Prescribing of Smoking Cessation Products in Scotland

Financial Years 2004/05 – 2013/14

Publication date – 30 September 2014
Introduction

Smoking causes or exacerbates many different health conditions. Due to the overall cost of the impact of smoking on the National Health Service, a ban on smoking in public places was introduced on the 26th March 2006 as part of the Smoking, Health and Social Care (Scotland) Bill to improve public health.

To help smokers to stop smoking, the Public Health Service (PHS) element of the new Community Pharmacy Contract was introduced in Scotland on the 29th August 2008. The Smoking Cessation element of the Public Health Service aims to provide extended access through the NHS to a smoking cessation support service, including the provision of advice and smoking cessation products, in order to help smokers successfully stop smoking. This involves a period of up to twelve weeks in which people can visit their local pharmacist and be supported in their attempt to stop smoking, which may include prescribing of Nicotine Replacement Therapy (NRT). The patient receives any advice and prescribed items free of charge (as with all prescriptions since 1st April 2011) instead of paying for the products over the counter. In 2013/14 67.3% of dispensed items for Smoking Cessation were part of this service. This report includes dispensed products and does not consider where they were prescribed. This means that it includes products dispensed as part of the PHS as well as those that were not. Other services supplied by the NHS to support Smoking Cessation are not included in this report.

The Smoking Cessation Guide for Scotland recommends that smoking cessation products should be available on prescription to smokers who have made a commitment to stop on or before a target stop date. Prescriptions subsequent to the initial commencement of treatment should only be issued to the person if they can demonstrate that they are still trying to stop smoking.

Information on drugs which are indicated for the treatment of smoking cessation, are obtained from NHS prescriptions prescribed in Scotland that are dispensed in Scotland or elsewhere in the United Kingdom. All these prescriptions are dispensed by community pharmacies, dispensing doctors, a small number of speciality appliance suppliers and stoma providers.

Information on prescribing for cigarette smoking can be found on the following Internet sites:

- Action on Smoking and Health in Scotland (ASH)
- Clearing The Air, the Scottish Executive's site detailing the ban on smoking in public places
- You Can Stop Smoking, NHS Health Scotland’s web site
- The Scottish Public Health Observatory's Tobacco Use Site
- Scottish Medicines Consortium (SMC)
- The National Institute of Clinical Excellence (NICE)

ISD is not responsible for the contents of external Internet sites.
**Treatment**

Drugs licensed for smoking cessation are given in the [British National Formulary (BNF)](https://www.medicines.org.uk/medicines/medicines-a-z/) subsection 4.10.2;

- Bupropion Hydrochloride (also known as Amfebutamone Hydrochloride), (Zyban®)
- Nicotine Replacement Therapy (Nicopass®, Nicopatch®, Nicorette®, Nicotinell®, NiQuitin CQ)
- Varenicline (Champix®)

Bupropion Hydrochloride became available on prescription in June 2000, and is restricted to adults aged 18 and over. Nicotine Replacement Therapy (NRT) became available on prescription in April 2001 and Varenicline in January 2007. NRT is licensed to people aged 12 and over while Varenicline is licensed to people aged 18 and over. NRT has been licensed to be prescribed by nurses since May 2001, making it more accessible to patients.
Key points

- Dispensing of smoking cessation products decreased in 2013/14 for the first time since 2006/07. There were 76,942 (12.3%) fewer items than in 2012/13.
- Gross ingredient costs decreased in 2012/13 for the first time since 2006/07. This decrease continued in 2013/14 with a reduction of £2,153,157 (15.0%) from last year.
- The overall average cost per item continues to decrease and is now £22.35, down from £23.04 in 2012/13.
- NHS Ayrshire and Arran was the only NHS Board to show an increase (8.0%) in the number of smoking cessation product items dispensed in 2013/14.
- Nicotine continues to be the most prescribed product, making up 85.7% of all smoking cessation products in 2013/14.
Results and Commentary

NHSScotland

Figure 1 – Number of Dispensed Items, by Product, for NHSScotland - 2004/05 to 2013/14

Varenicline was not dispensed on the NHS prior to January 2007.

The dispensing of smoking cessation products has been increasing since 2006/07 reaching a peak in 2012/13. Since the ban on smoking in public places in March of 2006 the number of items dispensed per year has increased by 115.3%, only dropping by 12.3% in the last financial year.

Nicotine is the most commonly prescribed smoking cessation drug between 2004/05 and 2013/14; however the quantity dispensed varies year on year. In 2013/14 Nicotine accounted for 85.7% of dispensing of Smoking Cessation Products. The dispensing of Nicotine decreased with the introduction of Varenicline in 2007 but had been rising steadily again until the most recent financial year where it has dropped by 11.2%. The dispensing of Bupropion has dropped 83.7% since 2004/05 and only accounts for 0.3% of the total. This may be tied to the restrictions applied to this product which can be found on the Scottish Medicines Consortium (SMC) website.

Defined Daily Doses (DDDs) are a measure derived from the international use of the substance in question. They were developed by the World Health Organisation (WHO) and are defined as “the assumed average maintenance dose per day used for its main indication in adults". Figure 2 shows the number of DDDS per 1,000 population per day for the years 2004/05 to 2013/14. Varenicline and Bupropion are licensed for patients aged 18 years and over however Nicotine is licensed for patients aged 12 years and above. Due to Nicotine accounting for 85.7% of dispensing we have used population data for ages 12 years and over in this publication.
Varenicline was not dispensed on the NHS prior to January 2007.

In 2012/13 the data showed a slight drop in defined daily doses for the first time since 2007/08. This trend has continued with a steeper decrease in 2013/14. This continued decrease is due to the decrease in the overall items dispensed.

In some cases it is possible to provide patient-based analysis using unique Community Health Index (CHI) numbers which makes it possible to identify which prescription items have been dispensed to individual patients. Patient-based analysis is a far more accurate method of examining patient numbers than estimating using DDDs. However, prescriptions dispensed through PHS do not currently log patients’ CHI numbers. As a high proportion of Nicotine prescriptions are through PHS, the CHI-capture rate for this drug is not high enough to perform accurate patient-based analysis. For example, in 2013/14 the CHI-capture rate for Nicotine was only 26.0%. As Nicotine is the most commonly prescribed smoking cessation drug, any patient-based analysis included in this publication would be extremely incomplete.
Varenicline was not dispensed on the NHS prior to January 2007.

The total gross ingredient cost follows the same trend observed for DDDs per 1,000 population per day (Figure 2) where the first decrease is observed in 2012/13 (Figure 3). This decrease is observed again in 2013/14 where gross ingredient cost is £2,153,157 (15.0%) lower.

Varenicline was not dispensed on the NHS prior to January 2007.

Figure 4 shows that the average cost per item has been dropping since 2007/08 where it peaked at £30.59 and is currently the lowest it has been in the ten year period we are reporting, at £22.35.
NHS Board

Information on the NHS Board that prescribed the smoking cessation products has also been analysed. Figures 5 and 6 show prescribing of smoking cessation Products by NHS board in terms of the number of dispensed items per 1,000 population and by the number of defined daily doses per 1,000 population per day, respectively. These figures show the most recent years data being compared to 2008/09, the year that the Public Health Service (PHS) was introduced.

Figure 5 – Number of Dispensed Items per 1,000 Population (aged 12+), by NHS Board – 2008/09 and 2013/14

Considerable variation exists among the fourteen NHS Boards in 2013/14, shown in Figure 5. All NHS Boards show an increase in the number of dispensed items per 1,000 population from 2008/09 to 2013/14. NHS Lanarkshire shows the highest proportional increase (151.1%) and NHS Orkney the lowest (3.3%). NHSScotland shows an increase of 60.9%.
Expressing the prescribing data in terms of the number of DDDs per 1,000 population aged 12 and over per day (Figure 6) shows some differences to that shown in Figure 5, for example, NHS Western Isles now shows the smallest proportional increase (0.3%). In 2013/14 the highest recorded rate was in NHS Ayrshire and Arran at 6.11 DDDs per 1,000 population per day and NHS Shetland the lowest at 2.63 DDDs per 1,000 population per day. It also shows an increase in NHS Orkney’s dispensing compared to Figure 5 which shows a decrease.
When you look at the changes in NHS Board dispensing from 2012/13 to 2013/14, only NHS Ayrshire and Arran shows an increase in the number of DDDs dispensed per 1,000 population per day.

**Seasonal Variation**

Figure 8 below shows the seasonal effect on total DDDs of smoking cessation products by month, between April 2004 and March 2014.

**Figure 8 – Total Defined Daily Doses by Month for all Smoking Cessation Products - April 2004 to March 2014**
The total for all products in Figure 8 above shows a sharp peak which rises from January into February, culminating in March; this could be due to people opting to stop smoking for a New Year’s resolution. The high peak at March 2006 coincided with the introduction of the smoking ban.

When looking at product level, the trend for Nicotine closely follows the total trend pattern, indicating that it is Nicotine prescribing that drives the seasonal trend. NRT declined in December 2007 when Varenicline prescribing started to grow. Varenicline has remained relatively constant over the last five years during which NRT has been increasing. This increase could be attributed to the introduction of the Public Health Service in September 2008. The dispensing figures for Bupropion are too small to show up well in this chart; however they have been decreasing since the introduction of Varenicline in 2007.
| **Glossary** |
|-----------------|---------------------------------------------------------------------------------|
| **Approved Drug Name** | As listed in BNF, being the recognised official non-proprietary title (recommended International Non-Proprietary Name - rINN). |
| **British National Formulary (BNF)** | A standard classification of drugs into conditions of primary therapeutic use, the aim is to provide prescribers, pharmacists and other healthcare professionals with sound up-to-date information about the use of medicines. |
| **Community Health Index (CHI)** | This is a 10-digit number which is a unique identifier of individual patients. |
| **Defined Daily Dose (DDD)** | Assumed average maintenance dose per day for a drug when used for its main indication in adults, as defined by World Health Organisation. |
| **Gross Ingredient Cost (GIC)** | Cost of drugs and appliances reimbursed before deduction of any dispenser discount (note this definition differs from other parts of the UK). |
| **NRT** | Nicotine replacement therapy, works by releasing Nicotine steadily into the bloodstream at much lower levels than in a cigarette, without the tar, carbon monoxide and other poisonous chemicals present in tobacco smoke. |
| **Prescribable Item Name** | The drug name written on the prescription - can be by approved name or a brand name. |
| **Prescribed Health Board** | The NHS Board with which the prescriber holds a contract to prescribe, i.e. GP, Dentist, Non-medical prescriber. |
| **Prescription Item** | An item is an individual product prescribed e.g. 100 aspirin tablets of 300mg. |
| **Prescription Form** | A prescription form that can contain up to three items. |
| **Public Health Service (PHS)** | The PHS aims to support the community pharmacist’s contribution to health protection, health improvement and medicine safety, by encouraging a more pro-active involvement of pharmacists and their staff in supporting self care, providing a health promoting environment across the network of community pharmacies, offering opportunistic opportunities to promote healthy lifestyles and contributing to national and local campaigns. |
| **Quantity** | Quantity dispensed of an individual item e.g. 100 tablets |
| **Target Population** | The population which are eligible to receive the medication, i.e. aged 12 and over. |
## List of Tables

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Name</th>
<th>Time period</th>
<th>File &amp; size</th>
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<tbody>
<tr>
<td>1</td>
<td><strong>Prescribing of Smoking Cessation Products in Scotland</strong></td>
<td>Financial years 2004/05 to 2013/14</td>
<td>Excel [307kb]</td>
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</tbody>
</table>
Contact
Katrina Reid
Information Analyst
k.reid1@nhs.net
0131 275 6951

Ross Murdoch
Information Analyst
rmurdoch@nhs.net
0131 275 6672

Further Information
Further information can be found on the ISD website

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Appendix

A1 – Background Information

How the data are obtained

Practitioner Services, a division of NHS National Services Scotland, processes all NHS prescriptions for payment of pharmacists, dispensing doctors and appliance suppliers. This gives a full record from which trends in prescribing can be investigated at a detailed level. The data includes prescribing by GPs, nurses, dentists, pharmacists and hospitals, where the latter was dispensed in the community. Hospital dispensed prescriptions are NOT included in the figures. The Information Services Division (ISD) cannot say what proportion of the drug dispensed is actually consumed. These data do NOT include products purchased "over the counter". Prescriptions processed internally by Boards for payment purposes are NOT included in these data.

Defined daily doses

A method of examining prescribing levels using different formulations of products (for example chewing gum, patches and tablets) are defined daily dose (DDD) as developed by the World Health Organisation (WHO).

A Defined daily dose is defined as “the assumed average maintenance dose per day for a drug used on its main indication in adults”. DDDs are a measure derived from the international use of the substance in question. As British prescribing patterns may differ from the accepted international value, each DDD should be regarded as a technical value, a close approximation of an average of the actually used doses. The DDDs are therefore not necessarily the most frequently prescribed or used doses. Each drug is assigned a DDD value, based on its active ingredient. It should be noted, however, that it is an arbitrary unit for measurement purposes and makes no pretence to be a therapeutic recommendation. The value is derived from literature, manufacturer’s recommendations and experience gained in the field. An international committee from twelve countries, including Britain, consider the evidence and assign a DDD value for a drug in its main indication. All new DDDs are reviewed after three years; existing DDDs after five years.

Changes to publications – September 2014

Dispensed items

Where one of several items on a form is not dispensed, it is marked as ‘not dispensed’ by the dispenser (known as an endorsement type 90). Historically, these items have been processed as if they were dispensed, resulting in items that appeared to have been dispensed but with zero costs associated. At Scotland level around 20,000 items per month have an endorsement type 90 attached to them.

Recent work to improve the accuracy of prescriptions data has included a change to ensure these ‘not dispensed’ items are now excluded from both dispensed item counts and associated costs. This change has been applied to data in the Prescribing Information System (NHSScotland’s national prescribing database) from 1st April 2013 to date. When the ‘not dispensed’ items are excluded from analysis, figures show an approximate
reduction of less than 0.4% in the number of dispensed items and an increase in the cost per item compared to when they are included.

This change has been applied to 2013/14 data only, previous years’ data will not be updated; this should be noted when considering time series data.

**Gross Ingredient Cost**

In previous publications the gross ingredient cost quoted has been based on gross ingredient cost paid. However, each year there are a small number of items which are dispensed but not paid and would therefore not be included in this measure.

For the 2013/14 publication we have used the dispensed gross ingredient cost measure. Therefore this data now includes all dispensing whether they were paid or not.

This change has been applied to 2013/14 data only, previous years’ data will not be updated; this should be noted when considering time series data.

**Population Data**

The populations have been updated to the NRS re-based estimates based on the 2011 census. The rebased population estimates are only available for the current NHS Board breakdown.

The rebased populations are slightly increased compared to previous estimates; however the effect of this change is small reductions in the number of DDDs per 1,000 population per day. This affects 2006/07 to 2010/11 data.
A2 – Publication Metadata (including revisions details)

<table>
<thead>
<tr>
<th>Metadata Indicator</th>
<th>Description</th>
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<tbody>
<tr>
<td>Publication title</td>
<td>NHSScotland Prescribing - Prescribing of Smoking Cessation Products</td>
</tr>
<tr>
<td>Description</td>
<td>Summary and detailed statistics on prescribing and dispensing in the community in Scotland including: Smoking Cessation Products, presented by financial years for NHSScotland. Data presented shows number of items, defined daily dose and gross ingredient cost.</td>
</tr>
<tr>
<td>Theme</td>
<td>Health and Social Care</td>
</tr>
<tr>
<td>Topic</td>
<td>Health Care Personnel, Finance and Performance</td>
</tr>
<tr>
<td>Format</td>
<td>Excel workbooks</td>
</tr>
<tr>
<td>Data source(s)</td>
<td>Prescribing Information System (PIS). All data held in PIS is sourced from Practitioner Services Division (PSD) within NHS National Services Scotland who are responsible for the remuneration and reimbursement of dispensing contractors within Scotland.</td>
</tr>
<tr>
<td>Date that data are acquired</td>
<td>Data are acquired on a monthly basis from PSD following payment approximately 2 calendar months after the end of the month being claimed for payment by contractors</td>
</tr>
<tr>
<td>Release date</td>
<td>30th September 2014</td>
</tr>
<tr>
<td>Frequency</td>
<td>Annual</td>
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<tr>
<td>Timeframe of data and timeliness</td>
<td>Data covering financial year to 31 March 2014</td>
</tr>
<tr>
<td>Continuity of data</td>
<td>Data are held in PIS for the most recent 10 years and is stored in archive files back to 1993/94. The definition of the main measures such as gross ingredient cost and number of items are unchanged over this period. Types and value of dispensing fees are agreed the Scottish Government and set annually. Details can be found in the Scottish Drug Tariff and in Primary Care circulars issued by the Government. Drug products are first licensed as proprietary medicines but generic versions often appear once the original patent expires. This can affect the price and uptake of these drugs. The Scottish Government sets the reimbursement price of generic drug products via the Scottish Drug Tariff which is updated and issued quarterly.</td>
</tr>
<tr>
<td>Revisions statement</td>
<td>Data are sourced from monthly pharmacy payments data on an ongoing basis therefore once published there is no routine requirement to revise historical data. However occasionally adjustments are made to pharmacy payments retrospectively by PSD for example due to an administrative error. Retrospective revisions can also occur.</td>
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Information Services Division

with the classification of drugs in the British National Formulary (BNF). Where either of these occur and are deemed to be significant in line with ISD's Revisions policy, a revision will be made to published data. This will be notified on the website.

<table>
<thead>
<tr>
<th>Revisions relevant to this publication</th>
<th>Some changes made to the number of dispensed items in the data set and the gross ingredient cost. See Appendix for details</th>
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<tbody>
<tr>
<td>Concepts and definitions</td>
<td>The data published in all these releases correspond to prescriptions that have been prescribed in Scotland and dispensed in the community in Scotland, or elsewhere in the UK i.e. dispensed by a pharmacy, dispensing doctor or appliance supplier. These data do not include prescription drugs that were supplied and administered to patients in a hospital setting. Prescriptions issued in hospital to patients on discharge and dispensed in the community are included. Each excel workbook contains further detailed definitions of the main measures and links to a glossary.</td>
</tr>
<tr>
<td>Relevance and key uses of the statistics</td>
<td>These statistics are the primary source of data on prescribing for Smoking Cessation within Scotland. They are also used to compare prescribing patterns across Health Boards and over time</td>
</tr>
<tr>
<td>Accuracy</td>
<td>The data are sourced from a payment system and routine monthly checks are carried out by Practitioners Services on a random sample of approximately 5% of prescription payments. These check all data captured for payment and the accuracy of the payment calculation and have a target accuracy of 98% which is routinely met. Data that is captured but is not mandatory for payment purposes can be of lower quality; principally this includes the prescriber code which links a prescription back to the individual prescriber e.g. GP and their organisation including NHS Board. Routine monitoring of unallocated prescriptions is carried out and correct codes are applied before publication. This ensures that unallocated prescriptions account for fewer than 2% of all prescriptions. For remaining unallocated prescriptions, the prescribing NHS Board is assumed to be the same as the dispensing NHS Board.</td>
</tr>
<tr>
<td>Completeness</td>
<td>The Prescribing Information System holds information on 100% of NHSScotland prescriptions dispensed within the community and claimed for payment by a pharmacy contractor (i.e. pharmacy, dispensing doctor or appliance supplier). It does not include data on prescriptions dispensed but not claimed (likely to be very small) or prescriptions prescribed but not submitted for dispensing by a patient. Some research has estimated these latter prescriptions to account for around 6% of all prescriptions issued to patients. It is not possible to determine from payment data how much of the medicine dispensed to patients is actually taken in accordance with dosage</td>
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</tbody>
</table>
## Information Services Division

**Comparability**

The main measures of drug ingredient cost and volumes of items dispensed in the community are comparable across the UK countries. However it should be noted that the Gross Ingredient Cost (GIC) within Scotland is equivalent to the Net Ingredient Cost (NIC) in England, i.e. the reimbursement cost of drugs before any pharmacy discounts are applied. Also each country determines its own dispensing fees based on separate contractual arrangements with dispensing contractors in each country. A common formulary called the British National Formulary (BNF) is used to classify drugs based on therapeutic use.

**Accessibility**

It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines.

**Coherence and clarity**

All prescribing tables are accessible via the ISD website. Prescribing statistics are presented within excel spreadsheets for NHSScotland and where appropriate broken down by NHS Board.

**Value type and unit of measurement**

The main measures of drug volume are items (the number of individual drug items on a prescription form), quantity (the total number of tablets, capsules etc), and defined daily doses (DDDs - estimated average daily maintenance doses for a total quantity of prescribed). Further details and definitions can be found in the glossary.

**Disclosure**

The ISD protocol on Statistical Disclosure Protocol is followed.

**Official Statistics designation**

National Statistics.

**UK Statistics Authority Assessment**

Assessment by UK Statistics Authority completed and assessment report issued October 2010.

**Last published**

24-Sep-13

**Next published**

29-Sep-15

**Date of first publication**

n/a

**Help email**

NSS.isdprescribing@nhs.net

**Date form completed**

03/09/2014
A3 – Early Access details (including Pre-Release Access)

Pre-Release Access
Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

Standard Pre-Release Access:
- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads

Extended Pre-Release Access
Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

- Scottish Government Health Department (Analytical Services Division)
A4 – ISD and Official Statistics

About ISD
Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics
Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of ‘Official Statistics’. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD’s statistical publications are currently classified as one of the following:

- National Statistics (i.e. assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (i.e. legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (i.e. still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD’s statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the ISD website.

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- Are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.