

Head 48 — GOVERNMENT LABORATORY

Controlling officer: the Government Chemist will account for expenditure under this Head.

Estimate 2019–20 **\$538.6m**

Establishment ceiling 2019–20 (notional annual mid-point salary value) representing an estimated 480 non-directorate posts as at 31 March 2019 rising by 15 posts to 495 posts as at 31 March 2020..... **\$308.0m**

In addition, there will be an estimated seven directorate posts as at 31 March 2019 and as at 31 March 2020.

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

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).

Programme (3) Forensic Science Services

This programme contributes to Policy Area 9: Internal Security (Secretary for Security).

Detail

Programme (1): Statutory Testing

	2017–18 (Actual)	2018–19 (Original)	2018–19 (Revised)	2019–20 (Estimate)
Financial provision (\$m)	216.8	216.4	221.7 (+2.4%)	268.9 (+21.3%)
				(or +24.3% on 2018–19 Original)

Aim

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

Brief Description

3 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 2018–19, 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.

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5 The key performance measures in respect of statutory testing are:

Targets#

	Target	2017 (Actual)	2018 (Actual)	2019 (Plan)
<i>Testing of:</i>				
food complaint cases within 25 working days (%).....	86§	90	93	86
urgent samples relating to food incidents within two working days (%).....	100	100	100	100
other food samples within reporting time averaging 19 working days (%).....	95	98	99	95
urgent samples relating to pharmaceutical incidents within two working days (%).....	95	100	100	95
other pharmaceutical samples within reporting time averaging 25 working days (%).....	95	99	98	95
urgent samples relating to Chinese medicine incidents within two working days (%).....	95	100	100	95
other Chinese medicine samples within reporting time averaging 30 working days (%).....	95	99	99	95
dangerous goods within reporting time averaging 14 working days (%).....	96	98	98	96
dutiable and other commodities within reporting time averaging ten working days (%).....	95	100	100	95
toys and children's products within reporting time averaging 15 working days (%).....	95	99	99	95
consumer goods within reporting time averaging 35 working days (%).....	95	100	100	95
non-pharmaceutical consumer goods (trade descriptions) within reporting time averaging 35 working days (%).....	92	97	97	92

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.

§ The target is revised from 84 per cent to 86 per cent as from 2019.

Indicators

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

	2017 (Actual)	2018 (Actual)	2019 (Estimate)
<i>Tests performed</i>			
food complaint samples	14 889	12 849	14 000
urgent samples relating to food incidents	1 467	184	N.A.‡
other food samples	193 076	203 222	190 000
urgent samples relating to pharmaceutical incidents	725	292	N.A.‡
other pharmaceutical samples	54 598	53 910	51 000
urgent samples relating to Chinese medicine incidents ..	584	276	N.A.‡
other Chinese medicine samples	83 828	81 084	80 000
dangerous goods.....	5 079	3 610	5 000
dutiable and other commodities	6 099	6 961	6 000
non-pharmaceutical consumer goods (trade descriptions)	5 023	5 608	5 000
cigarette samples	12 936	13 032	13 000

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	2017 (Actual)	2018 (Actual)	2019 (Estimate)
toys and children's products	22 022	21 345	21 500
consumer goods.....	11 890	11 920	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 the occurrence of these type of incidents or the number of tests required.

Matters Requiring Special Attention in 2019–20

6 During 2019–20, the Laboratory will continue to provide:

- professional advisory and analytical services to support the enforcement of various food safety ordinances and regulations, including the updated standards for metallic contamination in food which will come into effect by phases starting from 1 November 2019. The services will cover analysis on different food samples on both routine and ad hoc bases;
- 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;
- metrology-in-chemistry support for the development of testing and certification industry in Hong Kong; and
- 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

	2017–18 (Actual)	2018–19 (Original)	2018–19 (Revised)	2019–20 (Estimate)
Financial provision (\$m)	90.0	82.1	84.9 (+3.4%)	97.6 (+15.0%)
				(or +18.9% on 2018–19 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 hazardous chemical substances into the environment involve the Laboratory in on-site investigations and advisory services. 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, the analysis of samples related to evaluation of exposure to occupational hazards for the Labour Department, the testing of government supplies for conformity to tender specifications and the identification of products made from endangered species.

9 In 2018–19, 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, fountain solutions and printing machine cleaning agents, 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 2018, the Laboratory also provided over 350 pieces of professional advice relating to over 1 100 items for the classification under the Dangerous Goods Ordinance and over 430 pieces of advice relating to over 520 items supporting the implementation of the Chemical Weapons (Convention) Ordinance (Cap. 578) and the control of strategic commodities.

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10 The key performance measures in respect of advisory and investigative services are:

Targets#

	Target	2017 (Actual)	2018 (Actual)	2019 (Plan)
<i>Testing of:</i>				
air pollution monitoring samples within reporting time averaging 20 working days (%).....	95	98	99	95
field investigation (air pollution) samples within reporting time averaging 12 working days (%).....	96	100	100	96
air pollution samples for litigation purposes within reporting time averaging 18 working days (%).....	97	98	100	97
water quality monitoring samples within reporting time averaging 20 working days (%).....	96	98	99	96
environmental waste monitoring samples within reporting time averaging 27 working days (%).....	95	97	98	95
environmental waste samples for litigation purposes within reporting time averaging 12 working days (%).....	97	100	100	97
radioactivity monitoring samples within reporting time averaging 12 working days (%).....	95	100	99	95
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	100	96
other samples within reporting time averaging 25 working days (%).....	90	99	99	90

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.

	2017 (Actual)	2018 (Actual)	2019 (Estimate)
<i>Tests performed</i>			
air pollution monitoring samples	62 204	61 871	63 000
air pollution samples for litigation purposes.....	3 291	2 815	3 400
field investigation (air pollution) samples	455	465	440
water quality monitoring samples	124 083	127 349	126 000
environmental waste monitoring samples.....	11 743	12 524	11 000
environmental waste samples for litigation purposes	613	581	600
pesticides formulation samples	710	367	310
seepage and swimming pool water samples	42 965	37 031	40 000
miscellaneous			
radioactivity monitoring samples.....	5 132	4 911	4 700
other samples.....	11 811	14 502Φ	12 700

Φ The high output in 2018 was due to unforeseen litigation samples of smuggled gold and other valuable articles.

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Matters Requiring Special Attention in 2019–20

11 During 2019–20, the Laboratory will continue to provide:

- analytical services in support of the implementation of the Air Pollution Control (Fuel for Vessels) Regulation (Cap. 311AB); 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

	2017–18 (Actual)	2018–19 (Original)	2018–19 (Revised)	2019–20 (Estimate)
Financial provision (\$m)	166.5	190.8	196.4 (+2.9%)	172.1 (–12.4%)
				(or –9.8% on 2018–19 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	2017 (Actual)	2018 (Actual)	2019 (Plan)
<i>Cases for:</i>				
biochemical grouping (DNA profiling) - non-complicated cases completed within 60 working days (%)	90	94	97	90
complicated cases completed within 130 working days (%)	90	96	96	90
DNA database (DNA profiling) completed within 22 working days (%)	90	97	95	90
parentage testing (DNA profiling) completed within 22 working days (%)Δ	90	98	98	90
trace evidence completed within 66 working days (%)	90	91	90	90
accident reconstruction completed within 66 working days (%)	90	84	75	90
illicit drug seizures completed within 11 working days (%)	90	93	93	90
major illicit drug seizures and manufacturing completed within 44 working days (%)	90	91	92	90
other illegal drug activities completed within 120 working days (%)	90	100	97	90

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	Target	2017 (Actual)	2018 (Actual)	2019 (Plan)
analytical toxicology completed within 33 working days (%).....	85	89	90	85
drug urinalysis - methadone clinics completed within 11 working days (%)	90	91	91	90
judicial-confirmation (routine) completed within 22 working days (%)	85	88	88	85
judicial-confirmation (enhanced probation) completed within six working days (%).....	100	100	100	100
drug-driving completed within 33 working days (%).....	85	94	100	85
drink-driving completed within 11 working days (%).....	90	100	100	90
handwriting examination completed within 66 working days (%).....	85	89	95	85
counterfeiting/forgery completed within 30 working days (%).....	90	96	97	90
express counterfeiting/forgery service completed within one working day (%)	99	100	100	99

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.

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.

	2017 (Actual)	2018 (Actual)	2019 (Estimate)
<i>Criminalistics and Quality Management Group</i>			
cases investigated			
DNA database	2 779	2 494	3 000
biochemical sciences -			
non-complicated.....	687	685	700
complicated	1 272	1 030	1 100
parentage testing	2 012	1 189	2 300
chemical sciences.....	687	593	640
physical sciences.....	676	574	600
<i>Drugs, Toxicology and Documents Group</i>			
cases investigated			
controlled drugs.....	4 902	4 383	4 700
analytical toxicology	2 370	2 255	2 300
drug urinalysis -			
methadone clinics.....	7 487	7 253	7 500
judicial-confirmation (routine).....	18 491	17 605	18 000
judicial-confirmation (enhanced probation).....	1 197	769	1 000
drug-driving	17	6	13
drink-driving	62	52	60
questioned documents	591	535	550
<i>Forensic Science Division</i>			
statutory certificates issued.....	5 111	4 570	4 800
technical reports/statements	11 916	11 070	11 000
crime scenes attended.....	287	331	300

Matters Requiring Special Attention in 2019–20

16 During 2019–20, the Laboratory will continue to provide analytical support to government departments in urinalysis service for measures to combat the youth drug abuse problem, such as enhanced probation scheme at all seven magistracies in Hong Kong.

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ANALYSIS OF FINANCIAL PROVISION

	2017–18 (Actual) (\$m)	2018–19 (Original) (\$m)	2018–19 (Revised) (\$m)	2019–20 (Estimate) (\$m)
Programme				
(1) Statutory Testing	216.8	216.4	221.7	268.9
(2) Advisory and Investigative Services	90.0	82.1	84.9	97.6
(3) Forensic Science Services	166.5	190.8	196.4	172.1
	473.3	489.3	503.0 (+2.8%)	538.6 (+7.1%)
				(or +10.1% on 2018–19 Original)

Analysis of Financial and Staffing Provision

Programme (1)

Provision for 2019–20 is \$47.2 million (21.3%) higher than the revised estimate for 2018–19. This is mainly due to increased provision for personal emoluments, increased requirement for procurement of equipment and specialist supplies, and other operating expenses. There will be a net increase of four posts.

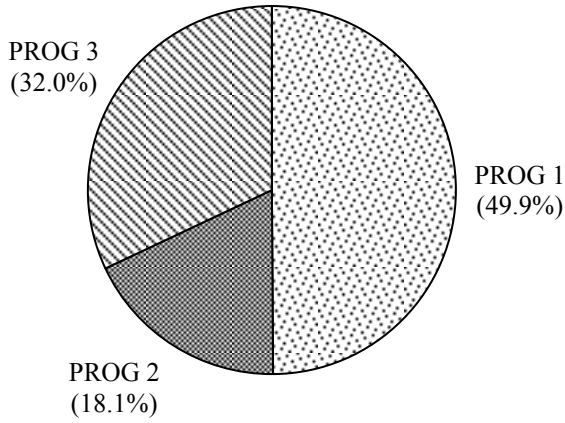
Programme (2)

Provision for 2019–20 is \$12.7 million (15.0%) higher than the revised estimate for 2018–19. This is mainly due to increased provision for personal emoluments and increased requirement for procurement of equipment and specialist supplies. There will be an increase of five posts.

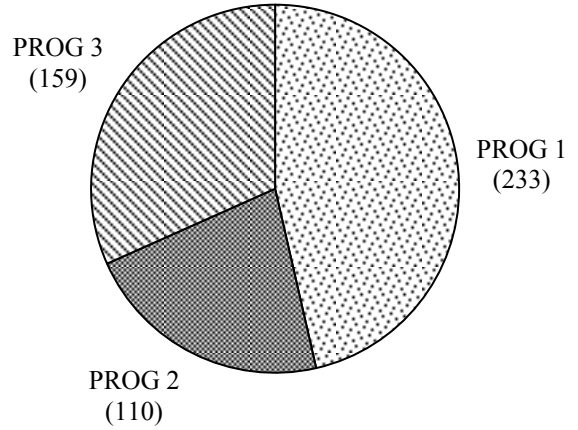
Programme (3)

Provision for 2019–20 is \$24.3 million (12.4%) lower than the revised estimate for 2018–19. This is mainly due to reduced requirement for procurement of equipment and specialist supplies, and other operating expenses. There will be an increase of six posts.

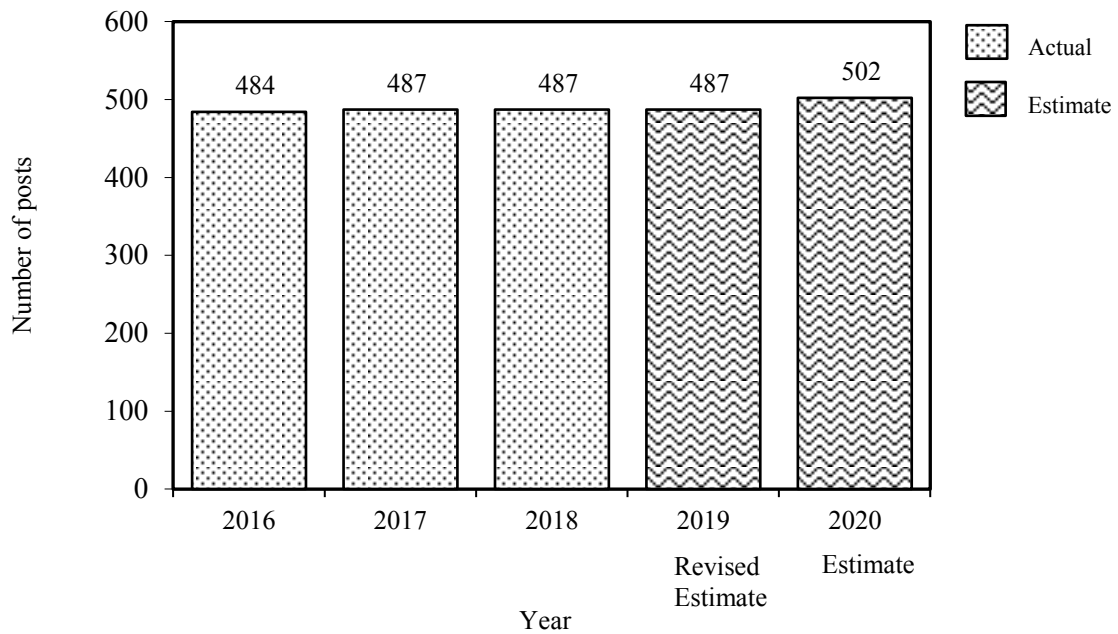
Allocation of provision to programmes (2019-20)



Staff by programme (as at 31 March 2020)



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



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Sub-head (Code)	Actual expenditure 2017-18	Approved estimate 2018-19	Revised estimate 2018-19	Estimate 2019-20	
	\$'000	\$'000	\$'000	\$'000	
Operating Account					
Recurrent					
000	Operational expenses	411,902	429,611	443,241	476,146
	Total, Recurrent.....	411,902	429,611	443,241	476,146
	Total, Operating Account	411,902	429,611	443,241	476,146
Capital Account					
Plant, Equipment and Works					
661	Minor plant, vehicles and equipment (block vote).....	52,806	59,720	59,720	62,476
	Plant, vehicles and equipment.....	8,618	—	—	—
	Total, Plant, Equipment and Works.....	61,424	59,720	59,720	62,476
	Total, Capital Account.....	61,424	59,720	59,720	62,476
	Total Expenditure	473,326	489,331	502,961	538,622

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Details of Expenditure by Subhead

The estimate of the amount required in 2019–20 for the salaries and expenses of the Government Laboratory is \$538,622,000. This represents an increase of \$35,661,000 over the revised estimate for 2018–19 and \$65,296,000 over the actual expenditure in 2017–18.

Operating Account

Recurrent

2 Provision of \$476,146,000 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 2019 will be 487 posts. It is expected that there will be a net increase of 15 posts in 2019–20. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2019–20, but the notional annual mid-point salary value of all such posts must not exceed \$308,015,000.

4 An analysis of the financial provision under *Subhead 000 Operational expenses* is as follows:

	2017–18 (Actual) (\$'000)	2018–19 (Original) (\$'000)	2018–19 (Revised) (\$'000)	2019–20 (Estimate) (\$'000)
Personal Emoluments				
- Salaries.....	310,013	311,178	324,558	343,599
- Allowances.....	1,391	1,670	1,920	2,060
Personnel Related Expenses				
- Mandatory Provident Fund contribution.....	801	710	710	675
- Civil Service Provident Fund contribution.....	17,546	19,985	19,985	24,156
Departmental Expenses				
- General departmental expenses	82,151	96,068	96,068	105,656
	411,902	429,611	443,241	476,146