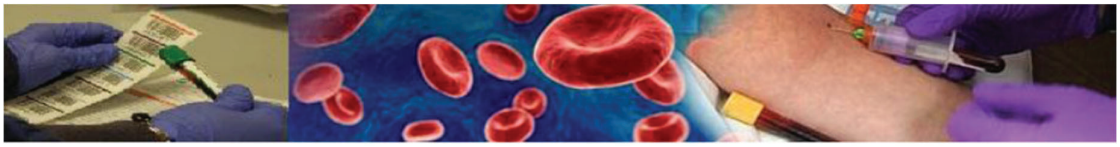
*75TH ANNIVERSARY ARTICLE*

# 25 Years in phlebotomy. Aiming for excellence

***Annette Bissett and Ailsa Bunker***



It's hard to imagine a time when phlebotomy was not recognised as a profession in New Zealand but that was the case 25 years ago. Even the word phlebotomist was not in common use. People that collected blood were generally female and called bleeding lady, blood lady or even vampire. Phlebotomy in most hospital settings was frequently performed by scientists and technicians for an hour or so at the start of their work day, or by laboratory assistants as part of their role.

I (Annette) had been a laboratory assistant at the private lab I worked at for quite a few years, proud of my QTA in General and Biochemistry and happy to do my share of the blood collections before putting on my lab coat to start the bench work. Not a great deal of thought was given to making phlebotomy the focus of my career.

1995, the year before this 25-year story begins, I had left for Papua New Guinea, not to work in the hospitals there, but for a time in a village medical clinic in the heart of the jungle. It was an amazing life-changing experience. I was there partly to be involved with first aid for national people with malaria and machete wounds, and also in a vaccination programme to try stop the spread of a measles outbreak sweeping through the villages.

On returning to New Zealand a few years later I was keen to return to the normal world. I applied for a job as a hospital phlebotomist, thinking it would be good for a while before going back into real lab work. I fell in love with phlebotomy, the hospital environment and my patients. The passion grew. I decided to make this my career and a phlebotomist at North Shore Hospital I have been for the past 21½ years.

Meanwhile on the other side of the city a major part of our phlebotomy history is about to unfold. Did you know that there was no New Zealand qualification in phlebotomy until 2003? In the 1990s I (Ailsa) worked as a part time phlebotomist for 5 ½ years. I saw the frustration of my colleagues to be recognised and valued for doing the same job as me. As a medical laboratory scientist it was easy for me, with my qualification, to say, "Yes" when a patient asked if I was qualified to take their blood. My colleagues could not say the same. I was determined that something needed to be done.

We travelled throughout the hospitals with our handheld plastic tool caddies full of needles and tubes, a holder, a tourniquet, some alcohol wipes, cotton wool balls, roll of tape, and a rather small sharps bin. The caddy was placed on the patient's bed or bedside table. We washed our hands with soap and water between patients, sometimes. We used latex gloves for the messier collects like heel pricks and mycology. There was no way of transferring blood from a syringe to a tube except by using the hypo needle. Lancets could do multiple punctures if you were having difficulty filling sufficient microtainers required for the tests. Samples at 37°C were carried close to the body, usually in the armpit or bra on the walk to the lab. Recapping used needles was what you did to make it safe, if you were out of reach of the sharps bin.

In our world of phlebotomy things needed to change. We needed to take this passion of ours and promote it as a profession, a career, complete with qualification, and standards of practice to follow. In 2001 Middlemore Hospital Laboratory hosted the annual NZIMLS conference. Despite my managers saying, "It can't be done", "We've tried it all before" I convinced them to hold a phlebotomy workshop with the main aim to investigate the establishment of a phlebotomy qualification in New Zealand. I would take responsibility for the day. We had been given a BD discussion document from the UK/Netherlands initiative with a syllabus layout to spark conversation.

It is a day I will never forget. I wanted to get up early to prepare my mind for a successful phlebotomy workshop in the afternoon. The radio was telling news of planes being flown into the World Trade Centre, New York. Yes, it was the 12th of September 2001 or 9/11 in the USA. It certainly was going to be a day in history. How were we going to keep our minds on the job when all this was happening in America? I decided that we would just stow these thoughts away for the duration of the afternoon workshop and keep to our goal to make our own history.

What an amazing day. The organisers were unprepared for the 70+ people that attended this stream of the conference. The space allocated had been underestimated and extra chairs were brought in to accommodate all the people. The time was right. The mood in the room was like a religious crusade. People were ready to make change.

The group wanted a phlebotomy qualification, registration, representation and recognition…even if there was no pay reward. It was the unanimous decision of the delegates that a working party be set up to pursue the development of a qualification in phlebotomy and to promote phlebotomy as a profession. People from all over the country signed up to be part of this group. Teams were established in the main centres and emails were exchanged so that we could communicate and get ideas and consensus.

The working party pursued phlebotomy excellence, qualification, and recognition on four fronts: selecting a qualification model, syllabus, standards, and representation. This work group had a self-imposed deadline to achieve a viable qualification by 2003. We knew that the New Zealand government was discussing registration for medical laboratory technicians and we wanted phlebotomy to be ready with a qualification to support phlebotomists' inclusion.

**The qualification:** the aspiration was that the qualification was to be national, accessible, affordable, portable, cross- credit to other training programmes, and be of such a calibre as to be recognised internationally. There were several options on the table to consider as a qualification and pathway to registration: The NZIMLS Qualified Technical Assistant (QTA), New Zealand Qualifications Authority (NZQA) unit standards, local qualifications that were both NZQA approved and not, and also overseas qualifications from Australia and USA.

After consideration a pragmatic approach prevailed and the NZIMLS Qualified Technical Assistant (QTA) exam was chosen as a qualification for phlebotomy because it was a well-recognised qualification within pathology laboratories in New Zealand. It was true that it was national, accessible to those employed in the industry, affordable, and portable across New Zealand medical laboratories. However, it was, and is not, on the national qualifications' framework and does not cross credit to other qualifications.

**The syllabus:** at the initial workshop it was agreed that The BD discussion document was a suitable basis for a syllabus. This was, however, only a start point. The working group donated time and talent to develop a New Zealand phlebotomy syllabus using the best resources available. It is important to note that although we came from both the public and private sectors everyone collaborated generously with their resources. Organisations competitiveness was 'left at the door'. Everyone knew this project was bigger than them and important for phlebotomy and phlebotomists throughout New Zealand. A small working group of people throughout the country met in Wellington one weekend to brainstorm and share details to be included in the syllabus.

The first phlebotomy syllabus was created. Both the Common and Phlebotomy Syllabus were to be part of the phlebotomist's examination with 2yrs/4000hrs experience required to qualify. This was the same structure as other NZIMLS QTA exams. It was important from the start not to be relegated as second rate to other laboratory technicians, hence the alignment to the number of years training experience and the inclusion of the common syllabus. It was also believed and accepted at the time that the examination would be able to cross credit with the other QTAs. At this time if a person held one QTA in an area, if they changed departments they could sit another QTA exam after only one year's extra experience. Sadly this has changed over the years and now this cross credit is not available to pre-analytical staff, even with their exam. Phlebotomy may have its own place imbedded in the industry, however, we can't help but feel there has been an erosion of parity with the separation of pre-analytical technicians from the other medical laboratory technicians by the Medical Sciences Council and the alteration of the examination structure of the NZIMLS with pre analytical specialties separated from other MLTs.

**Standards**: The National Committee on Clinical Laboratory Standards (now CLSI= Clinical Laboratory Standards Institute) documents were chosen to use as a basis for our own best practice because they were already documents on venepuncture, capillary collects, urine collects and other standards which were updated regularly and a product of international consensus. These are still the core documents for standard operating procedures for phlebotomists.

**Representation:** remaining a subgroup of the NZIMLS was decided as the NZIMLS was already set up to administer examinations, had a database and web page. The Institute was also well established to promote laboratory issues, and this meant our group could attend to things phlebotomy without having to attend to administration. The upside for the Institute was that its membership, therefore finances, would be improved overnight by all the enthusiastic phlebotomists.

What's in a name? The group debated and chose the name New Zealand Association of Phlebotomy -NZAP, said N-ZAP. This was to be in keeping with phlebotomy groups in other countries. The group did not want to be called a SIG as PIG or PSIG. This did not sound as good to be a PIG (Phlebotomy Interest Group) or other iterations to a group of people that were craving recognition and tired of being the brunt of vampire jokes and the like. Therefore the name NZAP with the slogan *Aiming for Excellence* was chosen. The examination qualification at that time was also deemed important enough to have its own name. Instead of Qualified Technical Assistant – Phlebotomy which would have been the nomenclature at the time, the group chose Qualified Phlebotomy Technician as the title for the first examinations. Thus the QPT was 'born'.

During 2002 we took our newly created syllabus 'on the road' to seminars around the country. The idea was to train the trainers about this so that when the exam was offered the following year everyone was ready. It was a huge success and in the first year there were about 170 candidates!!!

Meanwhile the New Zealand Government's Health Practitioner's Quality Assurance Act came into effect in Sept 2004. Medical laboratory technicians were required to be registered and hold an annual license and phlebotomists were included. Our timing had been perfect. We were told that thanks to us in great part to a lay person on the Board who did not think it was right that a person who was using needles on patients was not licensed. Also, I believe that having a qualification available made it easy to insist.

Some members of the phlebotomy group were managers of both phlebotomy and specimen services teams. The needs and recognition of specimen services was not far from our minds. The specimen reception area of laboratories was growing into its own entity. The staff in the area had previously been made up from technicians from other laboratory areas but the workforce was changing. There were a growing number of staff that entered the area that had no qualification and the work was becoming more complex and specialised. It was with great effort by the specimen services people in the group themselves that created a qualification for specimen services. One person was so passionate about getting a qualification that she could be proud of she helped write the specimen services syllabus and then sat the first exam which was held in 2006. Initially the Qualified Specimen Services Technician (QSST) exam was not given the same professional registration status but common sense finally prevailed in 2016 after much pressure from the NZIMLS to the Medical Sciences Council.

The qualifications changed their name in 2010 to be standardised with the other medical laboratory technician exams to be Medical Laboratory Technician – Phlebotomy and Medical Laboratory Technician – Specimen Services, only to be later separated to Medical Laboratory Pre-Analytical Technician – Phlebotomy and Specimen Services. Since then qualification of Donor Technician has been offered and is a registrable qualification. Although not initially involved with our group in recent years the donor technicians have joined the Pre-Analytical Special Interest Group Committee and contribute to seminars and conferences along with phlebotomy and specimen services.

Meanwhile, back in the wards and collections centres around the country, our work in phlebotomy continued. In 2002 MRSA appeared so focus on contact precautions and hand hygiene was stepped up. The chain of infection was a frequent topic of discussion and universal precautions meant we took more seriously that every sample could be a source of infection. Purell hand sanitisers were introduced so that we could be sure not to become the transmitter of the nasty bug. Latex gloves for blood and non-blood collections were available and we got used to gowning and gloving to protect ourselves and our patients from the many microorganisms that did the rounds through the hospitals and communities. Now everyone is familiar with the WHO 5 Moments of Hand Hygiene and has incorporated them into our standard operating procedures.

Much Information Technology has been introduced into phlebotomy during the last 25 years. Most laboratories now have a system of electronic ordering for laboratory requests which provides a paper form as reference for verbal identification with visual checks against the labels and wristband. The next improvement will be the introduction of portable barcode scanners and label printers as we enter the next phase of paperless e-orders. Hopefully this will be the means of reducing or eliminating the incidences of mislabelled and unlabelled samples. Some laboratories have already supplied their phlebotomists with mobile phones which allow connectivity to the laboratory LIS and access to the laboratory test code manuals for specific collection information and team communications.

Improvements in technology related to the equipment we use have been on-going bringing about improvements in the patient experience, staff safety and sample quality. A big enhancement was Extra Thin Wall technology which increased the internal diameter of the collection needles which improved the flow rate quite significantly. It means that the use of a smaller gauge needle for difficult fragile veins or children was less likely to compromise the sample due to haemolysis. In our DHB we have seen significant reduction in this type of collection error. The sharpness of the bevel has been improved making the incision less painful and many patients comment favourably on it.

Around 2012 safety needles were introduced into many DHBs as routine collection needles. The Eclipse needles with their safety guards to lock over the used needle and the Push Button Winged Sets with their in-vein retractable needle have been great improvements in staff safety. Needle stick injuries, although not frequent, were always at the back of our minds as we worked in some tricky situations to collect blood from our patients and they provide an extra measure of safety for us in situations where the patients are not always cooperative or the sharps bin is not within immediate reach.

Blood collection tubes have also undergone transformation: glass to plastic, haemogard stoppers to reduce splashes on opening, and gel separators to prolong specimen stability. Mechanical separators are now being introduced to improve the quality of plasma samples, shortening the processing time and eliminating some of the problems that have been associated with gel interference with some analytes. Most hospital phlebotomists now operate from a trolley that allows for a full range of collection equipment and consumables to be within arm's reach. Each has a worktop that allows for better infection control measures. Most all equipment is now single-use and disposable.

The extended Scope of Practice of Cannulation has been included in the area of phlebotomy by the Medical Laboratory Sciences Council allowing registration to do this task. This is has been seen as a good thing as phlebotomists certainly have skills that are aligned with this task.

Phlebotomy pre-analytics is now main stream at conferences as well as holding its own workshops. We have been active since the first days of the group with one of the first seminars being organised by the South Island branch in Christchurch holding a memorable event with Dennis Ernst, author of Phlebotomy Today, Founding Director of Center for Phlebotomy Education Inc, and text book author being an invited guest. Other highlights have been being included in and organising the mainstream events such as the NZIMLS Annual Scientific Meetings and the South Pacific Congress in Auckland (2007, 2015) and in Australia (2019). Over the years we have had the pleasure of inviting other renowned international speakers to our conferences including Dr Kathleen Becan McBride - co-author with Diana Garza of the Phlebotomy Handbook, Twyla Rickard - Laboratory Operations Manager for the Clinical Core Laboratory at Mayo Clinic in Minnesota, and Professor Guiseppe Lippi from Italy presented his paper on preanalytical variability (1). Many of our group have been invited to speak at Australian conferences starting with Ailsa's trip to Townsville to speak at the celebration of 100 years of Tropical Medicine Conference 2010, and seven of us speaking at the AIMS Tropical Conference in Whitsundays in 2018.

The pre-analytical area of the laboratory as a whole has gone from strength to strength. We truly have come of age and our contribution to the national and international laboratory scene is recognised. Much has changed and continues to change in our world. Our motto remains the same.:**Aiming for Excellence.**

THE END 

## AUTHOR INFORMATION

Annette Bissett, QTA QMLT, Phlebotomy Supervisor[1]
Ailsa Bunker, DipComStud FNZIMLS, Charge Scientist Specimen Services[2]

[1]Patient Services, North Shore Hospital, Waitamata DHB, Auckland
[2]Laboratory, Middlemore Hospital, Auckland

**Correspondence:** Annette Bissett.
Email: annette.bissett@waitematadhb.govt.nz

## REFERENCE

1. Lippi G, Matiuzzi C, Favaloro EJ. Pre-analytical variability and quality of diagnostic testing. Looking at the moon and gazing beyond the finger. *N Z J Med Lab Sci* 2015; 69(1): 4-8.