Database Description

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1 Database Description

Note: For this report, Primary Key will be denoted as **PK**, and Foreign Key will be denoted as **FK**

1.1 Tables and Keys

There are eight tables used to describe this database.

- **Patients** describes the general information of the clientele of the dentistry, with a PK 'PatientID'.

- **Bill** (PK BillNo) contains a record of the bills in relation to the appointments, with 'PatientID', 'AppID' being FKs, and some information regarding to whether they are paid, overdue, or a large bill. The latter three columns are denoted as 0 as default, and 1 if paid, overdue or a large bill respectively.

- **Payment** details the payment amounts and type of payment, for the bills (FK being 'BillNo').

- **Appointment** is one of the more important tables. It has PK as 'AppID', and FK as 'PatientID'. It denotes time and date of appointments, and two more binary columns 'followUp' and 'lateCancellation', default being 0, and 1 denoting a follow up being necessary and late cancellation.

- **Appointmentdet** has a *composite* PK, using 'TreatmentName' and 'AppNo', storing details of appointments.

- **Treatment** has a list of treatments, with the FK Special containing some *NULL entries*, due to not all treatments need to be from specialists.

- **SpecialistTreatment** is an intermediary table as there was a many to many relationship with Treatment and Specialist, it contains specialist treatment details, and most importantly, which clinic preforms which specialist treatment.

- Finally **specialist** contains details of the specialist clinics.

1.2 Views

Some useful views were created in this database to make data easier to access.

- **followups** contains the 'AppID' followups if 'followup=1' in Appointment.

- If a bill's value is greater than 200, 'BillNo', 'AppID', 'PatientID' and total of that bill is added to the view **largebills**.

- If the current date and the date on a bill is greater than 30 days, it is placed in the view **overduepayments**, with details of the bill.

- **upcomingappointments** contains details of appointments that will happen within 30 days of current date.

- As with the previous, **upcomingtreatments** contain details of future appointments within a time frame of the current date, in case equipment or supplies are needed.

1.3 Triggers

There are two triggers used in this database.

- **Latecancel** will automatically add 10.00 to Bill, with the same appointment ID, if the column 'lateCancellation =1' in appointments.

- **paymentsubtraction**, will subtract a payment (in the Payment table) from the bill with the same 'BillNo' (in the Bill table) as the payment.

1.4 Possible future directions

Due to time constraints, some ideas were not fully explored in this database, as well the guidelines were not to build a full application. Some possible differences may be to partition the appointments into previous and future, with different tables.
The latecancellation column may have been more suited to the appointmentdet table, however time constraints did not give time to alter.
A table linking specialists to appointment details was initially implemented, to keep track of patient records of the specialists, but it was deemed overly complicated.
An accounts system of paid bills was also in initial plans, with triggers planned to send paid bill totals into it, but time constraints were coming into effect at that stage, and full application was again, unnecessary.