In 2001, the Centers for Disease Control and Prevention (CDC) established the EQUIP program to help laboratories worldwide assess the accuracy of their urinary iodine analysis and to provide them with technical support.

EQUIP

Ensuring the Quality of Urinary Iodine Procedures

What the Program is About

Iodine deficiency disorders (IDD) are thought to affect more than a billion people worldwide. Accurate laboratory tests can detect iodine deficiency. Urinary iodine (UI) analysis is the most common method used for assessing the iodine status of a population. Ensuring the Quality of Iodine Procedures (EQUIP) is a standardization program that addresses laboratory quality assurance issues related to testing for iodine deficiency. CDC's EQUIP program currently assists more than 84 iodine laboratories in more than 50 countries with improving their iodine measurements.

What the Program Provides

CDC provides each laboratory with quality control materials, analytical guidelines, and technical training and consultation so that these laboratories can accurately measure iodine levels in their national surveys.

Three times a year, CDC sends participating laboratories a set of samples prepared using Inductively Coupled Plasma-Mass Spectrometry (ICP-MS). Laboratories use their standard methods to analyze the samples and then report the results to CDC. CDC sends each laboratory an individualized report on their results, which the laboratories will use to:

- **Confirm the quality of their analyses**
- **Eliminate bias and precision problems in the assay system**
- **Increase the confidence level of laboratory personnel in performing the analyses**

How to Enroll in EQUIP

1. Go to http://www.cdc.gov/labstandards/equip.htm and complete the application form.

2. E-mail the completed form to iodinelab@cdc.gov or fax it to (770) 488-4097. A confirmation e-mail will be sent within 72 hours.

3. Your laboratory will be enrolled immediately upon receipt of the form and will receive a set of samples each February, June, and October.

Frequently Asked Questions

Q: ***Is enrolling in EQUIP a long process?***

A: **No.** When the program receives your application by e-mail or fax, your laboratory will be enrolled immediately.

Q: ***How much does it cost to participate in the program?***

A: There is no charge. Providing quality assurance materials is a service that CDC provides free of charge. CDC sees this program as its part in the effort to help eliminate IDD around the world.

Q: ***The brochure mentions a certificate. Does that mean our laboratory receives certification by participating in the program?***

A: No. The certificate is merely a way for laboratories to verify their participation in the program and to track their progress over the course of the year. Participation in this program cannot provide or authorize certification or accreditation.

Q: ***If you calculate progress scores, does this mean our laboratory can fail?***

A: No. This is not a pass or fail program. The emphasis of EQUIP is not on passing or failing but on measurable and sustained progress.

Q: ***My laboratory was opened recently and has many improvements to make. Can we still enroll?***

A: Yes. Any laboratory can enroll. CDC supports good laboratory practice and would like to help laboratories increase the reliability of UI analysis around the world. As such, CDC encourages all laboratories performing UI analysis to enroll.

Recent Publications

Caldwell KL, Makhmudov AA, Maxwell BC, Jones RL.
Urinary iodine method comparison of ICP-MS and ammonium persulfate digestion with spectrophotometric detection of the Sandell-Kolthoff reaction.
ICP Information Newsletter. 2002 Jan;27:344.

Caldwell KL, Maxwell BC, Makhmudov AA, Jones RL, Pino S, Braverman LE, Hollowell JG.
Inductively coupled mass spectrometry (ICP-MS) to measure urinary iodine in NHANES 2000: comparison with previous method.
Clin Chem. 2003;49(6):1019-21.

Dearth T, Makhmudov AA, Pfeiffer CM, Caldwell KL.
Fast and reliable salt iodine measurement: evaluation of the WYD iodine checker in comparison with iodometric titration.
Food Nutr Bull. 2004;25(2)130-6.

Dearth T, Pfeiffer CM, Caldwell KL.
International Resource Laboratories for Iodine (URLI) Network. In: Hetzel B, Delange F, Dunn JT, Ling J, Mannar V, Pandav CS, editors. Towards the global elimination of brain damage due to iodine deficiency.
New Dehli: Oxford University Press; 2004. p. 138-44.

Caldwell KL, Makhmudov AA, Jones RL, Hollowell JG.
EQUIP: a worldwide program to ensure the quality of urinary iodine procedures.
Accreditation and Quality Assurance. 2005;10(7):356-61.

Caldwell KL, Jones RL, Hollowell JG.
Urinary iodine concentrations: United States National Health and Nutrition Examination Survey 2001-2002.
Thyroid. 2005;15(7):692-9.

Makhmudov AA, Caldwell KL, Jones RL, Ward C.
The role of Inductively Coupled Plasma Mass Spectormetry in precise measurements for CDC's quality assurance programs.
ICP Information Newsletter. 2008 Feb:33(9):950.

Caldwell KL, Miller GA, Wang RY, Jain RB, Jones RL.
Iodine Status of the U.S. Population, National Health and Nutrition Examination Survey 2003-2004.
Thyroid, 2008-,18(11):1207-1214.

For more information, contact
Centers for Disease Control and Prevention
EQUIP Coordinator
4770 Buford Highway N.E., Mailstop F-18
Atlanta, GA 30341-3724 USA
Fax number: (770) 488-4097
E-mail address: Iodinelab@cdc.gov

CS120995