

THE HEALTH ENGINEER



New Zealand Institute
of
Healthcare Engineering

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SPRING 2011

NZIHE

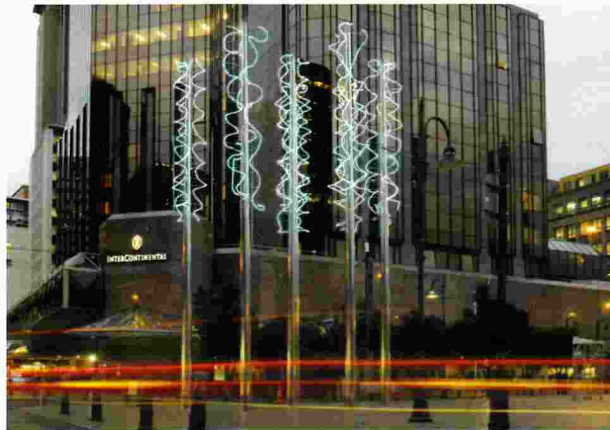
New Zealand Institute of Healthcare Engineering

75th Anniversary Conference Hotel InterContinental, Wellington 17 - 18 November 2011

“CLOSING THE LOOP”

Our Mission:

“To enhance the quality of health care through the pursuit of excellence in health estate and engineering management”



This year we will celebrate the 75th anniversary of the Institute.

The 66th conference will be held at Wellington's Hotel InterContinental and TSB Bank Arena

Our plans to hold the 66th conference in Christchurch changed abruptly on February 22nd when the earthquake struck. Since then, we have managed to relocate the conference to Wellington.

The theme is Closing the Loop. One take on this involves four distinct information steps. These are giving, receiving, acting, and reporting. Each of these steps are important and each contain the seeds for misinterpretation. It is also known as “chasing your tail”

The conference will be held at the InterContinental Wellington, one of the top rated hotels in the Capital City. It is located adjacent to the harbour waterfront, within close walking distance to popular attractions. The Trade Show will take place in the TSB Bank Arena on Queens Wharf, just a short stroll from the hotel.

Included in the programme will be an extensive presentation on the ongoing effects on the health system of the Canterbury earthquake. Speakers from various areas of Canterbury DHB will make this a must see presentation.

All Enquiries to:
Max Christensen
Ph 027 2300831
max.christensen@huttvalleydhb.org.nz

As part of the 75th anniversary celebrations, the annual dinner on Friday 18th will be free of charge to all delegates and their partners.

For more information visit www.nzihe.org.nz

THE HEALTH ENGINEER

The Journal of the Institute of Healthcare Engineering

Volume 5 No 3 Spring 2011

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Cover photo: The original frontage of Wellington Hospital behind which was the board-room where "The Public Hospital Engineers Association" was born.

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Rapid payback potential

Many existing pump and fan systems are based on throttling arrangements: the motor is driven at full speed and then the flow of liquid or gas is regulated by valves, vanes, or similar throttling mechanisms. Throttling the output this way wastes energy. A VSD can increase the system's efficiency by adjusting the motor speed to the correct operation point and eliminating the need for throttling. As many pump and fan systems run at less than full capacity for much of the time, VSDs can produce huge savings. If a 100 kW pump is throttled by 50 per cent, for example, the investment in VSD will have a payback of approximately six months when in continuous operation. In most buildings there is a significant difference between peak demand and the normal requirements of the building. It makes sense for a motor to use less energy during quieter

times of the day, and to ramp up when necessary. Matching the motor speed to demand creates less stress on the motors, which means they will last longer, and require less maintenance, as well as being much cheaper to run.

The price of investment

Investing in energy efficient equipment is viewed by the Government as an essential act in meeting its climate change agreements. Help is available through Salix Finance, a company set up specifically to help public sector organisations such as NHS Trusts to improve energy efficiency, reduce energy bills, and meet emission targets. Salix offers interest free loans to those willing to invest in energy saving equipment. The cost savings achieved through reduced energy consumption can then be used to pay back the loan.

CONTINUING THE REVIEW OF YOUR EXECUTIVE

Kevin Bardsley –Executive member.....

Is closely involved in the \$300M Waikato hospital building project.

Was the fourth Hospital Engineering Cadet employed by Waikato Hospital under the then nationwide hospital engineering cadet training scheme (a five year cadetship). The first cadet, Graham Dudfield and I, still work together.

Hasn't left yet (commenced in 1975).

Loves his work, as he could not wish for more variety and people contact and potential personal reward.

Is the Projects Manager for Waikato DHB (capital works)

Has been a member of NZ IHE for 36 years, and an Exec member for at least a dozen. Has organised several Hamilton conferences over the years first with Bob Duncan and more recently Graham Dudfield

Enjoys occasional motorcycling and the slow restoration of classic cars, mainly British. Norton, Ariel and 1950's Wolseley, Riley, and a classic Landcruiser.

Currently building a large shed to contain all the above, and appease wife (see below), Have two boys and a girl and recently celebrated over 30 years married to Annette.



REGIONAL MEETING UPDATE

The Central Region, North Island, Regional Meeting was held at Palmerston North Hospital on Friday 22nd July 2011. After morning tea particularly appreciated by those who traveled a long distance to attend, Warren Crawley opened the meeting by outlining the days programme. First up was David Page who talked about the progress made to date with Health Benefits Limited (HBL) since last years Conference. This is almost the end of its first year in existence having been established on July 30th 2010. The object that is being aimed at is for hospital boards to share services such as Central Districts Laundry Services.

David outlined many of the initiatives that will be required to achieve the target of \$700m savings in five years. In all it was a very interesting talk with a look into the future. It also initiated a lively discussion among the Biomed members who considered there may be draw backs in centralized purchasing of equipment that they may be responsible for over the long term.

The next speaker was Chris Burcher of Spotless Services, who talked about his experience in setting up the Asset Management Solution at Central Alliance. He talked about the detail required, the countless items inspected and recorded. How Boards have progressed from reactive and preventative maintenance to a strategic process of extracting maximum value and utility from assets.

After lunch kindly supplied by Spotless Services, Trent Fairey of Hawkes Bay District Health Board spoke about seismic problems with six buildings at Hawkes Bay Hospital and how strengthening was included where it would ensure the building withstanding powerful earthquakes of the magnitude of those experienced in Christchurch. One of the buildings he detailed was the boilerhouse building which required extensive strengthening but had to keep producing steam while all the work was carried out. A very interesting and topical talk.

After a presentation by Warren Crawley and an open Forum hosted by Gavin Carey Smith we were taken down to the recently completed Clinical Records Building to a guided tour by Cheryl Nichols, Manager Clinical Records. This is a particularly interesting building with a controlled environment for heat and humidity as well as having energy saving controls on occupied space lights.

A very interesting and enjoyable day.



David Page talking about Health Benefits Limited



Some of those attending 'caught' in the basement plant-room

NEW ZEALAND INSTITUTE OF HEALTHCARE ENGINEERING - 75TH ANNIVERSARY 1936 - 2011.

This year our Institute reaches the grand milestone of its 75th Anniversary and what a wonderful achievement that is. The New Zealand Hospital Engineers Association (as it was then called) was formed in Wellington in 1936 and has steadily grown in numbers and recognition over the years.

The Association was elected as a full member organisation to the International Federation of Hospital Engineers in May 1974 at their 6th Council Meeting in Athens. We re-named as The New Zealand Institute of Health Estate and Engineering Management in 1991 and then in 2009 to The New Zealand Institute of Healthcare Engineering (NZIHE) to better reflect the disciplines represented. 75 years is certainly a wonderful achievement and well worth celebrating.

There have been several changes over these years and the Institute has afforded the opportunity to establish a number of national contacts and friendships, especially through our annual conferences.

I would therefore encourage you to join us to celebrate our 75th Anniversary at this year's Annual Conference in Wellington, the city of our inception.

Tony Mckee, President

When I first started looking into the Institutes past I had Lex Smith's history about the first twenty years and a few photos from Harley Gardener. Then Allison sent me up some papers and more photos.

After the note in the last issue of the Health Engineer I was then contacted by Ernie Wilson who said he could send down some more papers and more photos. What a gold mine of information the papers from Ernie proved to be. One very full file with each conference, every AGM and mid year Executive meeting report from 1959 through to 1980 and countless membership lists also many newspaper cuttings particularly about Waikato Hospital Board cutting out the architecture department and some of the engineering department in 1987. I have had a great time sorting through the old photographs and I have selected some to put in this special edition. Look for the 1950 conference photo (the earliest group photo available), the 50th Anniversary conference photo at Ashburton.

A big thank you to all who have contributed.

How it all started.

A Mr. Martin Smith, Engineer at Hawera Hospital, had carried out the preliminary work such as sending out a circular letter and had received back answers from Hospital Boards and fifteen Hospital Engineers.

The first meeting of the "Public Hospital Engineers Association" was held in the Board Room of Wellington Public Hospital on 6th October 1936, convened at 9.55am with eleven engineers present. It was moved that a Hospitals' Engineers Association be formed. Carried unanimously.

It was then proposed that the title of the Association be "Public Hospitals' Engineers Association". This was also carried unanimously. The Foundation President, as elected, was Mr. F.C. Jacobs of Auckland. Other members were elected to positions within the "Standing Committee". It was later moved that the Standing Committee be the Problems Committee.

Martin Smith became the Foundation Secretary.

Other significant events that helped to bring the Association to its present form.

The fourth AGM of the Association was held on the 3rd February 1940 with the Association applying for Incorporation in accordance with "The Incorporated Societies Act 1908". The Association was then in recess during the Second World War.

The 5th AGM was held in Wanganui on the 11th & 12th December 1946. At this stage the Association was only for Chief Engineers but members started to seriously consider widening the membership criteria to include Assistant Engineers, Institutional Engineers and other Hospital Engineers engaged in Hospital Engineering.

At the ninth AGM held at New Plymouth on the 8th & 9th November 1950 the name was changed to The New Zealand Hospital Engineers' Association (INC.). This opened the way for Engineers from

private hospitals to join the Association.

It was also decided at this AGM that our annual conference be held at the same time and place as the Hospital Officers Association, generally the first week in November.

The NZ Certificate in Engineering was introduced in 1955, this caused much debate about qualifications and qualifications for certain positions and what salary these positions attracted. The NZHEA was of course the negotiating body for hospital engineers gradings, salaries and conditions of employment. Notes about the 1963 conference referred, for the first time, to a separate ladies programme.

The 1967 Conference was especially noted in that the opening ceremony was on the first morning of the conference followed by the AGM. Prior to this the official opening was held the previous evening with plenty of dignitaries' speeches all followed by supper. The AGM then started proceedings the next morning. They reverted back to this arrangement subsequently.

1970 saw the inception of the Hospital Engineering Cadet Scheme. We still have two of the products of that scheme in our ranks namely Kevin Bardsley and Graham Dudfield both at Waikato DHB.

1970 also saw the introduction of the Retired Members grade of membership which allowed retired members to take part in all discussions and add their pennyworth but not allowed to place a vote in the subsequent decision.

1972 saw the introduction of the Australia New Zealand Exchange (ANZEX). The first New Zealand delegate to the Australian Conference was J.D. Jones (Denzil) from Canterbury and our Australian guest was Harvey Roberts.

The first edition of "HOSPENGNEWS" saw the light of day in March 1972. It is the direct forerunner of "The Health Engineer". Ernie Wilson stated that it was extremely difficult in trying to extract items from members to fill the publication. (Things haven't changed much).

Also 1972 saw the defeat of the first attempt to introduce postal voting. It was felt by mainly the younger members that with voting for the members of the Executive confined to only those attending that Conference a large proportion of the membership had absolutely no say in who

made up the Executive. It was to be a few years yet before postal voting occurred.

The Conference of 1973 saw the introduction of an annual dinner. The AGM was moved to early evening, which sometimes then lasted well into the night. Membership totaled 136 members

The International Federation of Hospital Engineering had been formed the previous year and in 1974 the Association applied successfully for membership.

By 1975 the total membership peaked at 170.

In 1977 Alan Carman Chief Engineer at Wellington Hospital retired. He spent twelve years as Vice President, but refused the step up to President. He worked tirelessly representing the Association on countless bodies at Wellington meetings such as EARB, SHEO, CSSO and grading committees.

For the first time the name A.D. Blackler appeared as a member of the Executive in 1979.

In the seventies and eighties there were some very busy meetings held in Wellington with much work being carried out on pay rates, gradings, and conditions of employment

1987 saw the start of a disturbing trend with Waikato Hospital Board cutting the engineering department in half and shutting down the in house architects department. Many other Boards followed suit.

We also saw some Boards hand over their engineering functions to outside contractors to manage. In retrospect did this actually save the Boards money?

1990 Saw the NZHEA give up its industrial advocacy and union role to the Local government Officers Union. This was brought about by Government legislation affecting Union representation. Other legislation affected Area Health Boards structure. Needless to say there was much confusion within the health arena.

After much discussion, in 1992, it was decided that we needed a name that was more in keeping with the duties of the membership thus The New Zealand Institute of Health Estate and Engineering Management (Inc) was born out of The New Zealand Hospital Engineers Association

(Inc).

The Biomed membership was discussed in the lead up to the first joint conference in Auckland in 2002. At the AGM, Tony Blackler gave the background to it and the introduction of a Biomed membership was tabled, moved by Bob Duncan, seconded by Terry Kawhiti and carried at that 2002 AGM in Auckland. The Institute was now comprised of two

separate groups namely Bio-med Engineers and Facility Engineers. The Conference was split into two streams on the second day.

Another name change was decided on in 2009. A more concise name was developed and came in the form of New Zealand Institute of Healthcare Engineering (Inc).

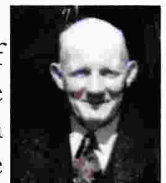
SOME OF THE PAST MEMBERS WHO PUT IN MANY HOURS IN FORGING THE ASSOCIATION/INSTITUTE

Martin Smith Engineer at Hawera Hospital carried out all the necessary preliminary work in organizing the inaugural meeting. He became the first secretary/treasurer. He later became President in 1946 for three years.



C.W. Locke Engineer at Timaru served on the Executive from 1937 through to possibly 1960 firstly as Executive Member, then Vice President followed by President until 1956 and thereafter as Past President.

Frank Crosbie Engineer at Dunedin Vice President from 1946 to 1951 was the father of Owen and Arthur who both became Chief Engineers and featured in the running of the Association. After retirement Frank used to visit the shift engineers regaling them with stories of his time at sea such as sailing up the Ooglie river in India according to Ernie Wilson who was a shift engineer at the time.



G. Bell Chief Engineer, Napier Hospital served on the Executive from 1947 through to 1966 as a committee member, Vice President, President then Past President. See photo on next page



Lindsay Moffitt, Chief Engineer, Palmerston North Hospital, President for six years after five years as committee member and Vice President. Quietly spoken but very astute.

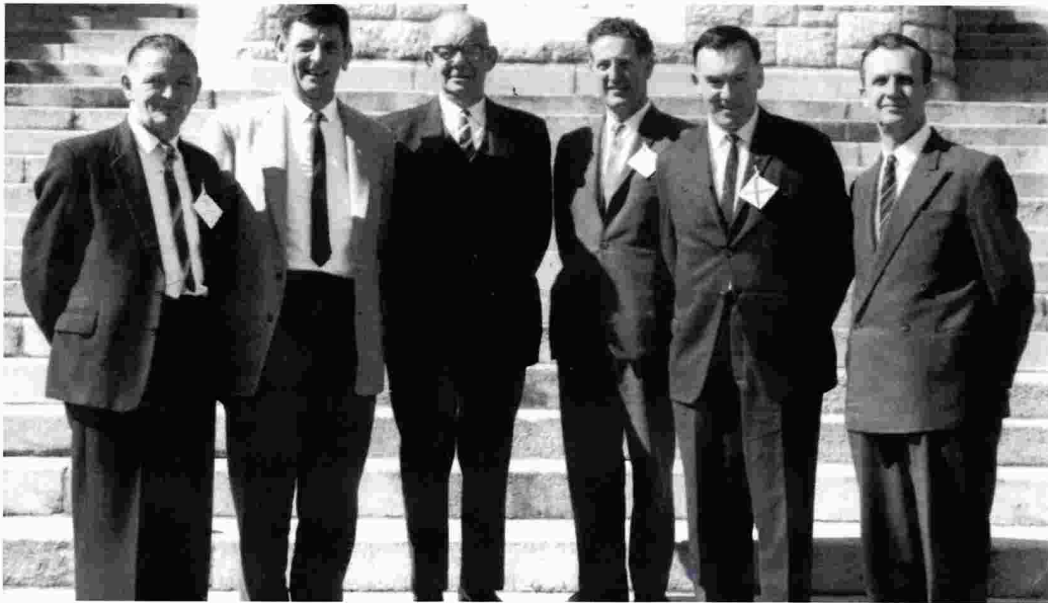
Ray Pinel started off as Engineer at Wairoa but was later appointed as Chief Engineer for Cook Area Health Board at Gisborne. Ray was a long time Secretary, 1956 to 1962, then Vice President for 4 years to 1966 followed by President for 3 years to 1969.

Alan Carmen, Engineer in Chief at Wellington was Vice President for twelve years, 1961 to 1972, as well as three years as a committee member. He refused the step up to President but served as the Association representative on countless committees and meetings.

A.D. Smith (Lex), Chief Engineer at Dannevirke Hospital. Was Secretary for 5 years. Although he was in and out of the Association when appointed to positions outside the hospital service. He is a long term supporter of the Association/Institute and still attends Conferences. He has produced a history of the first twenty years of the Association as well as the photo on next page and the 1950 conference photo.

A.E. Wilson, Group Engineer at Waikato spent three years as an Executive Member. Two years as Secretary then three years as President. He has passed on the historical papers and photographs that he has accumulated during his time in hospital engineering and on which much of this is based.

Some of the other Engineers who contributed to the success of the Association/Institute during the seventies and eighties are G.W. Parker, Waikato, J.D. Jones, North Canterbury, W.O. Crosbie, Nelson,



L to R L.J. Pepperell, R.J. Pinel, G.F. Bell, L. Moffitt, A.D. Smith, A. Carmen

A.R. Crosbie, Otago, J.J. Stevenson, Thames then Palmerston North and John Wray, Wairarapa. More recently in the nineties and the first decade of the new millennium the institute had to battle hard to maintain membership with Area Health Boards amalgamations, hospital closures, in some cases replaced by health centres which were really just small hospitals. The main Hospitals got bigger and district hospitals got smaller or disappeared all together. The members who carried most of the responsibility were Tony Blackler, Bob Duncan, Bill MacDougall and Kevin Bardsley. We must also include Peter Duncan and John Wray in this group although both transferred into positions outside the health service after serving as President. I always think of this group as The Latter Day saints.

Life Members of the Association/Institute

Ernie Wilson, J.J. Stevenson (Peter), John Sorensen, A.D. Smith (Lex), Ray Pinel, Tony Blackler, Bob Duncan and Jim Logan.

Dear Jim, 8th August 2011

Further to your request for articles for the 75 th Anniversary Project. I have sorted out a few things that might be of interest. I do not require for them to be returned as I am on the doorstep of 85 and although I have treasured them they would be better enjoyed by others.

As you know I am a Life Member and joined the Ass. in February 1957, after being appointed as Shift Engineer Dunedin Hospital. Berwyn (Taffy) Jones was the Chief then, he had taken over from Frank Crosbie , who is so important to this 75'h Celebration as Frank was one of the Co Founders . I had the privilege of knowing him and hearing his many stories of his voyages up the Oogli River in India.

Among the collection is the First Issue of the Hospengnews which has prospered beyond belief, I have a good selection of the early issues. The photos may be doubled up by other members. The Annual Reports are, I think so very interesting and as I read the first copy I smiled at the reference to Metrication, a common term then was to be referred to as a Metricated Imperialist .

I wish you and the Association well for the future and offer my Congratulations to all concerned for attaining your 75th Anniversary

So on behalf of my wife Alice, who many of the Ladies will remember, and myself Well Done!

Regards, Ernie Wilson

New Zealand Institute of Health Engineering and Estate Management Conference, Dunedin 1992



Back row :- B.Fry, R.Hunter, M.McGlinchey, C.Ericson, S.Dunlop.

Middle row :- T.Blackler, R.Dunmall, G.Fairbrother, S.Cormack, E.Wilson, A.Buezenberg, J.Logan, K.Rees, B.Adams, P.Duncan.

Front row :- W.Duiteмейjer, C.Double, M.Butler, B.Duncan.

This was perhaps one of the smallest Conference turnouts of recent years. There had been a great deal of pressure on the Institute through Hospital Boards reducing engineering staff levels consequently the number of members fell well below one hundred.

The opening paragraph of the first edition of Hospengnews.

NEW ZEALAND HOSPITAL ENGINEERS' ASSOCIATION (Inc.)

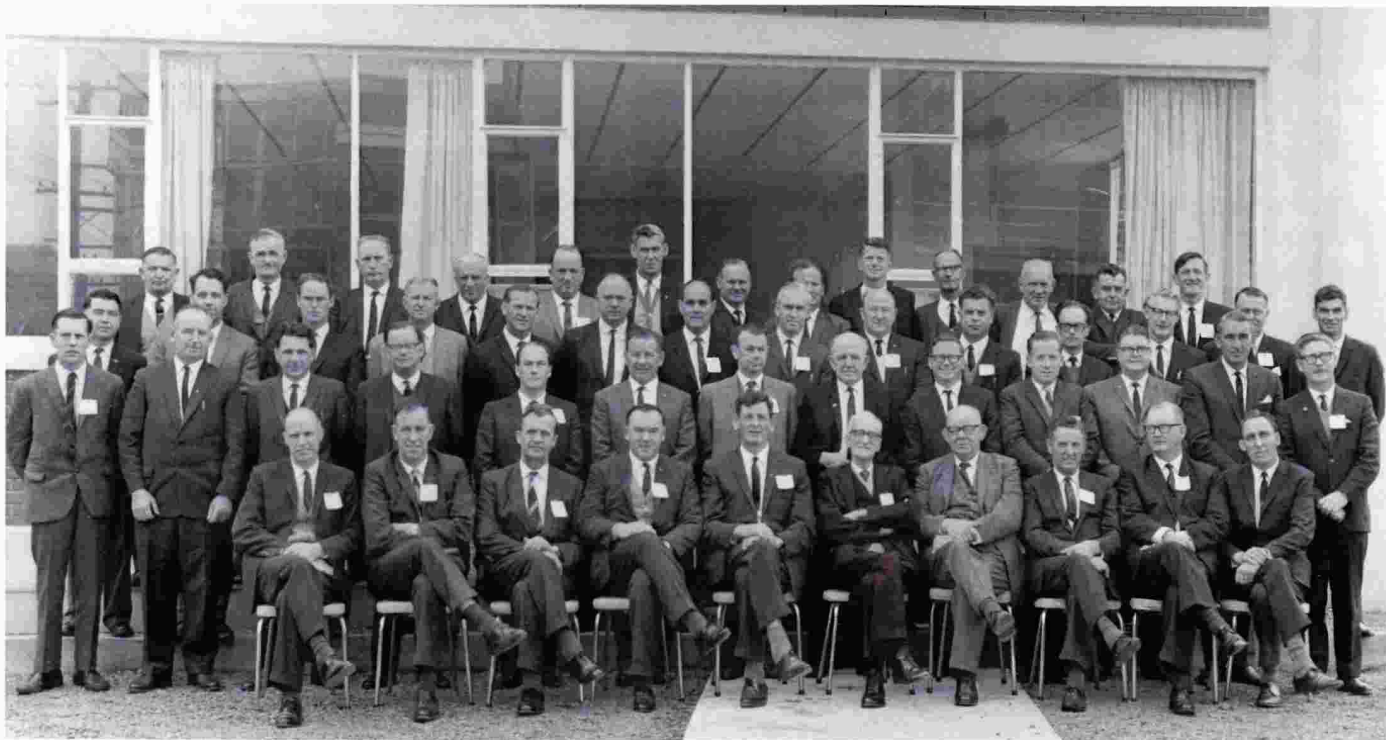
NO.1
March, 1972

H O S P E N G N E W S

It has been suggested by your Education and Training Sub-Committee that a regular Newsletter should be inaugurated. The contents of the Newsletter are to be of general interest to all Hospital Engineers. In order that all work is not placed on the lap of some small section of the Association, it is hoped that members will help as much as possible in offering to assist in various ways. The Sub-Committee does not wish for one particular Hospital Engineer to prepare the Newsletter every month - this task should be shared around, but the Committee has taken on itself to produce the first 3 or 4 issues. The printing of this copy - our No.1 issue - is being undertaken at the CALVARY HOSPITAL. The offer was put forward by Ray Sullivan at the Conference in Christchurch, and it is hoped that future offers of assistance will come as readily as this did from Ray.

The New Zealand Hospital Engineers' Association Conference, Dunedin 1968

This was a typical turnout of delegates at our annual conference contrasting sharply with the previous photo. I won't even begin to identify the people precisely but I can see the Crosbie brothers, Owen and Arthur, Lex Smith, Ray Pinel, Denzil Jones, Alan Carmen and Lindsay Moffitt all in the front row and Bill Armstrong being the tallest in the back row. I always admired the regimented look of their legs crossed the same way.



A note from Lex Smith

With our 75th Anniversary meeting taking place in Wellington where the Foundation meeting was held, it seems fitting to mention Alan Carmen who ~~is~~ in the photo. He was Chief Engineer for the Wellington Hospital Board for many years and an honoured and respected member of the Association. He would not accept the office of President but was willing to give his services to the Association as a Vice-President for twelve years. Each year there were usually meetings being held in Wellington where the Association needed to be represented and Alan used to do this for us with great dignity and aplomb.

He was also a close relative of the Crosbie family, Frank Crosbie of Dunedin being a founding member and a Vice-President and his sons, Arthur and Owen both becoming Vice-Presidents.

It is quite fascinating to look back and know that I have actually met 25 people who are in that 1950 photo and several were very close friends.

I hope that Ray Pinel is still with us, otherwise I am the last man standing in the photo taken on the steps of Nelson Cathedral.

I wish you well with your special edition. Kind Regards to Monica and yourself.

Yours sincerely

Lex Smith.

50th ANNIVERSARY CONFERENCE – ASHBURTON NOVEMBER 1986



Front Row – Mike Timmins, Waikato; Arthur Crosbie, Otago; Brian Fry, Southland; Tony Blackler, Canterbury; John Wray, Wairarapa; Hugh Elder, Auckland; Jim Logan, Palmerston North; Norman Brooks, Australian Delegate; Stewart Dunlop, Ashburton; Bob Duncan, Waikato; Ernie Wilson, Tauranga; Hec Parton, H A Parton Ltd.

Second Row – Peter Stevenson, Palmerston North; Doug Billing, Southland; Alan Smith, Ashburton; Mervyn Hawe, Sth. Canterbury; Stewart Bell, Otago; Larry Minto, Hawkes Bay; Neil Trower, Sth. Canterbury; Scott Cormack, Dannevirke; Norm Lovegrove, Bay of Plenty; Keith Sangster Central Hawkes Bay; Robin Dunmall, Waikato; Graeme Todd, Waikato.

Third Row – Brian Barry, Cook H.B.; Stanley Saw, Wellington; Leo Burkett, Taranaki; Peter Duncan, Wellington; Dave Cutmore, Waitaki; Mike McGlinchey; Russell Dickson, Nelson; John Dykes, Auckland; Mike Ryan, Marlborough; Ken Harrison, M.O.W.D.; Andy Anderson, Otago;

Back Row – Frank Beardsmore, M.O.W.D. Hospital Division; Tom Sawyers, Otago; Ray Childs, Canterbury; Kevin Rees, Otago; Percy Hills, Ex Waitakare; Alan Stumpf, Waiapu; Barry Hobson, Wanganui; Mike Harris, Sth. Otago; Lex Smith, West Coast; George Depree, Northland; Rod Markham, Otago; Ted Hugill, Thames.

That just about sums up the development of the New Zealand Institute of Healthcare Engineering from the original meeting in Wellington which formed the Public Hospital Engineers Association seventy five years ago. The only thing to do now is to insert the earliest conference photograph on the inside back cover.

I hope you all appreciate our rich heritage in hospital engineering.

Jim Logan
Editor



The partners outside their bus before a days sightseeing



Tony Blackler and the late Clive Cooke. Tony was appointed electronics engineer in 1975 and is now manager of Clinical Technologies. Clive was appointed assistant electrical engineer in 1975 and became Engineer at Princess Margaret Hospital. Clive died of Motor Neuron Disease in 2009.



Brian and Hilary Fry, Invercargill. Brian was the engineer at Kew Hospital, a member of the NZ Institute Executive and the 1988 ANZEX Delegate to the Perth Conference.



Fred and Peg Green, Melbourne were the ANZEX delegates to the Tauranga Conference in 1984. Fred was Engineer at St Vincent's Hospital, Melbourne and for many years a member of the Executive of the Australian Institute and Editor of the Australian Journal. Fred and Peg hosted many New Zealanders over their years of involvement.



Opening of the 1989 Christchurch Conference, Bob Duncan president and a guest speaker.



New Zealand Delegates to the 1984 World Conference in Melbourne.

Back: Brian Fry, Neil Trower, Tony Blackler, Ernie Wilson, Mike Timmins, and ?

Front: John Wray, Stewart Dunlop, Doug Billing, Norm Lovegrove, Arthur Crosbie, Bob Duncan, Keith Sangster, Andy Anderson

FASTER LEGIONELLA TESTING ON HORIZON

The following article was first published in the Health Estate Journal of July 2011

While the 'traditional' way to measure Legionella quantitatively in water is based on a complex culture method where results can take up to 14 days, the last few years have seen the availability of very rapid real time monitoring of the bacterium in water systems, with the development of quantitative polymerase chain reaction (qPCR), a process which gives results "within hours". To date, however, a lack of consensus on how to interpret such results in relation to those from culture has been a stumbling block, although, as Susan Pearson, a freelance journalist and public relations consultant specialising in medicine and the environment, reports, the positive results of a recent multi centre European study mean this could soon all change.

Around 300 400 cases of Legionnaires' disease are reported every year in England and Wales, and, while the incidence is low in hospitals, those affected will be the most susceptible the immuno compromised, ICU patients, transplant and oncology patients, diabetics, smokers, and alcoholics and the most likely to die. While the mortality rate for the general population is around 13%, the nosocomial rate has reached 32%. Legionnaires' disease is the severest form of infection caused by Legionella bacteria, opportunistic waterborne pathogens which occur naturally in the environment. Of the 50 plus species, only 20 appear to be associated with disease in humans, with Legionella pneumophila by far and away the most significant. Victims are infected by inhaling organisms suspended in air from an aerosol, or sometimes by aspiration, particularly in the case of hospital patients. Although less than 5% of exposed individuals will develop Legionnaires' disease, up to 95%

may contract a milder form of legionellosis known as Pontiac Fever, a short, influenza like illness that does not require treatment. However, some exposed individuals will remain completely symptom less.

Dormant at low temperatures

Dormant at low temperatures, Legionella multiplies to large numbers in water between temperatures of 20°C and 45°C, and cannot survive at temperatures above 50°C. Other risk factors for outbreaks are water stagnation, for example in pipework "dead legs", leading to build up of biofilm which harbours pathogenic bacteria, and lack of appropriate biocide concentrations. Although 27% of Legionnaires' disease outbreaks are associated with cooling towers, hot and cold water systems are also major culprits, with spa pools the third most significant source. In new buildings, warmer weather and energy conservation requirements are also making cold water systems more vulnerable to microbial

WAIKATO HOSPITAL REDEVELOPMENT 2011 UPDATE

Five years ago, a significant challenge was foreseen in facilitating the future development of the Waikato site. An older building, part of the main theatre, connecting 12 theatre operating suites to the main hospital, needed to be demolished to enable the new clinical centre to be constructed. This effectively isolated our main theatres as an island. Recently in early April, the solution to this significant problem was successfully commissioned.

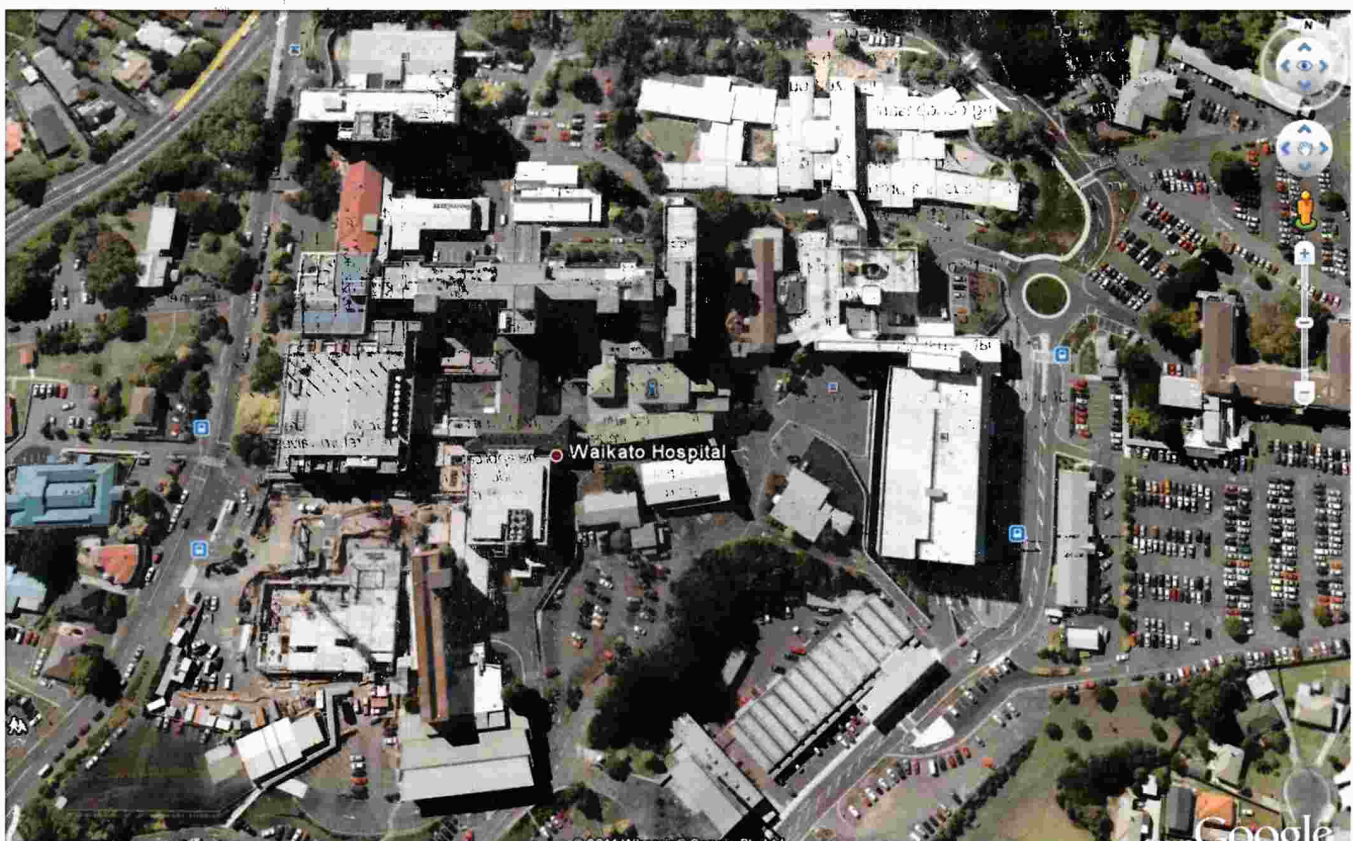
The solution was in two parts:

- A) A new connecting building named the Acute Hub and
- B) The Interim Theatre Solution project (ITS) which temporarily accommodates (for three years) all the theatre support services displaced from the demolished building.

The acute hub is a new, three storey building which contains two “jumbo” patient transfer lifts and one standard SSU clean supply lift. The acute hub also contains two temporary ten bed PACU’s and links existing theatres to the Waiora clinical centre (and eventually via a much longer patient transfer route than before), the wards/main hospital. It also provides a link to the new acute services building containing the impressive new ED (opened in Feb ’11) and it’s 101 new ward beds above (opening July ’11) and eventually joins to the major new clinical centre (in 2014).

The ITS was rebuilt into the vacated old ED area and the vacated medical records area. After a seven week fast track refurbishment period, all theatre support services moved in. This ITS area becomes radiology and laboratory respectively at end state later in 2014.

Image 1 The hospital in 2009 showing the new 820 car parking building right centre and the new ED and 101 new ward beds under construction lower left.



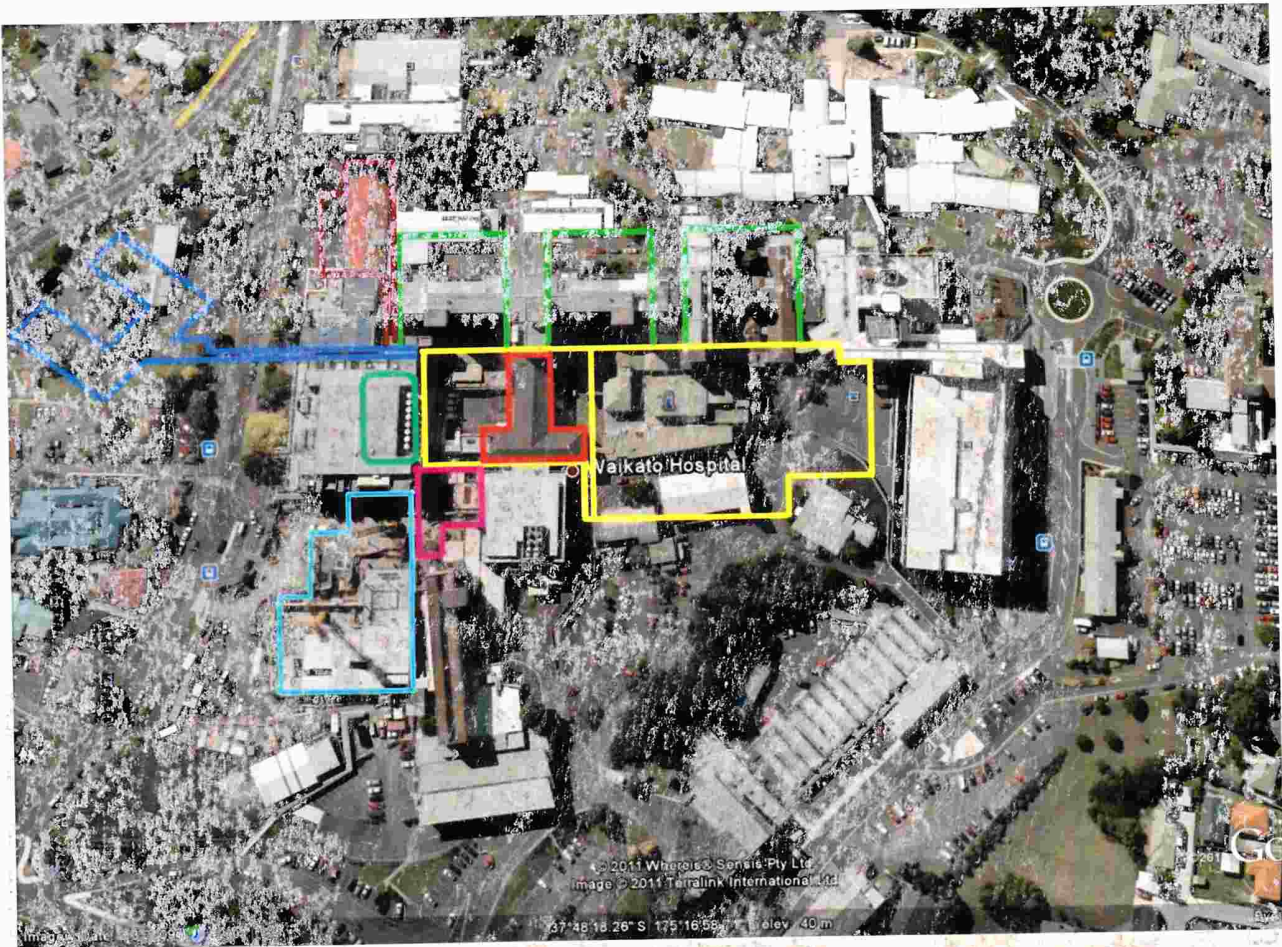


Image 2: The Hospital in the Future:

Key to image

Yellow outline is the currently in progress Meade clinical centre stage 1 (August 2012 and stage 2, (2014)

Bright Red outline: theatre support building which has now been demolished.

Light blue outline: newly opened ED and in July 101 beds opening above (acute services building).

Pink outline: completed acute hub.

Mid blue across road: recently approved older persons and rehab ward block of 113 beds (to open late 2013).

Green area with rounded corners: (ITS) for 3 years.

Bright green blocks are future ward blocks to replace existing (not yet approved).

Brown outline is paediatric (Wai-kids) ward, not yet approved).

Note we have built and or positioned more than 30 temporary buildings on our site to accommodate departments displaced by this current construction activity, Regards Kevin

HOSPITAL ENGINEERS' CONFERENCE

NEW PLYMOUTH, 1950.



Back Row: L. J. PEPPERELL, E. D. LONGLEY, R. N. SPOTSWOOD, J. H. WILSON, D. S. NEWMAN, J. P. ANDERSON.
 Third Row: C. MURFITT, L. A. THOMAS, A. G. FRASER, A. WILSON, N. KELLY, G. V. HODDER, E. C. CRUCKSHANKS.
 Second Row: F. W. BROWN, G. FREEMAN, W. HODDER, V. A. HITCHCOCK, G. BROWN, G. P. BELL, M. SMITH, D. McHAREN.
 Seated: W. P. BRYANT, Dr. L. C. McNICKLE, C. W. LOCKE, P. E. STANTON, J. H. PRATT, A. J. GUNN.