The 'PHARMSI' CHECK

A checking system to prevent dispensing errors

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> The **Final Check** is your last chance to catch dispensing errors –- so make sure your checking procedures are up to the task!

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⊳⊳ **The Problem**

Errors in dispensing are a real source of concern.
Recent statistics show that people are much more likely to suffer from an adverse medical event than a road accident. Pharmacy errors are a major contributor to "treatment injury" – and in recent years, pharmacy errors have received intense media coverage. The problem is <u>not</u> simply one of negligence or laziness, and even the best pharmacists are being caught out.

Increasing workload and stress are taking their toll on pharmacists. Indeed, some are expressing growing concerns about their risk for errors.

"How do you rate the risk for dispensing errors at your pharmacy?"
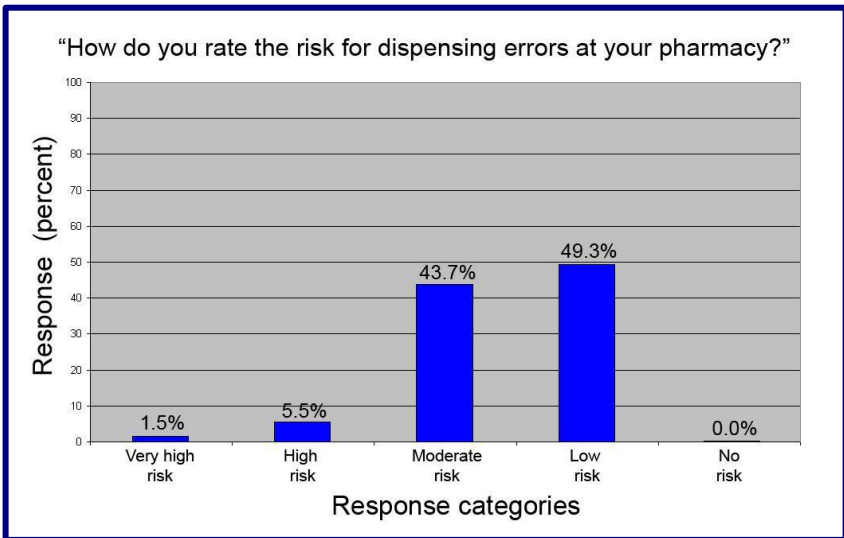
Responses to a New Zealand pharmacist survey, March 2006. Original research.

One area where pharmacists often report trouble is the *final check*.
The final check is the last chance for catching mistakes before a medication is given out. Our studies have found that pharmacists generally use one of three checking styles:

1. "<u>Browser</u>": A speedy and semi-random 'scattergun' approach to checking. Usually does the important bits while glossing over the rest.
2. "<u>Harvester</u>": Very methodical and often slower. May mark or tick items as they go. They miss less – but may also be inefficient.
3. "<u>Grazer</u>": An intermediate between the first two. May check some areas methodically, while haphazardly checking other areas.

We have developed a new system to help reinforce and streamline the final check process, which we call **PHARMSI**. No matter what your checking style, it can help.

▸▸The Response

PHARMSI is not a magic bullet to eliminate errors; but, for many pharmacists, it is a powerful tool to improve efficiency and reduce risk. It was developed after thorough literature reviews, pharmacist surveys, reference to human factors psychology and ergonomics, pilot testing and user feedback. Despite all this, it is relatively simple!

PHARMSI was developed through four steps:
1. **Determining the essential parts of the final check** and ranking them in order of importance.
2. **Reversing the check order** so the least important parts are checked first, and the most important parts are checked last. This "priority-recency" may help to maintain focus and attention.
3. **Linking check items** so that they follow one another in a logical order.
4. **Streamlining the check**, using the prescription label as a guide (when viewed in a simple clockwise pattern).

The name **PHARMSI** itself is the *mnemonic code* for the final safety check.

P	**=**	**Patient**
H	**=**	**How to take = Directions**
A	**=**	**Amount total = Quantity**
R	**=**	**Route = Form**
M	**=**	**Medicine Name = Drug**
S	**=**	**Strength**
I	**=**	**Interactions** *(and other notes)*

The good news is: you do not have to remember any of the above information, because it is already <u>built in</u> to every label you print!

In our explanations, we refer to the LOTS and Toniq computer programs specifically, because they service the vast majority of community pharmacies in New Zealand. If you use a different system (e.g. WinDose), you should not have too much difficulty in adapting the flow chart to your own system.

Comparing the standard LOTS and Toniq labels, we see that they have some formatting differences but are essentially very similar:

Do not drink alcohol
21 METRONIDAZOLE 200 mg Tabs (PA)
Take ONE tablet on an empty stomach, every 8 hours, until finished.
MR JAMES PATIENT
Dr. T Doctor
14 Oct 2015   123456/0 $5.00
L.O.T.S. PHARMACY
456 Any Street, Anytown. Phone 0800-456-456

| |
|---|
| 21 Metronidazole Tablets 200mg |
| **Take ONE tablet on an empty stomach, every 8 hours, until finished. Do not drink alcohol.** |
| **Mr James Patient** $5.00 |
| 123456/0   14Oct15   Dr T Doctor |
| TONIQ PHARMACY |
| 123 Any Street, Anytown. Phone 0800-123-123 |

▸▸How to check the PHARMSI way

The **PHARMSI** secret is to use the computer-generated patient label to guide your dispensing check – starting at the bottom of the label and moving in a clockwise pattern. By lucky coincidence, this pattern neatly matches the **PHARMSI** mnemonic.

To use the **PHARMSI** way, refer to the diagrams below.
- Begin at the "start here" box and follow the flow – making sure you are comparing the right items by glancing at the drug name.
- At every stage of your check, you are comparing the original script (or CRC) to what is on the label. This is the "Check/Check" method.
- It may help to touch or tick each item as you go.
- Near the end of the check, you should inspect the container's contents and compare with stock bottles as appropriate.

When finished, you can be confident of a methodical & efficient check (but always avoid being lulled into a sense of complacency).

Summarised checklist for HealthSoft (LOTS) users
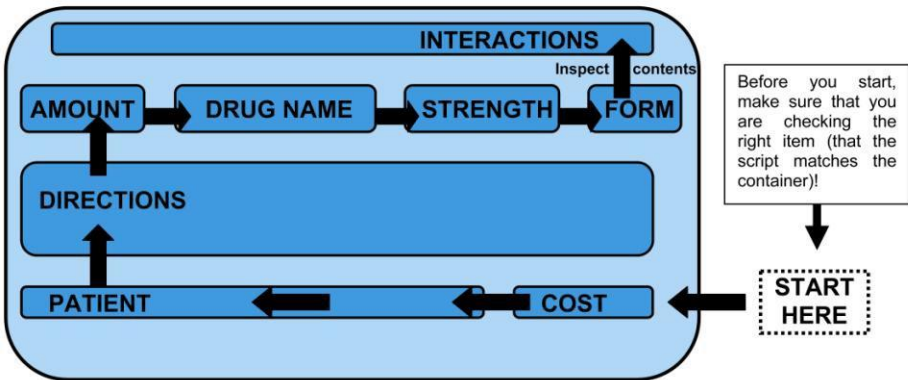
Summarised checklist for Toniq Users
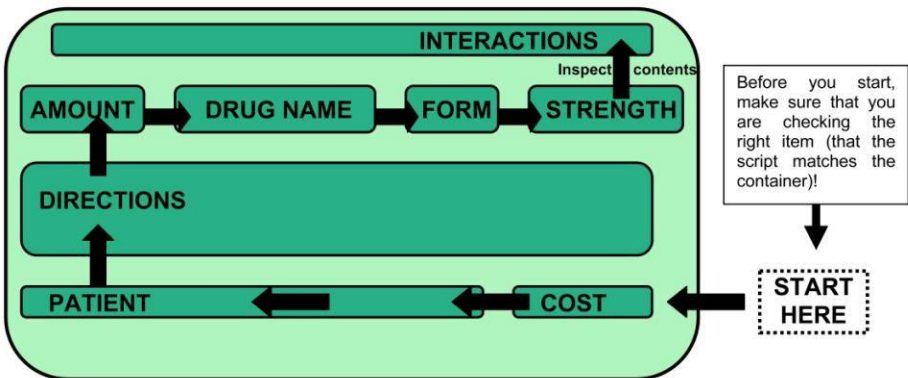
▸▸ Frequently Asked Questions

Q. Why did you develop PHARMSI?

A. I was sick of seeing friends and colleagues stressed and suffering due to avoidable errors. I was afraid it could happen to me too.

Q. What are the benefits of the PHARMSI system?

A.   Pharmacy can be a very demanding profession, and a single mistake can have devastating results. The **PHARMSI** system is a *simple* guide for the final check, which may help reduce errors and increase efficiency.

Q. The order of checking does not make sense!

A. We believe there is psychological benefit in the reverse-order check, leaving the more important items to last. We all have a tendency to "fizzle out" and stop paying attention to the less important check items. By working backwards, we are ensuring we stay on target. (Many people "save the best for last," e.g. authors, salesmen, advertisements.)

Q. I do not like leaving the drug check until last. Isn't that the most important?

As discussed above, reverse-order checking can have advantages. Also, you actually check the drug *twice* in **PHARMSI** – once before you start as you match up the prescription and label; and again, more methodically, near the end of the check.

Q. How does the PHARMSI system affect checking time?

A. For the first few days, **PHARMSI** can seem awkward (changing old dispensing habits can take some effort). However, once people are familiar with the new system, we find they take about the same time as they did for previous checks – with the added advantage that their new checks are more thorough, logical, efficient, and safe.

Q. Should I touch the label on every item as I check?

A. I find that tapping each item as I check is a valuable reinforcer. However, like everything else in the system, feel free to adopt it to suit your own needs.

Q. Is checking the price important?

A. I think it is. You do not need to check the cost is *exactly* right for each drug, but you should check that (for instance) an A1 patient is not being charged $15 for a $5 item. This may indicate that the wrong patient is selected, or something else is not right.
(Note: Toniq and LOTS users can add price to the main label from printer options menu, if required)

Q. Is checking the doctor name important?

A. Yes, but I only check the prescriber once per script page – so I do not call it a **PHARMSI** check.

Q. What about other factors that should be checked?

A. I think it is important for the final check to be simple. Every check item added increases the complexity and time taken. However, there are times *earlier* in the dispensing process when other factors should be checked; for the sake of efficiency and sanity, you cannot re-check it all. Of course, you should feel free to adapt **PHARMSI** to your own circumstances.

Q. I need to make changes to PHARMSI before it would work for me.

A. I encourage everyone to adapt the system to his or her own circumstances. There is nothing set in stone here; only a set of ideas for you to take and use as you see fit.

▸▸Other Important Factors

PHARMSI is only one piece of the 'safety jigsaw'. There are many other factors that must be in place for the system to work.

Plan for safety and efficiency
- Create and foster a good work environment. The work area should be well designed, comfortable, pleasantly warm and well lit.
- Get organised. Keep the work space tidy. Avoid distractions.
- Develop good SOPs, use them, and stand by them. Follow good dispensing workflow.
- Nurture your staff. Encourage them to develop professionally.
- Be busy when quiet – to be quiet when busy. (e.g. pre-pack; anticipate repeat work)

Pharmacy Staff
- Have enough staff on duty to meet anticipated workload requirements.
- All staff, including technicians and junior staff, should aim to catch their own errors – *do not rely on someone else to detect and fix your mistakes.*
- Be realistic. Do not rush. Take regular breaks when possible.

Teamwork
All staff should understand their role in the dispensing process, and "take ownership" of their responsibilities. Encourage staff to take an active role in error prevention. Every member of the dispensing team still has a personal responsibility for safety in the dispensing process.
- Counter staff: It is their responsibility to accept the script, accurately note any messages or client details, and immediately pass the script to the dispensary team.
- Computer entry: It is their responsibility to get computer entry right. (The checker cannot easily go back to review patient history, Special Authority numbers, etc.)
- Dispenser: It is their responsibility to select right drug, strength, formula, warnings, and interactions, and so on.
- Checker: The checker must observe a special standard of care – if a mistake happens, responsibility and liability are probably going to fall on this person before others.
- Hand out: It is the despatch staff responsibility to be vigilant in proper patient identification, and giving appropriate medicine information at hand out.

Involve clients
- Encourage patients/customers to play an active role in their medications – to learn what they do and **what they look like**. Encourage them to share any queries they have. This is not only a good strategy for mitigating errors, but also a good pharmacy practise in general.

Danger areas
Be aware of the danger areas – where errors are more common, checking is harder, or where the impact of an error will be more severe:
- Blister packs
- Extemporaneous mixtures; pouring and admixing
- Owes / holds / partial dispensings
- Error-prone drugs (e.g. glipizide vs. gliclazide)
- High impact drugs (e.g. the "dirty dozen" such as warfarin, digoxin, sleeping tablets, and so on)

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Follow up
- Keep a logbook of difficult scripts, near misses, and errors.
- Complain to manufacturers if their pack design is bad. They will not change unless we make it clear that changes are needed!

Lessons from the aviation industry
There are several powerful messages from the aviation industry for pharmacy. Both industries are highly focussed on avoiding mistakes; and in many respects, aviation is miles ahead of where we are today. Factors such as the "no blame culture"; and good "Cockpit Resource Management" (communication and teamwork) are important.

Self-checking dispensers
Whenever possible, the person checking should be someone other than the person who did the dispensing. However, in smaller or more remote pharmacies, there may only be one person on duty. If you are a self-checker, you need to take special care. You may want to develop a procedure where your technician or even shop assistant checks your work (but of course, responsibility remains with you, the pharmacist). If there is no alternative, wait a few moments between dispensing and checking, to give you time to 'reset.'

Suggested rules / S.O.P. for checking a prescription
We suggest a few rules for prescriptions that you might incorporate into your S.O.P.s:
Completed dispensings ready for checking shall be:
  (a) *Positioned on the bench in a clear orderly way, well separated from other patients' prescriptions*
  (b) *Have patient bottle, stock bottle(s) and script appropriately placed for efficient, safe checking.*
  (c) *Annotate generic substitutions clearly, and initial any changes.*
  (d) *The pharmacist should follow the PHARMSI "check / check" method as outlined on the attached chart which is customised for our pharmacy. In other words, we must compare the original script / CRC with the label and the stock bottles.*
  (e) *Sign off the script. Also, record errors, notes, etc, in the appropriate logbook.*
  (f) *The pharmacist should 'bag up' the prescription to indicate the completion of the check. Nobody but the pharmacist checking the prescription may put it in the bag. This is a final barrier to any accidental dispensings.*

When errors occur
Despite our best efforts, we must acknowledge that errors will occur.

Handling an error requires professionalism and humility. Sometimes formal complaints are made not just because an error occurs, but because the error was handled badly (e.g. lack of explanation, lack of apology, and so on).

You should have a very clear procedure on how to handle errors – this should involve immediately notifying senior staff, filling out an incident form, expressing concern, and so on. Never delay. Do not make excuses and never be dishonest in your explanation. You must immediately let the patient know that you are sorry this happened to them and that you will investigate how this occurred.

If you are a Pharmacy Defence Association member, you should contact them as soon as possible (at 0800-PDA-HELP) and follow their advice. PDA Membership is a very wise investment.

▸▸Common Red Flags

At the Computer...

Discontinued drug names on script...............*Contact the prescriber ASAP to correct*
Missing details re funding............................*Correct entry in computer **before** proceeding*
Insufficient annotation on script...................*Annotate the script **before** proceeding*
Name issues (married, alias names)............*Ask patient to clarify preferred name and stick to it*
'Hiding' uncommon drugs in the computer....*To avoid errors, **do not** hide drugs with high risk of mix-up (e.g. Humalog Mix 25, Humalog Mix 50)*

At the Dispensary Shelf...

Drug names with similar letters.....................*Attach 'shelf talker' labels with taLLMan lettering*
"Dirty dozen" high impact drugs....................*Attach 'shelf talker' labels with cautionary notes*
Shelf position 'vulnerabilities'.......................*Put commonly mixed up drugs in a separate location*
Frequent drug brand changes.......................*Arrange shelves in A-Z order of **generic** name*

Labelling Issues on Original Packaging...

Sub-standard manufacturer's packaging......*Lobby manufacturers, agents, PHARMAC and PDA to get packaging improved*
Day/week/month errors (e.g. methotrexate)...*Continuing education for all staff – plus a red shelf talker*
Errors with ambiguous directions..................*Review 'sigs' and upgrade cautionary labels*

At the Dispensing Bench...

Medicine labels placed on wrong bottle........*Keep stock bottle beside vial; do one step at a time*
Brand-to-generic switch with wrong drug......*Careful, early, quality annotation on scripts*
Medications put into wrong patient bags.......*Separate scripts with dividers or trays*

At Point of Dispatch...

Part of dispensing supplied; rest in fridge.....*Have a system to flag these (e.g. clothes peg on bag)* One family member (of several) supplied.....*Rubber band 'family packs' together. Double check name*
Patient not counselled sufficiently.................*Ensure all dispensary staff offer counselling*

▸▸Completing the Safety Jigsaw

Education Pharmaceutical Society College of Pharmacists University and schools Web sites and books	**S.O.P.s** Dispensing procedure Maintain professionalism	**Professional Support** P.D.A. Pharmacy Guild Wholesalers groups
Individual Training & skills Confidence & focus Personal stresses	**PHARMSI is the key** but the other parts need to be in place too!	**Environment** Good work area Acceptable workload Staff levels
Disciplinary The media HDC & HPDT Pharmacy Council Other authorities	**External Factors** Ambiguous scripts Difficult doctors Lax caregivers	**Manufacturers** Sub-standard packs Poor labelling PHARMAC changes

Your feedback is appreciated. Please contact John Fraser, jcfraser@xnet.co.nz, or phone +64 3 488 0480.

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