Controlling officer: the Government Chemist will account for expenditure under this Head.	
Estimate 2017–18	\$463.9m
<b>Establishment ceiling 2017–18</b> (notional annual mid-point salary value) representing an estimated 480 non-directorate posts as at 31 March 2017 and as at 31 March 2018	\$280.4m
In addition, there will be an estimated seven directorate posts as at 31 March 2017 and as at 31 March 2018.	
Commitment balance	\$8.6m

## **Controlling Officer's Report**

#### **Programmes**

**Programme (1) Statutory Testing** This programme contributes to Policy Area 2: Agriculture, Fisheries and Food Safety (Secretary for Food and Health) and

Policy Area 15: Health (Secretary for Food and Health).

Programme (2) Advisory and Investigative

**Services** 

**Programme (3) Forensic Science Services** 

This programme contributes to Policy Area 2: Agriculture, Fisheries and Food Safety (Secretary for Food and Health), Policy Area 9: Internal Security (Secretary for Security), Policy Area 23: Environmental Protection, Conservation, Power and Sustainable Development (Secretary for the Environment) and Policy Area 32: Environmental Hygiene (Secretary for Food and Health).

This programme contributes to Policy Area 9: Internal Security

(Secretary for Security).

#### **Detail**

#### **Programme (1): Statutory Testing**

	2015–16	2016–17	2016–17	2017–18
	(Actual)	(Original)	(Revised)	(Estimate)
Financial provision (\$m)	209.6	218.6	219.5 (+0.4%)	<b>211.0</b> (-3.9%)

(or -3.5% on 2016–17 Original)

## Aim

The aim is to carry out statutory functions as referee analyst under a number of ordinances and regulations.

## **Brief Description**

The Government Chemist discharges statutory functions as referee analyst under various ordinances and regulations. The work involves the analysis of food products for regulatory compliance; the examination of western and Chinese medicines for registration and quality control; the classification of dangerous goods for compliance with the Dangerous Goods Ordinance (Cap. 295); the testing of dutiable commodities for tariff classification; the assessment of toys, children's products and consumer articles for health and safety hazards; the determination of tar and nicotine yields in cigarettes; the assay of gold and platinum articles for fineness; the analysis of consumer goods in relation to the fitness with their trade descriptions; and the verification of products and equipment for compliance with the Weights and Measures Ordinance (Cap. 68). The Laboratory provides 24-hour on-call service to assist the Fire Services Department at scenes of accidents involving hazardous chemicals.

- 4 In 2016–17, the Laboratory continued outsourcing some of the routine food testing work to private testing laboratories. The resources released from outsourcing were deployed to take up test method development, new testing work arising from amendments of food legislation and activities related to outsourcing such as organisation of technical seminars as well as chemical metrology development. In another area of health concern, the Laboratory continued to provide full support for (a) urgent investigatory analyses of substandard pharmaceuticals and Chinese medicines; (b) investigation into cases of adverse reaction arising from the consumption of proprietary Chinese medicines and/or health products found containing undeclared western drug ingredients; and (c) intoxication incidents related to substitution or contamination of herbs in Chinese herbal medicines. In addition, the Laboratory continued to provide analytical and advisory support to the Department of Health in the development of Hong Kong Chinese Materia Medica Standards. The Laboratory will continue to provide support to the testing and certification industry, for example, arrangement of proficiency tests for local laboratories and provision of reference materials.
  - 5 The key performance measures in respect of statutory testing are:

## Targets#

	Target	2015 (Actual)	2016 (Actual)	2017 (Plan)
	141501	(Tiotaar)	(Tiotaar)	(1 1111)
Testing of:				
food complaint cases within	0.40	00	0.5	0.4
25 working days (%)	$84\Omega$	89	85	84
urgent samples relating to food incidents	100	100	100	100
within two working days (%)	100	100	100	100
other food samples within reporting time	0.5	0.0	00	0.5
averaging 19 working days (%)	95	98	98	95
urgent samples relating to pharmaceutical				
incidents within two working	0.5	NT A	100	05
days (%)@	95	N.A.	100	95
other pharmaceutical samples within				
reporting time averaging 25 working	95	N.A.	97	95
days (%)@	93	IN.A.	97	95
pharmaceuticals (quality control) within				
reporting time averaging	N.A.	99	N.A.	N.A.
14 working days (%)Θ	IV.A.	99	IV.A.	IV.A.
pharmaceuticals (registration) within				
reporting time averaging	N.A.	98	N.A.	N.A.
30 working days (%)Θ	IV.A.	90	IV.A.	IV.A.
urgent samples relating to Chinese medicine incidents within two working				
	95	N.A.	100	95
days (%)@other Chinese medicine samples within	73	IV.A.	100	93
reporting time averaging 30 working days (%)@	95	N.A.	99	95
Chinese medicines within reporting time	93	1 <b>V.</b> / <b>A.</b>	))	73
averaging 30 working days (%)\P	N.A.	98	N.A.	N.A.
dangerous goods within reporting time	1 <b>V.</b> / <b>A</b> .	90	IV.A.	11.71.
averaging 14 working days (%)	$96\Delta$	99	98	96
dutiable and other commodities within	70Δ	))	76	70
reporting time averaging				
ten working days (%)	95	99	99	95
toys and children's products within	)3	,,,	,,,	73
reporting time averaging				
15 working days (%)	95	99	99	95
consumer goods within reporting time	,,,			,,
averaging 35 working days (%)	95	99	99	95
non-pharmaceutical consumer goods	, ,			, ,
(trade descriptions) within reporting				
time averaging 35 working days (%)	92∧	94	97	92
· · · · · · · · · · · · · · · · · · ·	, <del>-</del>			- <del>-</del>

<sup>#</sup> For targets where reporting time is mentioned, different samples require different analytical procedures, hence different reporting time. The quoted number of working days required represents an average of reporting time for the different types of samples and test requests within the category, while the target (in percentage) is the total compliance rate of the concerned samples and test requests within a particular category against their respective targets.

 $<sup>\</sup>Omega$  The target is revised from 83 per cent to 84 per cent as from 2016.

<sup>@</sup> These are new targets as from 2016, which are regrouped into "urgent" and "other" samples to better reflect different levels of urgency.

- $\Theta$  These targets are replaced by the new targets relating to pharmaceuticals marked with @ as from 2016.
- Ψ This target is replaced by the new targets relating to Chinese medicines marked with @ as from 2016.
- $\Delta$  The target is revised from 95 per cent to 96 per cent as from 2017.
- The target is revised from 90 per cent to 92 per cent as from 2016.

## **Indicators**

The key indicators for statutory testing are the numbers of tests performed on the various categories of services.

	2015	2016	2017
	(Actual)	(Actual)	(Estimate)
Tests performed			
food complaint samples	14 317	12 422	14 000
urgent samples relating to food incidents	316	393	N.A.‡
other food samples	196 339	196 370	184 000
urgent samples relating to pharmaceutical incidents §	N.A.	655	N.A.‡
other pharmaceutical samples§	N.A.	54 078	51 000
pharmaceuticals (quality control)ω	22 025λ	N.A.	N.A.
pharmaceuticals (registration)ω	37 929	N.A.	N.A.
urgent samples relating to Chinese medicine			
incidents§	N.A.	438	N.A.‡
other Chinese medicine samples§	N.A.	81 468	80 000
Chinese medicines¶	82 930	N.A.	N.A.
dangerous goods"	4 983	8 120ŋ	5 000
dutiable and other commodities	5 618	6 040	6 000
non-pharmaceutical consumer goods (trade			
descriptions)	5 948	4 642	5 000
cigarette samples	12 504	12 864	13 000
toys and children's products	20 400	20 628	21 500
consumer goods	13 076	11 693	12 000

- As the testing requirements for urgent samples relating to food, pharmaceuticals and Chinese medicine incidents respectively fluctuated in previous years, it is difficult to estimate either the occurrence of these type of incidents or the number of tests required.
- § These are new indicators as from 2016, which are regrouped into "urgent" and "other" samples to better reflect different levels of urgency.
- ω These indicators are replaced by the new indicators relating to pharmaceuticals marked with § as from 2016.
- λ The analytical requirement for pharmaceutical manufacturing work included under the category of pharmaceuticals (quality control) ceased from January 2015 due to closure of the Pharmaceutical Manufactory of the Department of Health. Hence, there was a decrease in the number of testing requests in 2015.
- This indicator is replaced by the new indicators relating to Chinese medicines marked with § as from 2016.
- η The higher work output in 2016 was due to unforeseen and ad hoc litigation samples.

## Matters Requiring Special Attention in 2017–18

- 6 During 2017–18, the Laboratory will continue to:
- provide analytical services in support of the implementation of the Food and Drugs (Composition and Labelling) (Amendment) (No. 2) Regulation 2014;
- provide professional advisory and analytical services to support the implementation of the Pesticide Residues in Food Regulation (Cap. 132CM);
- outsource some of the routine food testing work to the private sector to better utilise the Laboratory's resources in developing and performing new tests regarding legislative amendments;
- provide analytical and advisory support to the Department of Health for the formulation and development of Hong Kong Chinese Materia Medica Standards for Chinese herbal medicines commonly used in Hong Kong;
- provide metrology-in-chemistry support for the development of testing and certification industry in Hong Kong;
   and
- provide professional advisory and analytical services to support the enforcement of the various orders and regulations under the Trade Descriptions Ordinance (Cap. 362). The services will cover analysis and authenticity tests on consumer goods, in particular those related to valuable goods such as jewellery, seafood products and Chinese medicinal products where their authenticity is of public concern.

#### Programme (2): Advisory and Investigative Services

	2015–16	2016–17	2016–17	2017–18
	(Actual)	(Original)	(Revised)	(Estimate)
Financial provision (\$m)	83.3	88.0	92.6 (+5.2%)	<b>89.6</b> (-3.2%)

(or +1.8% on 2016–17 Original)

#### Aim

7 The aim is to provide a wide range of primarily chemical testing and advisory services to other government departments and public institutions.

## **Brief Description**

- 8 The Laboratory provides comprehensive analytical and advisory services to the Government in the management and monitoring of the environment and in the enforcement of various pollution control measures. Chemical testing of air, water and waste samples for a variety of pollution indicators constitutes the main activity under this programme. Specific incidents of emission or leakage of gaseous substances into the environment involve the Laboratory in on-site investigations. Analytical support is provided to the Hong Kong Observatory's Environmental Radiation Monitoring Programme as well as the Daya Bay Contingency Plan. Other activities include the examination of seepage and swimming pool water samples for the Food and Environmental Hygiene Department, analysis of samples related to evaluation of exposure to occupational hazards for the Labour Department, testing of government supplies for conformity to tender specifications and identifying products made from endangered species.
- 9 In 2016–17, the Laboratory continued to render analytical support and professional advice to the Government in improving the quality of the environment of Hong Kong and engage in scientific research to further enhance its analytical capabilities in environmental analysis. In addition to its routine commitments, the Laboratory was actively involved in various environmental impact studies and ad hoc projects including the analysis of environmental samples for organic and inorganic pollutants under the Toxic Substances Monitoring Programme. To support the implementation of the Air Pollution Control (Volatile Organic Compounds) Regulation (Cap. 311W), the Laboratory continued to provide analytical services for determining the content of volatile organic compounds in regulated products including architectural paints, vessel paints and pleasure craft paints, printing inks, adhesives and sealants, vehicle refinishing paints and consumer products. Method development and validation work for the analysis of new persistent organic pollutants was continued. In 2016, the Laboratory also provided over 360 pieces of professional advice relating to over 1 410 items for classification under the Dangerous Goods Ordinance and over 260 pieces of advice relating to over 540 items supporting implementation of the Chemical Weapons (Convention) Ordinance (Cap. 578) and control of strategic commodities.
  - 10 The key performance measures in respect of advisory and investigative services are:

#### Targets#

	Target	2015 (Actual)	2016 (Actual)	2017 (Plan)
Testing of:				
air pollution monitoring samples within reporting time averaging				
20 working days (%)	95	99	99	95
field investigation (air pollution) samples				
within reporting time averaging 12 working days (%)	96	100	100	96
air pollution samples for litigation	, ,	100	100	, ,
purposes within reporting time averaging 18 working days (%)	97	100	100	97
water quality monitoring samples within	91	100	100	71
reporting time averaging	06	07	00	0.0
20 working days (%)environmental waste monitoring samples	96	97	99	96
within reporting time averaging				
27 working days (%)	95	98	99	95
environmental waste samples for litigation purposes within reporting time				
averaging 12 working days (%)	97	100	99	97
radioactivity monitoring samples within reporting time averaging				
12 working days (%)	95	100	100	95

	Target	2015 (Actual)	2016 (Actual)	2017 (Plan)
pesticides formulation samples within				
reporting time averaging				
36 working days (%)	93	100	100	93
seepage and swimming pool water				
samples within ten working days (%)	96	99	99	96
other samples within reporting time				
averaging 25 working days (%)	90	99	99	90

<sup>#</sup> For targets where reporting time is mentioned, different samples require different analytical procedures, hence different reporting time. The quoted number of working days required represents an average of reporting time for the different types of samples and test requests within the category, while the target (in percentage) is the total compliance rate of the concerned samples and test requests within a particular category against their respective targets.

#### **Indicators**

The key indicators for advisory and investigative services are the numbers of tests performed on the various categories of services.

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
Tests performed			
air pollution monitoring samples	62 148	66 281	63 000
air pollution samples for litigation purposes	2 783	3 929	3 400
field investigation (air pollution) samples	476	417	440
water quality monitoring samples	128 920	134 935	123 000
environmental waste monitoring samples	10 799	12 747	11 000
environmental waste samples for litigation purposes	528	1 112	1 400
pesticides formulation samples	350	596	700
seepage and swimming pool water samples	35 248	46 081	40 000
miscellaneous radioactivity monitoring samples	5 199	5 149	4 700
other samples	19 434Ф	9 381	9 150

Φ The high output in 2015 was due to the testing of samples related to Incident of Lead in Drinking Water.

## Matters Requiring Special Attention in 2017–18

- 11 During 2017–18, the Laboratory will continue to provide:
- analytical services in support of the implementation of the Air Pollution Control (Ocean Going Vessels) (Fuel at Berth) Regulation, and
- support to government departments in relation to the implementation of the Stockholm Convention on Persistent Organic Pollutants and the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

## Programme (3): Forensic Science Services

	2015–16 (Actual)	2016–17 (Original)	2016–17 (Revised)	2017–18 (Estimate)
Financial provision (\$m)	158.7	158.4	162.9 (+2.8%)	163.3 (+0.2%)
				(or +3.1% on 2016–17 Original)

#### Aim

12 The aim is to provide comprehensive and unbiased forensic science services to the criminal justice system.

#### **Brief Description**

- 13 The Laboratory provides comprehensive and impartial forensic science services to the law enforcement departments, which include mainly the Hong Kong Police Force, the Customs and Excise Department, the Immigration Department and the Fire Services Department. The services include crime scene investigation, traffic accident reconstruction, fire investigation, DNA profiling, drugs of abuse examination, toxicology analysis and questioned documents examination. A 24-hour and express service is also provided for these scientific examinations to fulfil the immediate client's need.
- 14 Additionally, the screening and monitoring, through urine testing (urinalysis), of the drug-abuse behaviour of persons under imprisonment, rehabilitation or probation is conducted for the Department of Health (Methadone Maintenance Scheme), the Social Welfare Department, the Correctional Services Department, the Hong Kong Police Force and other organisations requiring this service.
- 15 The targets are defined to be the percentage of completed cases whose individual case-completion time does not exceed a specified number of working day(s). The key performance measures in respect of the forensic science services are:

#### **Targets**

	Target	2015 (Actual)	2016 (Actual)	2017 (Plan)
	rarget	(Actual)	(Actual)	(1 lall)
Cases for:				
biochemical grouping (DNA profiling) -				
non-complicated cases completed	0.0	0.0	0.1	0.0
within 60 working days (%)β	90	99	91	90
complicated cases completed within	0.0	0.0	0.6	0.0
130 working days (%)	90	98	96	90
DNA database (DNA profiling) completed	00	98	98	00
within 22 working days (%)	90	98	98	90
parentage testing (DNA profiling) completed within				
22 working days (%)Δ	90	97	98	90
trace evidence completed within	90	91	76	70
66 working days (%)	90	97	93	90
accident reconstruction completed within	70	71	75	70
66 working days (%)	90	91	91	90
illicit drug seizures completed within	, ,	71	71	, ,
11 working days (%)	90	93	94	90
major illicit drug seizures and				
manufacturing completed within				
44 working days (%)	90	93	93	90
other illegal drug activities completed				
within 120 working days (%)	90	94	98	90
analytical toxicology completed within				
33 working days (%)	85	90	90	85
drug urinalysis -				
methadone clinics completed within				
11 working days (%)	90	91	93	90
judicial-confirmation (routine)				
completed within	0.5	00	0.0	0.5
22 working days (%)	85	99	98	85
judicial-confirmation (enhanced				
probation) completed within	100	100	100	100
six working days (%)φ	100	100	100	100
drug-driving completed within	85	94	91	85
33 working days (%)drink-driving completed within	0.5	24	71	03
11 working days (%)	90	97	97	90
handwriting examination completed within	70	)	71	70
66 working days (%)	85	95	95	85
counterfeiting/forgery completed within	0.5	,,,	,,,	00
30 working days (%) $\Omega$	90	96	96	90
express counterfeiting/forgery service				
completed within				
one working day (%)	99	100	100	99

β From 2016 onwards, the turnaround time of the non-complicated DNA profiling cases is shortened from 66 to 60 working days.

- Δ The figures represent the number of working days lapsed between the reception by the Laboratory of samples for genetic testing and the issuing of genetic data after completion of DNA analysis of these samples within the Laboratory.
- φ From 2016 onwards, the turnaround time of the judicial-confirmation (enhanced probation) drug urinalysis is reset from five to six working days with the day of receipt of samples being included in the calculation. The performance pledge of this service remains unchanged.
- $\Omega$  From 2016 onwards, the turnaround time of the counterfeiting/forgery cases is shortened from 33 to 30 working days.

#### **Indicators**

Key indicators for the forensic science services are the number of cases investigated in each category, statutory certificates or technical reports and witness statements issued and crime scenes attended.

	2015 (Actual)	2016 (Actual)	2017 (Estimate)
Criminalistics and Quality Management Group			
cases investigated			
DNA database	2 906	2 891	3 000
biochemical sciences -			
non-complicated	603	594	765
complicated	1 208	1 059	1 150
parentage testing	2 476	2 354	2 500
chemical sciences	661	657	700
physical sciences	670	634	650
Drugs, Toxicology and Documents Group			
cases investigated			
controlled drugs	5 060	4 745	4 800
analytical toxicology	2 428	2 355	2 600
drug urinalysis -	2 .20	2 333	2 000
methadone clinics	9 716	7 899	8 500
judicial-confirmation (routine)	20 468	18 888	20 000
judicial-confirmation (enhanced probation)	1 867	1 661	1 700
drug-driving	31	22	30
drink-driving	62	67	70
questioned documents	571	568	550
questioned documents	3/1	300	330
Forensic Science Division			
statutory certificates issued	5 248	4 932	5 000
technical reports/statements	11 997	11 779	12 000
crime scenes attended	310	357	360

## Matters Requiring Special Attention in 2017–18

<sup>16</sup> During 2017–18, the Laboratory will continue to provide analytical support to government departments in urinalysis service for measures combating the youth drug abuse problem, such as enhanced probation scheme at all seven magistracies in Hong Kong.

#### ANALYSIS OF FINANCIAL PROVISION

Pro	gramme	2015–16 (Actual) (\$m)	2016–17 (Original) (\$m)	2016–17 (Revised) (\$m)	2017–18 (Estimate) (\$m)
(1)	Statutory Testing	209.6	218.6	219.5	211.0
(2)	Advisory and Investigative Services	83.3	88.0	92.6	89.6
(3)	Forensic Science Services	158.7	158.4	162.9	163.3
		451.6	465.0	475.0 (+2.2%)	463.9 (-2.3%)

(or -0.2% on 2016–17 Original)

## **Analysis of Financial and Staffing Provision**

## Programme (1)

Provision for 2017–18 is \$8.5 million (3.9%) lower than the revised estimate for 2016–17. This is mainly due to decreased requirement for procurement of equipment and specialist supplies.

#### Programme (2)

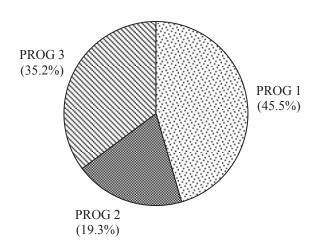
Provision for 2017–18 is \$3.0 million (3.2%) lower than the revised estimate for 2016–17. This is mainly due to decreased requirement for procurement of equipment and specialist supplies.

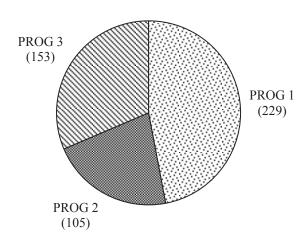
## Programme (3)

Provision for 2017–18 is \$0.4 million (0.2%) higher than the revised estimate for 2016–17. This is mainly due to increased provision for personal emoluments and other operating expenses.

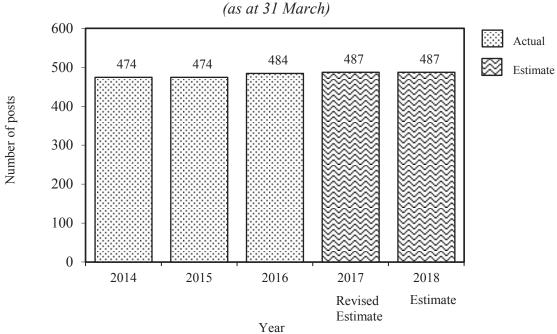
Allocation of provision to programmes (2017-18)

Staff by programme (as at 31 March 2018)





Changes in the size of the establishment
(as at 31 March)



Sub- head (Code)		Actual expenditure 2015–16 \$'000	Approved estimate 2016–17	Revised estimate 2016–17	Estimate 2017–18
	Operating Account	Ψ 000	φσσσ	Ψ 000	\$ 000
	Recurrent				
000	Operational expenses	384,928	390,069	401,308	405,981
	Total, Recurrent	384,928	390,069	401,308	405,981
	Total, Operating Account	384,928	390,069	401,308	405,981
	Capital Account				
	Plant, Equipment and Works				
603 661	Plant, vehicles and equipment	53,080	20,260	19,067	4,640
		13,616	54,641	54,641	53,297
	Total, Plant, Equipment and Works	66,696	74,901	73,708	57,937
	Total, Capital Account	66,696	74,901	73,708	57,937
	Total Expenditure	451,624	464,970	475,016	463,918

#### **Details of Expenditure by Subhead**

The estimate of the amount required in 2017–18 for the salaries and expenses of the Government Laboratory is \$463,918,000. This represents a decrease of \$11,098,000 against the revised estimate for 2016–17 and an increase of \$12,294,000 over the actual expenditure in 2015–16.

#### Operating Account

#### Recurrent

- **2** Provision of \$405,981,000 under *Subhead 000 Operational expenses* is for the salaries, allowances and other operating expenses of the Government Laboratory.
- 3 The establishment as at 31 March 2017 will be 487 posts. No change in establishment is expected in 2017–18. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2017–18, but the notional annual mid-point salary value of all such posts must not exceed \$280,355,000.
  - 4 An analysis of the financial provision under Subhead 000 Operational expenses is as follows:

	2015–16 (Actual) (\$'000)	2016–17 (Original) (\$'000)	2016–17 (Revised) (\$'000)	2017–18 (Estimate) (\$'000)
Personal Emoluments				
- Salaries Allowances Personnel Related Expenses	279,284 2,849	292,223 1,991	302,511 2,942	306,665 3,090
Mandatory Provident Fund     contribution  - Civil Service Provident Fund	586	896	850	808
contribution	12,904	14,149	14,455	18,045
- General departmental expenses	89,305	80,810	80,550	77,373
	384,928	390,069	401,308	405,981

## Commitments

	(Code)	Ambit	Approved commitment \$'000	Accumulated expenditure to 31.3.2016 \$'000	Revised estimated expenditure for 2016–17	Balance \$'000
Capital 2	Accou	int				
603		Plant, vehicles and equipment				
8	802	Acquisition of a set of nuclear magnetic resonance spectroscopy system	9,975	_	1,430	8,545
8	864	Replacement of an integrated gas chromatography with mass selective detector and electron capture detector with an integrated gas	2.002	2 927		7/
		chromatographic system	2,903	2,827		76
		Total	12,878	2,827	1,430	8,621