

# Diabetes Clinical Database: Improving Patient Care & Enabling Diabetes Research



**VPAC was commissioned by BioGrid (formerly Bio21: MMIM) to update the current Diabetes system to a more advanced, web-based system for clinical usage. Data collected could then be migrated into BioGrid to enable research into Diabetes.**

Diabetes affects an estimated 800,000 Australians. Typically, patients are referred from their local general practitioner to Diabetes Optimisation Clinics to develop a specialised stability plan for the individual patient. Undetected or poorly controlled diabetes can lead to eye and kidney diseases (including blindness and kidney failure), cardiovascular complications (including stroke and heart attack), lower limb amputation and impotence.

## <<< Web-based Portal for Diabetes Research & Patient Care

### Re-designing the Diabetes System

The current Diabetes Survey system was developed with a Microsoft Access database. Interface usability was increasingly restrictive with its older technology. To address this issue, VPAC converted the system to an ASP .NET interface, significantly enhancing and making the application much easier and less time consuming for data entry, and enabling it to be used simultaneously by all doctors in a clinic.

The use of an SQL Server 5.0 database on the back end allowed for more complex queries, better database relational stability and the formation of a standardised data record for a diabetes patient. As Diabetes Optimisation Clinics adopt the new system and data is federated into BioGrid, research into Diabetes treatments, plans and outcomes will greatly enhance current and future patient care and well-being.

The system also integrates with hospitals' pathology system to retrieve pathology results and links to hospitals' Admission, Transfer and Discharge (ATD) system to retrieve administrative information for patients with diabetes. These integration services vastly reduce the amount of manual data entry and make data entered into the system much more reliable.

### Relieving Burden on Diabetes Optimisation Clinics & Improving Patient Care

Diabetes Clinics are being inundated with new patients, due to an increase of both type 1 and type 2 diabetes in the population as well as significant improvements in diagnosis treatment. Clinics help develop a diabetes stability plan for an individual. Prior to the development of the new Diabetes system, patients continued to attend the clinic on a regular basis, for check ups, This system helps refer patients to their local doctor for their diabetes management.

The Diabetes system is helping relieve and manage the patient demand on clinics. The patient's general practitioner and associated treating specialists are recorded in the system, and with the patient's consent, a brief record of the patient's visit is sent to the patient's GP and specialists. Once the stability plan has been developed, the patient may be 'discharged' from the clinic, so the general practitioner continues management of their patient's diabetes. To assist in the ongoing management, again with patient consent, a more detailed summary of the diabetes treatment, management plan and recommendations is sent. This improved information flow allows the clinic to concentrate their efforts on newly diagnosed patients and those with more complex diabetes and encourages the patient's general practitioner to follow up on the on-going care of their patient.

The Diabetes system is currently being trialled at Royal Melbourne Hospital with great interest by other major hospitals and Diabetes Optimisation Clinics who wish to participate in the program.

For further information regarding VPAC's involvement with the Diabetes Survey system, please contact David Morrison at [davidm@vpac.org](mailto:davidm@vpac.org) or phone +61 3 9348 1633.

