

Miriam Martinez Callejas: an insight into compounding

In this conversation Miriam Martinez Callejas, a pharmacist and founder of Roseway Labs, chats to PMFA Editor, Andrew Burd, about the intricacies of compounding pharmaceuticals and how it can support both practitioners and patients.

Can you tell me about your background and what led you to set up Roseway Labs in the UK?

My name is Miriam Martinez Callejas, and I am both a qualified pharmacist from Spain, and founder of Roseway Labs, a private compounding pharmacy that offers a range of personalised, licensed and unlicensed medications to private doctors and patients. During my pre-registration, I was part of a compounding pharmacy. In Spain, they work differently (to the UK) and compounding pharmacies supply not only individual patients but hospitals and other pharmacies. There is a different demand, and I got my passion from this experience. From there, I started to develop interests in different areas in the compounding sector, such as bioidentical hormones, dermatology, longevity and nutritional supplementation. I realised that there is a lack of understanding about what we can do to help patients and practitioners achieve what they need.

What is compounding?

Compounding is the art and science of mixing pharmaceutical-grade ingredients to produce a finished product. We do it with the intention of meeting patients' and doctors' requirements, such as when a form that is commercially available is not suitable for the patient. As an example, when people have problems swallowing and cannot take tablets, so we could make a liquid form for that patient. Or for those that might have allergic reactions to certain ingredients, we can reformulate what is in the product to remove those allergens, then the patient can still be treated with the active medication. Fundamentally, we are making medicines fit for purpose.

When it comes to compounded medications, who is responsible for determining the proportions of each ingredient?

It is a collaborative process. For example, if a doctor is treating a patient with a skin condition, the doctor will request the ingredients they want, their strength, and the form they need – this might be a capsule, an oral preparation or some topical preparation. The doctor and the pharmacy will collaborate to understand the aim of the medication, because when you have topical applications, it could be a superficial application or transdermal, or maybe they want to reach the bloodstream. The delivery method is important.

As pharmacists, we are experts in medication, and we will suggest if the strength is too high or too low, or what is more effective for a particular patient. In collaboration, we create a formula. We will agree on something, make it and deliver to the patient directly, with the instructions and patient information leaflet.

Is it common for dermatologists to regularly review and adjust treatments based on patient progress?

Yes, all the doctors we work with closely monitor their patients, so they do reviews monthly. And when they monitor the clinical status, it



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<https://rosewaylabs.com/>*

might be that they need to change the strengths because the patient is not responding, or they are having side effects.

What liability does a compounding pharmacy take on during the compounding process?

We don't make the diagnosis or determine the combination of active ingredients prescribed, but we have product liability, absolutely. If the product is not up to standard for whatever reason, we are responsible for that.

If you want to mix two creams, how do you assess their compatibility and avoid redundant or conflicting ingredients?

We can make our own bases from scratch using simple gels or cellulose gels. If we can't find suitable ingredients, there are companies that specialise in supplying compounding pharmacies with custom-made (non-pharmaceutical) ingredients. As a pharmacist, you need to know what active ingredients you are using in depth to know how they will behave. The method of preparation is also essential because you could denature ingredients or alter the integrity of the product making something that is not going to work for the patient.

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How do you sterilise preparations for intravenous use?

Topical or oral preparations don't need to be sterilised. Injections and parenteral solutions require extra facilities and different training. In the UK, a specialist manufacturing license is required.

If a compounded cream contains two active ingredients with different treatment durations, say, one for two weeks and another for four, how do you handle that?

Occasionally, we accommodate specific requests to help patients adhere to their regimen more easily. For example, we've been asked to change the colour of the pot or capsule to aid recognition. We might advise using a red pot for the first two weeks, followed by a green pot for the next two, and then returning to the red—creating a simple visual cue to support compliance.

How does the communication process work between Roseway Labs, the prescribing doctor, and the patient?

We have an electronic prescription system so the doctor can go into the system, prescribe the ingredients, and have spaces for notes, allergies and any special requests. There are some requests that require further consideration, and some of the pharmacists will call the doctor and have a chat about what would be best for the patient. Patients are also involved in the decision-making and consultation process when discussing their requirements.

Is this accessed privately or on the NHS?

Unfortunately it is only accessible privately. I don't think the NHS is ready to use compounding. I mean, we would be open for discussions, but the NHS would use special manufacturers over us, even though we are more cost effective.

Cost effective in what way?

In terms of cost-effectiveness, it's important to understand how our model differs from that of specialist manufacturers. Unlike those producing formulations in bulk for wider distribution, we create bespoke preparations tailored to individual patients, based strictly on a doctor's prescription. Our approach ensures that patients receive precisely what they need—no more, no less.

When considering the dermatological market, do you have any formulations for pain management?

Yes, we do. We work with different pain relief creams, usually creams applied topically. We do an anaesthetic gel for example: lidocaine, tetracaine and benzocaine. At the moment, we don't feel comfortable using controlled drugs on a schedule one to three.

How do you evaluate or ensure the absorption and efficacy of your topical preparations?

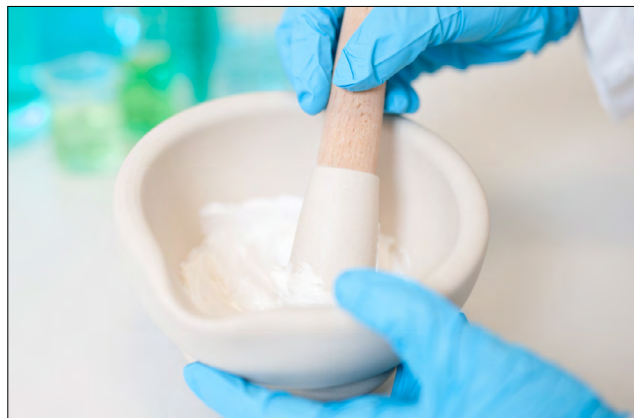
Our evaluations are grounded in published data and research. While we don't conduct in-house testing, we rely on robust studies from countries where these creams are already in use. This evidence base informs our decisions and ensures we're aligned with best practices.

We also maintain close collaboration with prescribing physicians. When new formulations or studies suggest improved absorption or delivery mechanisms, we share these insights with our clinical partners. They're typically receptive to innovations that enhance therapeutic outcomes.

Ultimately, our reputation as a trusted company is built on transparency, evidence-based choices, and a commitment to continuous improvement.

Are you involved in research?

Not at the moment unfortunately, but this is something that I would love to be involved in.



Melasma is notoriously difficult to treat. What formulations have you found most effective for managing it?

For melasma, one of the most used formulations is the triple cream: tretinoin, hydroquinone and fluocinolone. Tretinoin and hydroquinone is commonly prescribed for night time treatments.

What about post-inflammatory hyperpigmentation: how do you treat that?

You need an anti-inflammatory agent so that's why we might suggest a corticosteroid in a low strength in combination with anti-pigmentation agents.

Are you active in drug discovery?

No. What we do is combination discovery. We don't find new molecules, but we do give people access to medications that are not commercialised in the UK. We are experts in trying to source everything from everywhere, that we know will be effective and manufactured to high standards.

What about alternative medicines? How would you respond if somebody approached you asking you to make a formulation from a source product like a crocus?

In these cases, rather than using a pharmaceutical-grade active ingredient, we focus on sourcing herbal components from validated suppliers who can guarantee purity and quality. It's not as simple as taking a plant and turning it into a product, we conduct thorough due diligence.

We assess the supplier's credibility and the integrity of the ingredient they provide. This includes reviewing certificates of analysis to ensure the material is free from contaminants like microorganisms and heavy metals. We also ask key questions: Where is the plant grown? How is it cultivated and harvested? Is it certified organic? Does it carry any relevant accreditations? Our goal is to ensure that the standards of safety, efficacy, and traceability remain uncompromised.

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There are people selling herbal preparations and concoctions on the internet, and I do wonder how safe they are.

It's important to be careful when selecting herbal remedies. It is not just about which herb is used, but also which part of the plant is appropriate. You can't simply take the whole plant and assume it delivers the desired effect. The roots, leaves, flowers, and other components may have different effects and potential risks.

I've always supported the idea of addressing health concerns through natural means, but it must be done responsibly. A balanced approach is key. When the origin of the herbs or plants is unclear, or when there's no transparency about sourcing and handling, it becomes difficult to trust the safety or efficacy of the product.

I'm open to anything that could offer genuine benefit, as long as it's backed by evidence, well-controlled, properly sourced, and handled with care.

Can you modify formulations for vitiligo to make them sweat-resistant or water-resistant, so they remain effective in hot climates or while swimming?

We haven't looked into that, but it is possible. There are water resistant cosmetics, so why not water-resistant camouflage creams?

Can you formulate a spray application of a cream, and with a measured dose?

Absolutely. Compounding offers a high degree of versatility—not just for dermatological conditions, but across a wide range of therapeutic areas. Spray formulations are among the dosage forms we can provide.

Creating a spray with a precise, measured dose is achievable, but it requires careful consideration. We use pharmaceutical-grade packaging designed specifically for accurate delivery, and we conduct additional internal testing to ensure the formulation is compatible with the spray mechanism and maintains its stability and efficacy.

Compounding allows us to tailor treatments to individual needs, and spray applications are just one example of how adaptable

this approach can be. As a compounding laboratory we follow rigorous safety and quality assurance processes. Everything is in a controlled environment, and we have different checks throughout the process. Pharmacies are checking the product, the prescription, the production, the finished product.

If a doctor wants to prescribe a compounded cream for a patient, what does the process look like for collaborating with your pharmacy?

It is all online. First, we need to validate the prescriber, so we check that they are registered with a licence to practice. We also carry out due diligence to identify any cases which may impact professional standing or relevant regulatory concerns. We then give them access to our electronic prescribing system, eRoseway, and we guide them on how to use it. If they are not up to speed with compounding or are not strong in that area and need help, I usually have a session with them and we will go through conditions and treatments, and what they are interested in. After that, they will have their own consultations with the patient, where they go into their medical history, after which they will come up with a formula that they will discuss with me. If we need to incorporate the patient into the discussions, we will. We then come up with the product, compound it, and we will send it directly to the patient.

Our topical creams usually have a 30-day expiration date. The patient is encouraged to return to their doctor for a follow-up consultation, during which the doctor assesses their response to treatment, checks for any side effects, and considers whether adjustments are needed. Based on this evaluation, a new prescription may be issued and entered into the system, ensuring ongoing monitoring and continuity of patient care.

What's the approximate cost of a prescription?

From the pharmacy's perspective, it is affordable. If you can afford a high street coffee, you can afford a treatment here. It's not something really expensive and sometimes it is essential. Women tend to use a lot of high street products and creams and generally we are cheaper than those creams.

Are you only dealing with doctors?

No, we deal with a range of healthcare practitioners. They could be nurses, dentists, pharmacists or doctors. Anybody who can prescribe.

That's great. Thank you so much for your time, Miriam. This has been insightful.

INTERVIEWED BY



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