

**Information technology in a global society**  
**Higher level and standard level**  
**Paper 2**

Wednesday 18 November 2015 (morning)

1 hour 15 minutes

**ARTICLE**

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**Instructions to candidates**

- Do not turn over this sheet until instructed to do so.
- This sheet contains the article required for information technology in a global society higher level and standard level paper 2.

## Theme: Health

### IT system: Brunei's electronic medical record (EMR) database

The Brunei government's Ministry of Health (MOH) has recently introduced a new Electronic Medical Record (EMR) system. Electronic medical records are a digital version of a patient's medical information, where all the details of their medical and treatment history are stored in a central database. Systems like the EMR system in Brunei have been successfully used in other countries.

Brunei has a very small population (400 000) and approximately 50 % of the total population has registered with the EMR system. Amongst the population the ability to use computer-based technologies (digital literacy) varies widely. Moreover, the quality of internet access in the country is variable and can be unreliable in places.

- 10 All local citizens who require medical attention in government hospitals or health centres in the country must be registered beforehand. This can be done in two ways:
- By visiting the registration counter at the nearest hospital or health care centre and using computers there to complete the registration. Citizens are required to bring along copies of their government ID cards, which are scanned at the time of registration.
  - 15 • By installing the Brunei EMR app\* on any mobile device and using it to submit the registration. The citizen's identity is confirmed by taking a photograph of the government ID card or passport with the mobile device and uploading it through the app.

- Once the registration is approved, the citizen is issued a "BN number". The BN number is a unique reference number used by the Brunei EMR system to identify a citizen's individual medical record.
- 20 The BN number must be provided at each visit to confirm the citizen's identity.

- In addition to the day-to-day use of the Brunei EMR system, the Ministry of Health uses the database for a variety of other purposes. For example if there is a nationwide alert, such as the Influenza A (H1N1) virus, then the EMR system can be accessed for relevant information and further action can be taken. The EMR system allows the Ministry of Health to analyse trends so that it can provide for future health services.
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The Ministry of Health has taken measures to ensure the privacy and anonymity of the citizens' data that is held in the EMR database.

[Source: © International Baccalaureate Organization 2016]

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\* app: application software, typically small, specialized programs downloaded onto mobile devices; apps can also run on the internet, on a computer, or on a cell/mobile phone or other electronic device

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