essential oils are pure by applying labels such as “Pure Essential Oil” (PEO) or indicate they are safe for therapeutic using labels such as “Therapeutic Grade Essential Oil” (TGEO). PEO and TGEO are statements of purity and not evidence of safety. Using essential oils with an Aust L number is recommended. Storage conditions before and after purchase must be appropriate to prevent deterioration, oxidation and loss of therapeutic effectiveness. Risks associated with essential oils include:

- a) Indirect risks such as a client:
 - delaying seeking appropriate advice,
 - having unreal expectations of an aromatherapy treatment,
 - using unsafe products,
 - using safe products incorrectly,
 - consulting inadequately trained practitioners.
- b) Direct risks, which include essential oil adverse events such as allergic rashes or interactions with other essential oils, foods or conventional medicines. Although interactions are generally regarded as undesirable in conventional care, in complementary care, interactions are often regarded as beneficial or synergistic. A beneficial effect of an essential oil may enable a lower dose of a conventional medicine to be used or replace a conventional medicine associated with more adverse events. For example, many residential aged care facilities use *Lavandula angustifolia* in place of night sedation.
- c) Environmental hazards such as fire and oil spills causing falls.

Table 1 Questions a client could consider before consulting an aromatherapist.

<p>What aromatherapy education and additional training has the aromatherapist/nurse undertaken? Is the training recognised in any way, for example, was it delivered through an accredited education provider? Does the aromatherapist/nurse belong to a professional aromatherapy association, for example, the International Federation of Aromatherapists? What assessments does the aromatherapist use to decide on the aromatherapy management plan? Does the aromatherapist have professional indemnity insurance? How long has the aromatherapist practised as an aromatherapist? What is the normal frequency and cost of an aromatherapy consultation? Is an aromatherapy treatment covered by a private health insurance provider?</p>

These questions can help determine whether an aromatherapist is appropriately qualified.

Some essential oils and application/administration methods carry more risk than others. The level of risk needs to be determined for the individual. Risks are often discussed in terms of the “relative risk”, which refers to how often an event occurs in a treatment versus a control group, or possibly more usefully the “absolute risk”, which refers to the level of probability an individual will experience an adverse event within a specific period of time. Knowing absolute risks enables nurses to discuss any potential risk of using essential oils realistically with an individual and may be more meaningful to the informed consent process than relative risk. However, perceptions of personal risk are complex and influenced by many issues including the individual’s personal perception of ‘risk’, which is often underestimated (optimistic bias), and the media.

Reducing risks is a positive effect (benefit). An increased risk is a negative effect. In order to decide the risk profile for individual clients nurses need to have some way of determining the toxicity rating of the essential oils they use. Toxicity ratings have been established for most essential oils based on lethal doses (LD₅₀). LD₅₀ ratings are calculated on the amount of ingested essential oil needed to kill 50% of laboratory animals. LD₅₀ ratings may not be applicable to topically applied essential oils or predict chronic toxicity where long-term use or repeated doses of the same essential oil/s leads sensitisation and chronic toxicity.

Other ways of estimating toxicity are the UK COSHH and CHIPS system where very toxic substances are labelled R₂₆ if they are inhaled and R₂₈ if they are ingested. In Australia, essential oils labelled “Aust L” are generally considered to be low risk. Other sources of essential oil toxicity information include Poisons Information Centres. However, information from these centres might be biased and is usually based on accidental or purposeful ingestion of essential oils, and rarely reflects usual aromatherapy practice. Essential oil MDS contain useful toxicity information. Nurses can compile their own toxicity data. Commonly used essential oils could be classified according to the level of risk associated with their use, and particular risk factors described according to client type including potential interactions with conventional medicines, as part of a systems-based risk reduction strategy. The information could form part of a portfolio and be available along with the essential oil reference.

Using evidence to guide practice

Research is an important aspect of QUEO. Despite the plethora of aromatherapy research and a long

history of safe traditional use, good quality, generalisable aromatherapy research is still lacking.^{20,21} Likewise, research is not included in current aromatherapy curricula, even at a basic level.^{21,22} Research training could begin by raising awareness of the importance of research, and teach health professionals and aromatherapists how to critically analyse aromatherapy research reports to help them apply the findings in an appropriate and knowledgeable manner.²⁰

In addition, clients ask nurses and aromatherapists about media reports, Internet information and research reports. Nurses must be able to critically analyse such information in order to help their clients make informed decisions about the quality of the information and its applicability to specific clients and nursing situations. Improving the research capacity of aromatherapists would improve the quality of research and subsequent publications, and ultimately aromatherapy care.

There is very little objective information on which to base essential oil doses for external application and many commonly used doses (3–4% of a blend) *may* be lower than necessary. There is almost no clinical evidence for the dose frequency, although some researchers have examined essential oil pharmacokinetics and pharmacodynamics.^{23,24} These studies suggest that essential oils enter the blood stream quickly after a massage, 10–30 min and can be detected for up to 60 min depending on factors such as the size of the essential oil molecule, the client’s age and skin condition. Larger molecules such as coumarins take up to an hour to be absorbed.²⁵

These results suggest frequent topical applications are needed to maintain an effect if essential oils are applied topically. However, there is some evidence of a cumulative effect for some essential oils. Knowledge of essential oil absorption, distribution and excretion is essential when planning care, especially in acute care settings where age, general health, skin temperature and condition and conventional medicines use can affect these factors.

Product labels are a key aspect of safe use and informed consent but often do not contain vital information, especially if the essential oils are not purchased from a reputable source. Nurses have a responsibility to use essential oils that are adequately labelled and to adequately label the blends they prepare for individuals. Key information to look for on an essential oil label is shown in [Table 2](#). The small print size on many essential oil bottles is difficult to read for some clients, which puts them at a disadvantage. Likewise some labels can

Table 2 Information that should be included on essential oil labels.

The product name
A list of the ingredients in the product. For an essential oil blend this includes all substances in the blend
The quantity in the bottle and the percentage of essential oils in a blend
Required warning statements
Storage conditions
Batch number and expiry date of the product
Directions about how to use the product
A statement indicating what the product can be used for (therapeutic claims and indications for use)
The registration or listing number for example Aust L or Aust R or CHIPS number
Name of sponsor or manufacturer
Undiluted essential oils are usually supplied in bottles with dropper caps or in some cases childproof caps

The issues listed are mandatory labelling requirements for medicines in Australia.

Table 3 Some factors that affect quality use of essential oils.

Environmental
• Physical location
• Organisational structure
Procedural
• Processes for purchasing essential oils
• Prescription, supply/dispensing and administration methods
• Evidence-based guidelines and policies
Professional
• Knowledge and competence (level of practice)
• Quality of available information
• Relationship and collaboration
Consumer
• Knowledge, attitudes and beliefs
• Condition being treated
• Comorbidities
• Other therapies being used

become obscured by essential oil drips over a period of time.

Conclusions and recommendations

Essential oils are medicines. A suggested process for adapting QUM to essential oil use has been proposed in this paper. QUEO is a structured method of using essential oils according to a well-documented QUM process. Many nurses and aromatherapists will not welcome the academic 'medical' approach suggested in this paper. Hope-

fully it will stimulate discussion about the issues raised.

A number of factors affect nurses and aromatherapist's acceptance of and ability to implement QUEO. Some of these are shown in Table 3. A number of challenges will need to be met. These include:

- "Selling" the concept to key nurses aromatherapy stakeholders particularly aromatherapy education providers. Possible methods of achieving this task include education programs, workshops and discussion groups with key stakeholders.
- Once "sold", developing a common forward-looking vision to arrive at a balanced approach and a common purpose would be a priority.

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